

**ASSESSMENT OF THE FACTORS INFLUENCING HEALTH AND SAFETY
PROGRAM PERFORMANCE**

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**A DISSERTATION SUBMITTED IN PARTIAL FULFILLMENT OF THE
REQUIREMENTS FOR THE DEGREE OF MASTER OF PROJECT
MANAGEMENT OF THE OPEN UNIVERSITY OF TANZANIA**

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CERTIFICATION

The undersigned certifies that he has read and hereby recommends for acceptance by the Open University of Tanzania a dissertation titled: "**Assessment Of The Factors Influencing Health And Safety Program Performance**" in partial fulfillment of the requirements for degree of Master of Project Management of the Open University of Tanzania.

.....

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.....

Date

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DECLARATION

I, **Naila Khamis**, do hereby declare that, this dissertation is my own original work and that it has not been presented and will not be presented to any other University for a similar or any other degree award.

.....

Signature

.....

Date

DEDICATION

I dedicate this work to my Husband Mubarak for his endless patience and understanding during preparation of this report.

ACKNOWLEDGEMENT

I would like to sincerely thank ALLAH for grant me with life and abundant health that enabled me to accomplish my studies. I also wish to acknowledge the helpful contribution of my fellow colleagues and University instructors for their helpful support in my studies.

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ABSTRACT

The purpose of this study was to assess factors influencing health and safety program performance. Specific objectives were to identify the role of management in influencing health and safety program performance, to investigate the role of resources in influencing health and safety program performance, to examine the role of workers in influencing health and safety program performance and to determine the role of safety inspection by OSHA representatives in influencing health and safety program performance. The research employed a case study design whereby purposive and convenient sampling techniques were employed to get sample size of 60 respondents. The study used primary and secondary sources of data. Data were analyzed through descriptive analysis. The study findings revealed that, issue related to the health and safety program were found to be available at the Advent Construction Company Ltd. These are availability of occupational health and safety regulations at workplace, supervision and monitoring of hygiene and sanitary facilities for health and welfare of the workers, inspection of health safety of protective devices and provision of First Aid. The results revealed that, workers at Advent Construction Ltd are supplied with adequate resources. Various items are supplied at the construction sites. These are safety boots, hard hats (helmet), reflector coat, work gloves and overall. The study recommends that, employers and contractors should provide programs which are useful and suitable and which are complying with national laws and regulations to ensure the health and safety of employees. This involves maintaining a workplace that has minimal risks and accidents that can result in injury or death.

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LIST OF ABBREVIATIONS

ILO	International Labour Organization
OHS	Occupational Health and Safety
OSH	Occupational Safety and Health
OSHA	Occupational Safety and Health Act
URT	United Republic of Tanzania
WHO	World Health Organization

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Safety and health in the workplace have become an integral component to the viability of business for employers, labour unions, governments, and environmentalists in general (Macintosh and Gough, 1998; Anderson and Gough 2004). The subject of safety and health in the workplace covers a wide spectrum of issues. Among them are issues such as working with hazardous chemicals and minerals, exposure to contagious diseases and passive smoking. Naturally, a need for safety is an intrinsically human concern. Every individual in life whether one is employed or not, both at the workplace and outside the workplace has the intrinsic need to be safe. In this case, workers, as mature individuals, are responsible for every decision they make with regard to securing their own health and safety in every social setting (Bennet, 2002).

The present working environment is extraordinary, assorted, and continually evolving. The run of the mill boss or worker relationship of old has been flipped around. Laborers are living in a developing economy and have practically boundless openings for work. This blend of elements has made a domain where the business needs its workers more than the representatives require the business. It is the nature of the representative's work environment condition that most effects on the level of worker's inspiration and ensuing execution (Arthur et al., 2001).

Due to globalized economic trends, the subject of safety in the workplace has taken on such importance that international conventions instituted the international organization

for standardization to help regulate and bring about improved workplace conditions and services (Zwetsloot, 2003). Cointreau (2004) contends that health and safety measures have become one of the most important facets of the business world today. Human resources have enjoyed increasing importance as the focus of studies in human well-being and work satisfaction.

Cointreau (2004) continues to argue that municipal waste is produced as a result of economical productivity and consumption. It includes non-hazardous wastes from households, commercial establishments, institutions, markets, and industries. For example, waste collectors in Palestine use old equipment and virtually no dust control or worker protection. With the existing management system of solid waste, Palestine faces an increasing solid waste management problem (Cointreau, 2004).

Over the past few decades several health and safety laws have been passed to ensure the safety of workers and protect them from hazards in the workplace (Smallman, 2001). The Occupational Safety and Health Act of 2003 require employers to provide a workplace that is free of hazards and to comply with it. The Act of 2003 created the Occupational Health and Safety Administration (OSHA) to enforce these standards and to provide information on safety and health, training and assistance to employers and workers. Occupational health is a preventive activity aiming at identification, assessment and control of hazardous factors at the workplace and generation of competent and effective actions to ensure a healthy work environment and healthy workers (URT, 2008). Such activity cannot be carried out with primary health care competence alone; specialized occupational health competence and knowledge of the real needs (e.g. knowledge on industrial and other chemicals, physical factors at work,

ergonomics, safety, work psychology, occupational medicine) of the working life are needed.

In most industrialized and least developed nations, the industries based on construction is considered to be among of the sector which plays a significant role as far as commitment to GDP and furthermore as far as effect on the wellbeing and security of the working populace. In recent days, number of cities around the world has been made the transformation from what they used to be in the early 1990s due to on-going improvements, which focused road infrastructure, power lines, telecommunication systems and multi-storey buildings. It is not therefore uncommon to witness a mushrooming of on-going construction work in both rural and urban setups.

Moreover, there is a study, which has been released recently by the Global Construction Perspective and Oxford Economics (Global Construction 2025) forecasts on an increase of 70% in the volume of outputs from the industry by 2025. Apart from that, there is another global survey which has been conducted by KPMG International, which involved face-to-face interviews with 165 executives from construction industries, similarly indicated an increase in revenue of up to 5% in 2012/13, as reported by more than half of the study participants. Major drivers are the increased demand for better infrastructure, realized economic growth, urbanization, and population growth (African Newsletter, 2014).

1.2 Statement of the Problem

The industry based on construction does not perform well in occupational health and safety (OHS). Despite of number of campaigns and initiatives conducted by OHS, it is

indicated that construction industry still causes death and injuries at work place every year. More insidious is the big portion of construction employees or workers who suffer impaired health or long-term illness caused by their work (Lingard and Rowlinson, 2005).

Tadesse (2006) shades that, in every year, work which is related to injuries and diseases kill an estimation of 2 million workers across the nations, which are regarded to be greater than the global annual number of deaths caused by malaria. Annually, an estimation of 160 million new cases of work, which is related to diseases occurs across the nations. The reported diseases are respiratory and cardiovascular diseases, cancer, hearing loss, musculoskeletal and reproductive disorders, mental and neurological illnesses.

In recent days, there has been an increase of complain made by employees who work in industrial countries. The complaint is about psychological stress and overwork. These psychological factors have been considered and found to be strongly associated with insomnia, depression and fatigue, and burn-out syndromes, as well as with elevated risks of cardiovascular diseases. Only 5-10% of employees/workers in least developed countries and 20-50% of employees/workers in industrial countries (with a few exceptions) are estimated to have access to adequate occupational health services. Therefore, various studies have been made on the occupational health and safety for workers working in sites and other hazardous areas but little has been made with regard to the factors influencing health and safety program performance. For that reason, the study went further in filling that identified gap.

1.3 Objective of the Study

The major objective of this study was to assess factors influencing health and safety program performance. Specifically, the study intended;

- (i) To identify the role of management in influencing health and safety program performance
- (ii) To investigate the role of resources in influencing health and safety program performance
- (iii) To examine the role of workers in influencing health and safety program performance
- (iv) To determine the role of safety inspection by OSHA representatives in influencing health and safety program performance.

1.4 Research Questions

The main research question of the study was; what are the factors influencing health and safety program performance? In order to address this main research question, the following-sub-research questions were used;

- (i) What is the role of management in influencing health and safety program performance?
- (ii) What is the role of resources in influencing health and safety program factor?
- (iii) What is the role of workers in influencing health and safety program performance?
- (iv) What is the role of safety inspection by OSHA representatives in influencing the health and safety program performance?

CHAPTER TWO

LITERATURE REVIEW

2.1 Definition of Key Concepts

2.1.1 Health

Health is defined as the level of functional efficiency of a living being. It is the overall condition of a person's mind, body and spirit, usually meaning to be free from illness, injury or pain.

2.1.2 Safety

Safety is the condition of being safe, the state of being ensured against physical, social, otherworldly, budgetary, political, passionate, word related, mental, instructive or different sorts or outcomes of disappointment, harm, blunder, mischances, hurt. For the most part, Safety can likewise be characterized to be the control of perceived perils to accomplish a satisfactory level of hazard (Merzel, 2003).

2.1.3 Occupational Safety and Health

According to World Health Organization (WHO) (1995), occupational safety and health can be defined as a multidisciplinary activity used to protect and promote employees' health by eradicating work-related aspects and conditions which are dangerous to the workers' health at work place. Issues related to the improvement of physical, mental and social well-being of staff/employees, supporting for the progress and maintaining their working capability, as well as professional and social development of work. Development and promotion of sustainable work environments and work organizations.

The International Labour Organization (ILO) and World Health Organization (WHO) define occupational health as “the act of promoting and maintaining the highest degree of physical, mental social well- being of workers/employees in all occupation” and the WHO views and perceives occupational health service to be responsible and concerned for the total of worker/employees and, if possible, his or her family as well. Occupational Health is considered as the diverse science, which is applied by occupational health professionals’ engineers, environmental health practitioners, chemists, toxicologists, doctors, nurses, safety professionals and others who have an interest in protecting the health of workers/employees in the workplace.

2.1.4 Construction Industry

The construction industry is the economical part tending to make the transformation several resources into built physical economic and social infrastructure which are vital for the progress of social economic aspects. It tends to embrace the process by which the physical infrastructures are passed into various procedures which are planning, design, procurement, construction or production, alteration, repairing, maintenance as well as demolishing. The constructed infrastructures include: buildings transportation systems and facilities which are airports, harbors, highways, subways, bridges, railroads, transit systems, pipelines and transmission and power lines.

Also there is what called structures for fluid containment, structures for control and distribution such as water treatment and distribution, sewage collection and treatment distribution systems, sedimentation lagoons, dams, and irrigation and canal systems. Moreover, there are underground structures, such as tunnels and mines. Furthermore, the industry involves organizations and people involving companies, organizations

and people who act as advisors, main contractors and sub-contractors, material and component producers, plant and those who supply, those who build and merchants. The industry is closely related to the consumers and those who deal with finance as well. The government is engaged in the industry as purchaser (client), financier, regulator and operator (URT, 2003).

2.2 Evolution of Health Safety Legal framework

2.2.1 Industrial Safety Act of 1964

In 1964, a new industrial Safety Act was passed as an aftermath to a disastrous accident that killed five workers at Hoggs Hollow. For the first time, the safety of the worker was its focus. Safety was defined as “freedom from injury to the body or freedom from damage to health”. Despite the focus on workers’ safety, workers were not given any opportunity to participate in developing or enforcing the law until 14 years later.

2.2.2 Occupational Health & Safety Act of 1980

Occupational Health and Safety Act (OHSA) in 1980 gave workers “the right to participate” in occupational health and safety, “the right to know” about on-the-job hazards and “the right to refuse” work that they believe to be unsafe. Thus, the Act gave workers a voice in how Occupational Health and Safety (OHS) is approached in the workplace. It established a comprehensive set of legislative requirements for workers and workplaces in Ontario. Since then, provisions have been added in the form of Regulations, but the Act itself was not amended until 1990. Although Ham’s work was the basis of this Act, many of his recommendations about the role of the JHSC were not included in that version. However, the committee was given the role of

an advisory, monitoring body and overseer of an organization's OH&S program (Al-Kilani, 2011).

2.2.3 Education and Training

Education and training tend to provide the basic theoretical and practical knowledge and skills to the people who are required to run and carry their business or occupation in a successful way and to fit into working environment. Since the occupational safety and health are very crucial, various measures should be taken on board to involve these subjects in education and training at all levels in all businesses or trade and professions as well, these also include higher technical, medical together with professional education. Moreover, OSH training should ensure that, it meets the expectations of employees or workers and should get promoted in a way it is accepted and appropriate to national conditions and practice as well. Also, there is a need of providing required training in occupational safety and health to the employees/workers and their representatives in the business, thus should be stressed and taken as a fundamental aspect of OSH policy, and also should be described and stated specifically and clearly in the policy document. Apart from that, adequate training based on the technical level of their task/activity and the nature of the responsibilities should be provided to the employees/workers as well (Alhajeri, 2014).

2.3 Economic and Ethical Dimensions of OH&S

OH&S in a society or community has a scientific dimension and a social dimension. The social dimension is further categorized into two major parts or components, whereby one is economic and the other being ethical.

2.3.1 Economic Dimensions of OH&S

The economic component stipulates that, occupational health and safety together with increased profitability can work and perform together rather than against one another. Injuring or killing the worker or staff, or breaking or alienating their will, is to lose or diminishing the skill. Replacement costs, costs related to legal matters, costs related to the rehabilitation issues, costs related compensation issues and costs related to downtime issues are involved. On this basis, people, and their government and business organizations, can sometimes agree with the fact that, prevention is cheaper than cure and actively work for enshrining the cheaper-than-cure dictum in business process, and in industrial, commercial and quality assurance law as well (Al-Kilani, 2011).

2.3.2 Ethical Dimensions of OH&S

The ethical dimension is regarded to be more complex and also has an individual component and a group component as well. At the individual level, an individual work – their safe work and decent work – provides or gives out their defense against the community. It is that activity or work through which a person can profitably use their own human capital and in this sense it is both a cause, and a consequence of, safe and civil society. Economic independence is part of this ethic but the ethic goes beyond simple economic survival to the aspirations (values) of the persons concerned.

However, at the group level, the ethical dimension tends to spring from the gregarious nature of humankind and resides or stays in social mores. A simple practical corollary of this group dimension has it that, it is regarded as immoral for society or community to look the alternative way and continue without care in making profits (for some)

while the making of those profits causes injury, sickness, trauma and death (for others) (Attabra-Yartey,2012).

Nevertheless, the economic dimension is to a large extent informed by benefits (profit), economic necessity and the ethical dimension by values of individual and group (mores), while it helps to treat the economic and ethical dimensions separately for discussion purposes they are inextricably interwoven in human consciousness. Individual and group dimensions also tend to overlap. For instance, when individual managers make decision, based on the fact of personal ethics that their organization will run or operate beyond compliance, social external benefits accrue. Unfortunately, the obverse is true also because business people bring both their low and high natures to benefit or profit taking (Alhajeri, 2014).

2.4 Theoretical Framework Review

2.4.1 Game Theory

The game theory contends that Managers of health and safety often face challenges and obstacles, which are complex in current production environment. Riggs (1986) states that the theme of game theory is a situation whereby an environment which is competitive assumes and presuppose intelligent which are capable to exert the influence over our outcomes or consequences by way of their choice of action, while in a concurrent way, we select a course of action that enlarges our returns with regard to the opponents' anticipated activities/tasks.

Much of the concepts in game theory are drawn from the work of mathematicians Von Newman and Nash in the 1940`s and early 1950`s (Riggs *et al.*, 1986). The game

model asserts that individual mechanisms/strategies or behaviours which are effective do not necessarily make a situation which is suitable and useful or best for all. However, given certain conditions, there can be an existence of cooperation without having a formal contract among the parties to such cooperation. In this aspect as well, game theory has been used in understanding and organizing both human and animal activity. As a decision theory, it is effective in explaining and describing possible strategic behaviours of people without making the definition of final tactics.

According to Marcel *et al.*, (1997), there are two factors which are very crucial and important in the establishment of such cooperation: First by way of acting on the costs and benefits of initiatives in health and safety. One should make the reduction of the benefits or profit of taking health and safety risks, which may be conducted or done by the use of appropriate and proper law or intra-firm politics. On the other hand, one can make the reduction of the costs of making efforts for the improvement of health and safety by way of modification of the insurance fees or by way of promoting the use of safety groups.

There is a need of management of health and safety to make consideration on the strategic behaviors, which are practiced by intervening parties to make the introduction of measures which are effective and efficient as well. Both implicit and explicit contracts must be drafted for the purpose of addressing dominant behaviour in order to make the facilitation of co-operation on health and safety matters.

Furthermore, efforts in health and safety can be regarded and considered laborious, costly and not necessarily maximizing or expanding the person utility payoff. There

may be situations or circumstances in which any small private effort in the manner of improving health and safety results or yields immediate and tremendous returns.

Even though, game theory was one of the first rational approaches to the study of the interaction (Von Neumann and Morgenstern, 1953). The theory is emblematic of rational theories of the interaction. Its weaknesses preclude it from being predictive as it is unable to study the weaknesses and strengths of cooperation as a variable, the shift from individuals to groups, or variations between groups. Further, game theory is unable to study quantitatively the organizational value of conflict or violence among employer and employees pertaining health and safety at workplaces (Cohen, 2002).

2.4.2 Operations Theory

Paul *et al.* (1997) postulate that the health and safety of employees in the workplace is a major concern for employers and employees. Detailed employment laws and legislation have been created covering this area. All organizations that employ five or more people must have a written safety policy, which sets out who is responsible for workplace health and safety and arrangements that have been made for healthy and safety. Gerald (1986) in supporting the theory contends that, health and safety policies must be communicated to all employees. Employees must comply with company procedures and arrangements for health and safety. Every employer must carry out a risk assessment and then take health and safety measures in line with this assessment. Competent individuals must be given responsibility for health and safety arrangements. Emergency procedures must be set out. Employees must be trained and provided with clear information about risks and the steps to take in dealing with them.

2.4.3 Economic Theory

According to economic theory, an employer will make the determination of the fact on whether he should prevent the occurrence of accidents at working place or illnesses by making the comparison of the costs that can be used to prevent accident with the costs if he is not going to take such action (Viscusi, 1983). Employers who fail or unable to reduce or minimize hazard that might happen at work place can expect to pay increased labor costs because employees will make more demand on the compensation for making endurance of occupational safety and health risks. For a given level of workers' compensation, employees/workers will demand a wage premium that tends to make the compensation for any inadequacies in ex post compensation. In other words, assuming employees/workers are fully aware of issues related to job risks, they will seek or find to be compensated equally to the expected cost of an injury or illness not covered or governed by workers' or employees' compensation.

In addition to that, the employer may have been compelled to pay for the cost of recruiting and training additional workers or employees to make the replacement of those workers who got injuries or who have been killed and other related costs. For the purpose of avoiding these expenses, an employer/employee will make safety and health improvements until the cost of additional precautions is more than paying wage premiums and other related costs.

In this aspect, labor markets should make the production of the abatement of some safety and health hazards and compensation should be provided to the workers/employees (that is ex ante and ex post) for the risks that remain. The

assumption of employer on these costs will make the market for the product or service of the employer to be more efficient. Because the employer may make the assumption of these costs, the price of the product or service will make the reflection of the cost to the society or community of the production of the good or service, including the cost of occupational illnesses and injuries (Darling-Hammon *et al.*, 1980).

OSHA can deal with this shortfall by way of ordering employers to make or take safety and health precautions improvements up to the point where the costs of such improvements exceed or go beyond their benefits. If benefits or profits are measured as the value of the improvements to workers/employees, administrative regulation will make the production about the same level of investment in safety and health precautions as fully effective financial incentives.

In other words, it can be said that, the government would order the same level of protection as would be produced if employers fully made compensation to the workers/staff for their injuries and illness that happened at working place. The market is regarded to be more efficient due to fact that the price of the product or service will include or involve the cost of occupational accidents and illnesses, which are associated with its production. In this aspect, the price will make the reflection of the actual cost to society or community of the production of the good or service. The actual cost to the organization (firm) of making payment of compensation, however, this will depend on the nature of arrangements of its insurance. Insurance arrangements can reduce or minimize a firm's incentive or organization's incentive for the prevention of future accidents and illnesses.

2.5 Core OSH Principles

According to Alli (2008), issues related to the occupational safety and health is regarded to be an extensive multidisciplinary field, invariably touching on aspects based or related to the scientific areas such as medicine – including physiology and toxicology – ergonomics, physics and chemistry, as well as technology, economics, law and other areas specific to various industries and activities. Despite this variety of concerns and interests, certain basic principles or aspects can be identified, including the following issue:

2.5.1 All Workers Have Rights

Workers or staff as well as employers and governments, must make sure that the rights of workers are well protected and must ensure that they strive in establishing and maintaining working conditions which are decent and working environments which are decent. More specifically: — work should be performed in an environment which is safe and healthy; — conditions of work should be consistent or focused with employees'/ workers' well-being and human dignity; — work or job should offer real possibilities for personal achievement, self-fulfillment and service to society (ILO, 1984).

2.6 Common Health Related Problems at Workplaces

Majority of employees get injuries or some of them die at the workplace every day in Tanzania and worldwide in general. Safety and health can add value to an employee's life. Injuries and illnesses can be prevented at workplace. This can be done by introducing procedures which are effective (Amweelo, 2000). He further continues to argue that the common workplace health and safety problems include: communicable

disease, transportation accidents, workplace violence, slipping and falling, toxic events, particularly chemical and gas exposure, getting struck by objects, electrocution or explosion, repetitive motion and ergonomic injuries, and hearing loss. Although some hazards are less likely to happen in some work spaces than others, it is important to assess which hazards are most damaging to employer business and employees. The other safety and health problems at workplaces are falls, electrocutions and being 'caught between' (Site Safe, 2000). Despite sophisticated safety and health regulations in most countries, high rates of injury and fatality persist.

The procedures intended to prevent such accidents are usually mandated by the appropriate occupational safety authority in each country (Gee and Saito, 1997). Scholars and professionals within the construction industry recognize that regulations and legislation by themselves are not enough to bring about the desired goal of zero accidents and incidents on construction sites (Center to Protect Workers' Rights, 1993; Ratay, 1997).

In the US, for citizens who have 44 years and those who under that age, the main cause of death or loss of life is injuries (U. S. Bureau of Labor Statistics, 1998). As such, injuries tend to kill more than 142,000 citizens of America and require an estimation of 62.5 billion dollars in medical attention in every year (U. S. Bureau of Labor Statistics, 1998).

This is nearly close to 3 people who are dying and more than 170 American people sustain a disabling injury in every 10 minutes (National Safety Council, 1999). Every year, more than 80,000 American citizens are permanently become disabled due to the

brain or spinal cord injury. Thus, unintentional injury represents a serious public health concern, and a theory-driven community, school, and organizational injury prevention technology is needed for the improvement of the health and safety of people. Due to the frequency and severity of injuries, the United States Department of Health and Human Services has made an identification of the prevention of injury which is taken into consideration as a priority for the attainment of the goals which are outlined in Healthy People 2000: National Health Promotion and Disease Prevention Objectives (1990). Baker et al. (1992) revealed that, injuries occur at work place due to unsafe (or at-risk) work behaviours still remain a significant problem in the U.S. and are a leading cause of unnecessary morbidity. Every day, an estimation of 36,000 workers are injured and 16 are killed (NIOSH, 1998). Moreover, an estimation of 7,000 to 11,000 employees die annually with 2.5 to 11.3 million workers are suffering non-fatal injuries (Leigh, 1995; Miller, 1997).

According to the International Labour Office (ILO), work-related accidents and illnesses contribute 3.9 per cent of all deaths and 15 per cent of the world's population suffers a minor or major occupational accident or work-related disease in any one year (ILO, 2005). Other than the moral concerns, the economic cost is considerable. The work-related injuries cost the United States US\$125.1 billion in 1998 i.e. 1.5% of GDP – (National Safety Council, 1999) and Britain between £14.5 and £18 billion annually - 2.1% - 2.6% of GDP – (Health and Safety Executive, 1999; (Smallman, 2001).

Overall, the UK has one of the best records for Hands' performance in the world and the British construction industry is one of the safest in Europe. Nevertheless, in

2005/2006, the rate of fatal injury to workers was 3.0 deaths per hundred thousand workers while the industrial average was 0.71 (ILO, 2005).

Notwithstanding, the fatal injury rate is continuing the downward trend of recent years, construction is still a sector associated with a disproportionately high number of job-related accidents and diseases. In order to improve the Hand performance, legislative and organizational efforts have been made by government and industry to establish a systematic legal system and preventive strategies. Work-related ill-health and also largely affects the well-being of workers. Handling and using tools, materials and substances can result in fractures, strains, musculoskeletal disorders (MSDs), dermatitis, cement burns, hearing loss, hand arm vibration syndrome and consequent long term disability. The protocol of 2002 of the Occupational Safety and Health Convention in 1981, defines occupational disease as any disease contracted as a result of an exposure to risk factors arising from work activity (African Newsletter on Occupational Health and Safety, 2002).

Lingard *et al.*, (2005) argues that occupational accidents are very frequent among waste collectors. Based on current knowledge, it appears that risk factor should be considered as an integrated entity, i.e. technical factor (poor accessibility to waste, design of equipment), may act in concert with high working rate, and perhaps muscle fatigue due to high work load.

According to Safe work Australia Report (2015) found that the construction industry has been designated as a priority industry due to the high number and rate of work-related injuries and illnesses and fatalities. The construction industry consistently has

had the fifth highest incidence rate of serious claims of all industries. In 2011-12 (preliminary) the construction industry recorded an incidence rate of 18.7 serious claims per 1000 employees. This compares to the national all industries rate of 12.2 serious claims per 1000 employees. The construction industry is inherently hazardous due to the nature of the work carried out.

2.7 Empirical Literature Review

The study conducted by Alhajeri (2014) in the United Arab Emirates (UAE) observed that, despite of the fact that the country is currently enjoying a strong growth in construction activities, unfortunately, some sectors of its construction industry suffer from poor safety and health conditions. Any framework of the existing occupational and health conditions is fragmented and inadequately enforced, making construction sites more hazardous.

In the study conducted in Britain by Langford (2005), it was found that, the construction industry has a world reputation for the quality of its work but it remains one of the most dangerous in Britain. The health and safety problem in the construction industry is its poor record when compared to the other parts of British industry. This performance deteriorated in 2000 and certain actions were taken by the Health and Safety Board.

The study conducted by Zeng (2010) revealed that, construction workers identified training as a necessary element of safety performance. Training which is useful and effective to the employees working in construction industries can be regarded one of

the effective method to improve safety performance and reduce unnecessary accidents at work sites.

Results by Attabra (2012) in Ghana indicated that, health and safety management in the construction industry is influenced by cultures including; organizational culture, industry culture, existing legislation and institutions with responsibility for occupational health and safety.

Mitullah and Wachira (2003) observed that workers, particularly in the informal construction sector in a developing country such as Kenya, are accorded little health and safety protection. These workers, according to the authors, do not belong to any form of union making it difficult for them to compel their employers to adhere to good labour standards. The abundance of cheap labour in developing countries means employers can dismiss site workers who perform unsatisfactorily and also replace them with new workers easily.

The study by Al-Kilani (2011) found that, supplying of adequate health and safety equipment in the construction projects has many advantages, as it reduces the accidents on the construction sites, helps end projects in the early time, increases workers' morals, increased productivity and decreased the number of compensation.

The study by Elsi (2009) emphasized that, to ensure safety at the workplace, workers should make sure that they are well informed about the program and how it works. Thus understanding of the safety strategies and stipulations of the establishment becomes crucial. Everyone has to keep to the rules and procedures of an organization in order to ensure a safe working environment for themselves and other workers.

Ngowi and Mselle (1999) in Attabra (2012) observed that contractors in developing countries including Tanzania gain little competitive advantage from good health and safety management. The practices of competitive tendering and award of most public contracts to the lowest bidder in many developing countries compels contractors to drive their prices low, while cutting costs, which, in turn, affects health and safety.

Mwombeki (2005) in Attabra (2012) in a similar study found that, majority of Tanzanian contractors, small or large, appear to understand the importance of health and safety programmes but did not implement such programmes to improve the poor health and safety performance of the construction industry.

The study conducted by Parboteeah and Kapp (2011) in Mwaisaka (2013) who observed that, complying with workplace rules and regulations is the ultimate key to health and safety in the workplace. Enforcing a rule is to ensure safety through compliance. A safe working condition is determined by the level of compliance with the safety rules. Thus, all employers have a duty to comply with the relevant health and- safety law when working in the construction companies.

The study by Amweelo (2008) observed that, a lack of resources and labour inspectors has hampered efforts to address the issue of safe work effectively. The occupational health and safety legislation has been reviewed and an agency has been established. However, the shortage of staff and funds hinder its efficient functioning. At the same time, it must be stressed that, despite these positive developments, the overwhelming majority of Tanzanian workers (approximately 90 per cent) remain in vulnerable and informal employment.

2.8 Research Gap

By considering the above reviewed empirical literatures, it is evident that a good number of similar researches have been done, but there are a number of gaps left ranging from geographical to time as well as nature of the organization studied and objectives studied. For example, Alhajeri (2014) conducted a research on the health and safety in the construction industry: challenges and solutions in United Arab Emirates. Despite the relevance of the research, the study was done in United Arab Emirates where geographical attributes or issues together with political and socio culture values are different with Tanzania.

The study by Langford (2005) in Britain found that, the health and safety problem in the construction industry is its poor record when compared to the other parts of British industry. The study left gap in objectives of the study as it attempted to find out the health and safety problem in general and not specifically discussing on how proper training and awareness of the workers and staff can have the positive impact in reducing accidents in the construction industries. Therefore, this study will cover the gap.

The study done in Kenya by Mitullah and Wachira (2003) in Attabra (2012) observed that, workers, particularly in the informal construction sector in a developing country such as Kenya, are accorded little health and safety protection. These workers, according to the authors do not belong to any form of union making it difficult for them to compel their employers to adhere to good labour standards. The study left gap in time and specific objectives.

Despite the fact that a good number of researches have been conducted to explore occupational health and safety practices in construction projects, most of the reviewed studies did not discuss about factors influencing health and safety program performance. Therefore, this study covered the existing identified gaps.

2.9 Conceptual Framework

The conceptual framework for the study dealt with the factors influencing health and safety program performance such as management factor, resource factor and personal factor and these were treated as independent variables and health and safety program performance was conceptualized as dependent variable to practices of occupational and health safety.

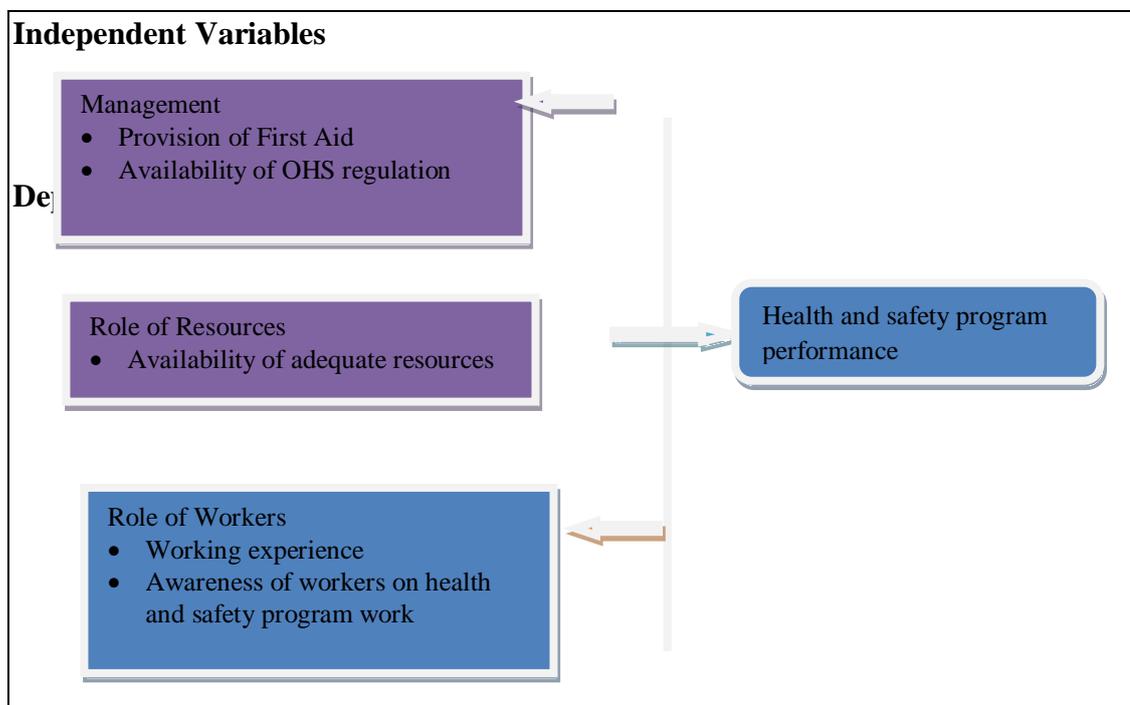


Figure 2.1: Conceptual Frameworks

Source: Researcher own Construct (2016)

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This section presents methods and procedures that were used when gathering information relevant to the study. It is this part that explains and covers research design, target population, samples size and sampling procedure; data collection methods and the reason as to why the study deployed such approaches. Furthermore, this section involves data gathering instruments, validation of instruments, data processing as well as analysis procedures.

3.2 Area of the Study

The study was conducted at Advent Construction Ltd, located in Dar es Salaam. Advent Construction Ltd is a civil and building construction company which was established in 1996 with the mission of giving the customers and stakeholders unparalleled services delivery and quality at every stage of their interaction with the company. Advent Construction Ltd deal with various activities including residential work, industrial work, and commercial works. The reason behind the use of this company is that it was accessible to the researcher, and therefore all necessary information was available to the researcher.

3.3 Research Design

Orodho (2002) defines research design as the scheme, outline or plan that is used to generate answers to research problems. On the other hand, Aaker *et al* (2006) in Adam and Kamuzora (2008) defines research design as the detailed blue print used to

guide a research study towards its objectives. In this study the researcher used case study design through which the researcher made comprehensive description and analysis of a single situation that is Advent construction ltd. Bergh(2009) propounds that case study design is a popular form of research design that is widely used in social sciences.

He further stipulates that case study enables the researcher to focus on a single individual, group, community, event, policy area or institution, and study it in depth. This approach of case study provides an in-depth analysis over the research title. This research design allowed discussion, which provides an opportunity to have a deeper understanding of a person's belief, feelings and behaviors on the matter under study.

3.4 Population of the Study

Population refers to an entire group of persons or elements that have at least one thing in common. It also refers to a large group from which the sample is taken (Burgess, 2000). In short, population is people, object, items or cases used by a researcher to conduct a study. According to Bergh (2009) population can be defined as a group of people which the researcher is interested in gathering the information from, as well as drawing conclusions on.

In this study, the study population was employees at Advent Construction Ltd which were 350 in number. Their choice based on the fact that each respondent has different insights, information and experiences related to occupational and health safety practices in Tanzania.

3.5 Sample Size and Sampling Procedures

3.5.1 Sample

A sample is a group of respondents drawn from a population in which a researcher is interested in collecting information. Sampling is the procedure of choosing of units example people and organizations from the population of the interest, by doing this process it may help researcher to generalize his results back to the selected population. Commentators argued that the main reason behind this activity in terms of sampling is to recognize representativeness of paradigm rather than statistical representativeness (Lacanster, 2007). Before selecting method of the sampling the question should keep in a first place that who do you want to generalize to?

Therefore, the sample size of this study was sixty (60) respondents whereby their selection depended on convenience and purposive sampling as sampling techniques. According to Kothari (1996) in order for a sample to be a true representative of a population it is supposed to be at least 10% the population. In this study sample size is about 14% of the whole population.

Table 3.1: Distribution of Respondents

Category	Frequency	Percentage
Management	5	8.3
Workers	50	83.3
OSHA representatives	5	8.3
Total	60	100

Source: Field data, 2016

3.5.2 Sampling Procedure

3.5.2.1 Purposive Sampling

The sampling technique that was employed in this study is purposive sampling. This is one of the sampling techniques falling under the broad category known as non-probability sampling, also Adam and Kamuzora (2008) add by defining the term purposive sampling as the technique where by researcher choose the particular units of a population with more accuracy and the fact that the units are representative of the whole units which are expected to be selected. Therefore, the researcher used this technique because wanted to reach a targeted sample quickly. Therefore, through purposive approach, it was easy to reach a targeted sample quickly.

3.5.2.2 Convenience Sampling

This method is based on using people who are captive audience, people the researcher meets haphazardly or accidental. The respondents are people who just happen to be walking by, or show a special interest in your research. The use of volunteers is an example of convenience sampling. Usually this sampling method involves getting participants wherever the researcher can find them and typically is convenient. The researcher therefore used convenience sampling due to its easy availability as the subjects for a study are easily available within the proximity of the researcher.

3.6 Data Collection Methods

The study employed in-depth interview and documentary review as data collection methods. According to Riemer (2013) the choice of the research methods depends on the purpose of the research and research questions under investigation. In this study where the main interest was to assess the occupational health and safety practices in

construction projects, in-depth interview and documentary review were used. The researcher decided to employ an in-depth interview method because it provides rich information about the matter under investigation which can be corroborated by documentary review and hence, an increase in validity of the collected.

3.6.1 Primary Data

Kombo and Tromp (2006) define data as those facts that a particular situation gives to an observer. In this study the researcher used interviews and secondary data reviews for data collection so as to get the desired information which cross-checks from different sources. In this study, in-depth interviews and secondary data reviews were used as the methods of collecting the data.

3.6.2 Secondary Data

According to Kothari (2004), secondary data are those data which have already been collected by someone else and which have already been passed through the statistical process. Secondary sources provide interpretation and analysis of primary sources. Therefore, secondary data were gathered using organizational report including that were obtained.

3.7 Data Collection Instruments (Tools)

3.7.1 The In- depth Interview

Interview is a process of communication or interaction in which the subject or interviewee gives the needed information verbally in a face-to-face situation. The interview is of course merely one of the many ways in which two people talk to each other (Burgess, 2000).

Thus, Interview approach was applied to all respondents who were selected. Interview was conducted during working hours to collect information regarding the study. The interview was un-structured in order to make the exercise more meaningful. The major advantage of using the interviews is that they help the researcher to make the best use of limited available time to make the process of interviewing different people more systematic. The interview helped the researcher to ask follow up questions and hence, gaining more information and understanding on what the respondents real mean.

The interview questions were open ended in order to give room to respondents to express themselves freely and give their views. These questions provided opportunities for both interviewee and interviewer to discuss in detail factors influencing health and safety program performance.

3.7.2 Questionnaire

In this part, the researcher employed both closed and open questions. However this method was deployed by the researcher as it employees range of advantages such as; it tends to encourage frank answers, as the respondent can complete the questionnaire without the researcher's being present, it also eliminate interviewer bias, also the fixed format of the questionnaire tends to eliminate variation in the questioning process after there have been written in final version and included in questionnaire there no easy change, it also facilitates the collection of large amounts of data in a relatively short period of time and questionnaires are usually relatively inexpensive to administer.

3.8 Validity and Reliability of Research Instruments

3.8.1 Data Validity

Validity refers to the establishment of causal relationship where by the results in the study are validated. This is to ensure that the inference made exactly reflect the stated causal factors. In order to achieve this, researcher used two sources of data collection methods, such as interviews and documentary review sources. A sample is a group of respondents drawn from a population in which a researcher is interested in collecting information. A sample is a group of respondents drawn from a population in which a researcher is interested in collecting information. This was done deliberately to ensure that the data and information collected were valid so as to get rid of any contradictory views and statements.

3.8.2 Data Reliability

On the other hand, reliability refers to the fact that the exercises are repeated several times and they can produce similar results. This is ensured by instruments of data collection which was prepared and be approved by my supervisor and pre-tested before the actual field data were collected. Therefore, the instrument such as, interview guide questions refined and make valid in terms of relevance, coverage and consistence.

3.9 Data Processing and Analysis

The analysis of data involves computation of indices and measures to determine the validity of data and indicate any conclusion. “The term analysis refers to computation of certain measures along with searching for pattern of relationship that exists among data groups” (Kothari, 2004). Therefore, through this study, data was analyzed using

MS-Excel software and the outputs were presented in simple percentages and tables so as to simplify interpretation and understanding of the findings. In other words, qualitative data were analyzed using cases and quotation where quantitative data were analyzed using descriptive analysis through SPSS and MS-Excel and presented in percentages, frequency and table as well.

3.10 Ethical Issues

Both research methods qualitative and quantitative necessitates ethics to be taken into consideration both during and after research. For example, if someone collects data from respondent and publishes them in newspaper without respondent permission, it is totally against ethics. Commentators recommend that include honesty in reporting the findings was guaranteed (Bergh, 2009). It is to be acknowledged that participants might be harmed as consequences of their participation in survey including, injury, stress, death, reduction etc. therefore, all collected data was treated confidentially.

CHAPTER FOUR

INTERPRETATION, ANALYSIS AND DISCUSSION OF THE FINDINGS

4.1 Introduction

The purpose of this chapter is to present and analyze data obtained in the field based on the objectives of the study namely: - the role of management in influencing health and safety program performance, the role of resources in influencing health and safety program performance, the role of workers in influencing health and safety program performance and the role of safety inspection by OSHA representatives in influencing health and safety program performance.

4.2 Respondents' Biographical Data

Respondents' biographical data was among the aspects of researcher's investigation. Therefore, the study established respondents' biographical data on age, sex and level of education as well. Moreover, biographical data focused only to workers, constituting 50 respondents out of 60 respondents in the study.

The study participants were enquired to specify their gender on the questionnaires. The gender distribution was considered in order to establish the gender composition of the respondents. It was revealed that, about 47 (94%) of the respondents were male while 3 (6%) of the respondents were female. Therefore, the analysis of data stipulates that majority of respondents were male as compared to female. This implies that, in most construction companies, male tends to be workers as compared to female. Therefore, they are subjected to ensure that health and safety program is effectively implemented at the construction companies.

Moreover, the study participants were enquired to specify their age on the questionnaires. The age distribution was considered in order to establish the age composition of the respondents. The results unveiled that, about 15 (30%) of the respondents were at the age of 18-25 years old, 29 (58%) of the respondents were at the age of 26-30 years and 6 (12%) of the respondents were at the age of 31 years and above.

Therefore, the analysis of the data indicates that majority of the respondents were at the age of 26-30. This implies that, most workers in construction companies are youth who are energetic and strong to perform their day to day activities. Since most of them are still young, they are capable to ensure effective performance of health and safety program.

The study participants were also enquired to specify their level of education on the questionnaires. Education was considered in order to establish education composition of the respondents. Analyzing data in Table 4.1, the findings stipulates that, about 44 (88%) of the respondents attained primary education and the rest of the respondents, constituting 6 (12%) attained secondary education. The analysis of data shows that, majority of respondents had primary education. This implies that, the level of education among respondents at Advent Construction Company Ltd is sufficient enough to enable them to grasp issues related to occupational health and safety. Thus, analysis of education level is essential to determine the level of knowledge and experience that a person has which in turn helps them to grasp issues pertaining their occupational health and safety.

Table 4.1: Respondents Biographical Data

Variable	Description	Frequency	Percentage
Gender	Male	47	94
	Female	3	6
	Total	50	100
Age	18-25 years	15	30
	26-30 years	29	58
	31-above years	6	12
	Total	30	100
Education	Primary	44	88
	Secondary	6	12
	Certificate	0	0
	Diploma	0	0
	Total	30	100

Source: Field Data (2016)

4.3 The Role of Management in Influencing Health and Safety Program Performance

This is the first objective of the study, which was to identify the role of management in influencing health and safety program performance. The questions based on this objective were responded accordingly. This objective is categorized in different questions as analyzed below:

4.3.1 Issues Related to Health and Safety Program

The respondents were required to provide their views concerning health and safety program at Advent Construction Ltd. The issue at hand was whether the management provides the following issues related to health and safety. The researcher used Lickert

scale approach. The question was answered by 50 respondents who are workers at Advent Construction Ltd.

Table 4.2: Issues Related to Health and Safety Program

Aspects	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
The availability of occupational health and safety regulations at workplace	-	50 (100%)	-	-	-
Supervision and monitoring of hygiene and sanitary facilities for health and welfare of the workers	-	50 (100%)	-	-	-
Inspection of health safety of protective devices	7 (14)	43 (86%)	-	-	-
Provision of First Aid	46 (92%)	4 (8)	-	-	-
Health education and safety training to the workers	9 (18%)	39 (78%)	2 (4%)	-	-

Source: Field Data (2016)

1. Availability of Occupational Health and Safety Regulation at Work place

With regard to the availability of occupational health and safety regulations at workplace, the findings revealed that, about 50 (100%) of the respondents agreed that there is an availability of occupational health and safety regulation at work place. This implies that, the company complies with the rules and regulation practice governed by the national Occupational Health and Safety Policy and Occupational health and safety Act of 2003.

The study conducted by Parboteeah and Kapp (2011) in Mwaisaka (2013) observed that, complying with workplace rules and regulations is the ultimate key to health and safety in the workplace. Enforcing a rule is to ensure safety through compliance. A safe working condition is determined by the level of compliance with the safety rules. Thus, all employers have a duty to comply with the relevant health and- safety law when working in the construction companies.

2. Supervision and Monitoring of Hygiene and Sanitary Facilities for Health and Welfare of the Workers

The findings indicate that, about 50 (100%) of the respondents agreed that, there is supervision and monitoring of hygiene and sanitary facilities for health and welfare of the workers. This implies that, the company adheres to the rules and regulation practice governed by the national Occupational Health and Safety Policy and Occupational health and safety Act of 2003.

The study observes that, it is a role of the company through its management to ensure that there is supervision, monitoring and sanitary facilities for health and welfare of the workers. On the other hand, the researcher views that, it is the responsibility of the worker also to ensure that he/she observes his/her personal hygiene and not necessarily to depend on the supervision of the management at large.

The findings by Mwaisaka (2013) conducted in Mtwara indicated that there was a high proportion of workers who adhered to OSHA stipulation although a small proportion of workers still were not adhering to OSHA stipulations. This means that, still personal hygiene was not yet guaranteed in the study companies as some

individuals still their safety and health was not well insured. That could lead to some of the workers to endanger their personal hygiene which in turn would lead to poor health and safety at workplace.

3. Inspection of health safety of protective devices

About 7 (14%) of the respondents strongly agreed that there is an inspection of health safety of protective devices and 43 (86%) of the respondents agreed that there is an inspection of health safety of protective devices. Therefore, the data analysis shows that, majority of respondents agreed there is an inspection of health safety of protective devices at the company. The study observed that it is a legal requirement for the working places to be inspected by OSHA. The findings showed that, in most cases OSHA representatives make inspection two or three times a year. According to the OHS Act of 2003; Safety and Health Inspectors are required to inspect all workplaces in order to determine whether they are in compliance with the OHS legislation and standards.

4. Provision of First Aid

The study was interested in getting the views of the respondents as whether the company provides First Aid in case of accidents or whether there is First Aid kit box at the construction sites. It was revealed that, about 46 (92%) of the respondents strongly agreed that there is a provision of First Aid and the rest of the respondents, constituting 4 (8%) of the respondents agreed that there is a provision of First Aid. Therefore, the analysis of data indicates that, large portion of respondents strongly agreed that there is a provision of First Aid. The researcher observes that, it is a mandatory requirement for construction companies to have First Aid Kit Box so as to

be used in case of accidents. The law governing Occupational Health and Safety of 2003 states that:

“There shall be provided and maintained a first aid box or First Aid cupboard to the prescribed standard and the first aid box or cupboard facilities shall be distinctively marked "FIRST AID" having only appliances or stocks of first aid equipment”.

The study conducted by Muiruri (2014) found that, construction sites are risky spots, and emergency treatment and save hardware ought to dependably be accessible. What is required relies upon the extent of the site and the numbers utilized, yet there ought to be a cover and a stretcher. On vast locales with more than 200 individuals have employment, there ought to be an appropriately prepared emergency treatment room. On any development site of that size, no less than one individual on each move ought to have been prepared in medical aid to a broadly perceived standard. On day - to-day works systems, a mishap enlist book ought to be kept at the site, in which a wide range of minor damage, for example, wounds, to real mischances like crediting inability and lethal ought to be recorded.

5. Health Education and Safety Training to the Workers

It was found that, about 9 (18%) of the respondents strongly agreed that the company provides health education and safety training to the workers and 39 (78%) of the respondents agreed that that the company provides health education and safety training to the workers. Therefore, the data analysis provides that majority of respondents agreed that the company provides health education and safety training to the workers. This gives an implication that the company is aware of the significant role played by safety training. Moreover, it is a mandatory requirement for every construction company to provide health and safety training for workers in order to

avoid unnecessary accidents that might occur due to the lack of training. According to the OHS Act of 2003 Section 32, it is the responsibility of the employer upon consultation with the chief Inspector to ensure that all exposed workers are instructed on the hazards prevailing in their work places; safety measures are taken to avoid injury and training is provided at least once in every two years. The study by Choudhry and Fang, (2010) asserted that, training operatives on the use of protective wear and equipment is significant for adhering to health and safety in their jobs.

On the other hand, Mulinge (2014) observed that, occupational safety and health, training involves instruction on how to recognize hazard and control measures, learning safe work hones and appropriate utilization of individual defensive gear, and getting information of crisis methodology and preventive activities. Preparing additionally furnish laborers with approaches to get included data about potential risks and their control; they could pick up aptitudes to accept a more dynamic part in executing peril control programs or to impact hierarchical changes that would upgrade worksite assurance. Toole (2002) listed the main causes of construction accidents. These are absence of appropriate training, inadequate authorization of wellbeing, absence of security gear, perilous techniques or sequencing, risky site conditions, not utilizing gave security hardware, poor mentality toward wellbeing, and secluded, sudden deviation from recommended conduct.

4.3.2 The Extent Management Ensures Availability of the Identified Health and Safety Issues

The respondents were required to provide their responses as to what extent the management of Advent Construction Ltd ensures the availability of identified issues

related with health and safety program as reported above. Figure 4.1 splits out summary of the findings:

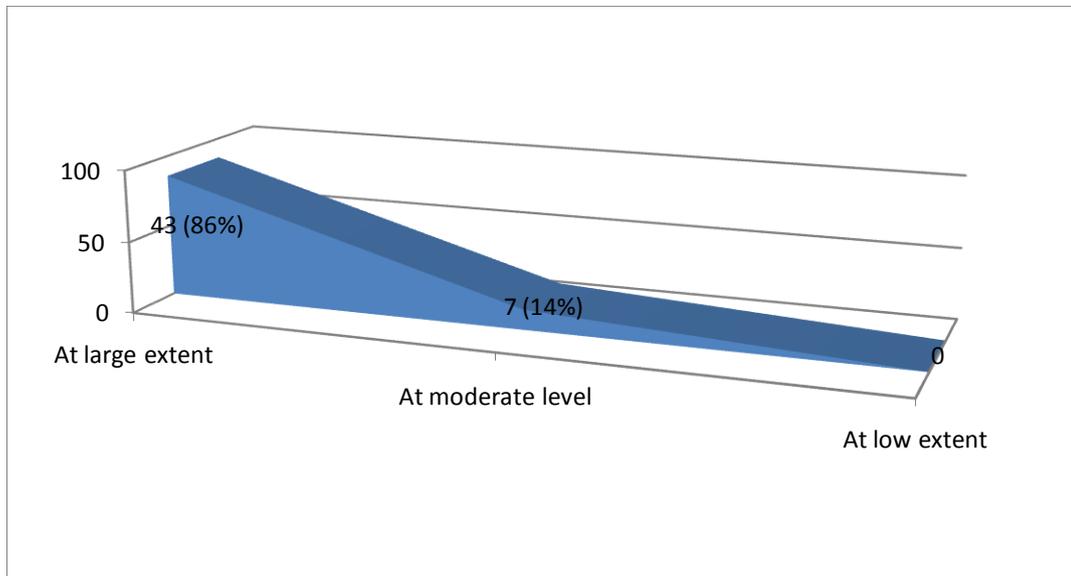


Figure 4.1: The Extent Management Ensures Availability of the Health and Safety Issues

Source: Field Data (2016)

The findings show that, about 43 (86%) of the study participants said, at large extent, the management of Advent Construction Ltd ensures availability of issues related to health and safety program as identified above the rest of study participants 7 (14%) said, at moderate level, the management ensures the availability of the issues related to health and safety program.

Therefore, majority of respondents admitted that, at large extent the management of Advent Construction Ltd ensures availability of issues related to health and safety program as identified above. This implies that the workers are satisfied with what the management does in relation to the health and safety program at the construction site. The researcher observes that, when the management plays its significant role by

ensuring that health and safety equipment are available at work place, it creates a good relationship between workers and the management.

Quoting one of the respondents, the following statement was made:

“The management does a good job. Before we start to work, our supervisor ensures that every work has put on the protective measures and everything is under the control. He gives the instruction on how we can perform our tasks without causing any accident”

4.3.3 Management’s Responses Concerning their Role at Advent Construction

Ltd

The management had the views concerning the role in ensuring health and performance safety program is implemented effectively in the company. The question was administered to 5 respondents who are the staff at the management office. The results indicated that all respondents 5 (100%) had similar perceptions as their main role is to ensure that the workers use the health and safety equipment/facilities effectively and also they abide with the health and safety rules and regulations. The researcher provides that, this is very important as it reduces the risk of unnecessary accidents at the construction sites. It is the role of the management to ensure that everything is under the control. Management through their supervisors at the site area has the duty to ensure that health and safety rules are practiced effectively through proper wear of the protective measures during the work.

However, the study further observes that, health and safety is the responsibility of both management and workers together because if the management the workers do not provide enough corporation to the management or management does not provide enough corporation to the workers, it is impossible to have effective implementation

of health and safety program at the construction sites. Quoting one of the respondents from the management office, the following remark was made:

“My main responsibility as a supervisor is to make sure that workers are complying with the rules of health and safety. I make sure that everyone has/his protective measure and also they get some instructions before they start to do any work or before they start to use them. ”

Concerning with the issue of the company to have internal health and safety department, 5 (100%) of the respondents in the management said that the company does not have internal health and safety department. The study finds that, health and safety department is very important for effective implementation of health and safety program. The researcher is informed that, most of the construction companies do not have health and safety department. However, this does not mean that they do not practice health and safety issues.

Furthermore, the study wanted to know as whether the company gets site health and safety inspections from OSHA officers. The findings revealed that, the company gets site health and safety inspections from OSHA officers as it was agreed by all respondents, 5 (100%) in the management staff. It is the mandatory requirement for the construction companies to get inspected by OSHA officers. According to the OHS Act of 2003; Safety and Health Inspectors are required to inspect all workplaces in order to determine whether they are in compliance with the OHS legislation and standards.

In supporting this argument, one respondent said the following:

“It is a legal requirement to be inspected by OSHA officers or their representatives, and in most cases, the inspection takes place two or three times a year. Usually they do this in the beginning or at the middle of the year”

The findings by Mwaisaka (2013) in Mtwara unveiled that, OSHA inspections reduces the exposure of workers to hazardous substances and increases compliance with health regulations. Also the study was interested in finding out as whether the company has health and safety policy. The results showed that, about 5 (100%) of the respondents from the management office said the company has the safety policy. This implies that the company complies with the rules and regulation governing occupational health and safety in Tanzania. It is a legal requirement for the construction companies to have health and safety policy which should comply also with the Occupational Health and Safety Policy of 2003. Section 96 of the Occupational Health and Safety Act, 2003 states that:

Every employer who has more than four employees in his employment in any factory or workplace shall have the duty - to prepare a written policy on the protection of health and safety of employees and description of the organization for implementing the policy; to prepare guidelines concerning the implementation of the contents of the policy; to display a copy of the policy at any conspicuous area within the factory or workplace and to distribute copies of policy and guidelines to all employees.

Apart from that, the study was interested in getting to know as whether the company does comply with the rules and regulations of OSHA practice. The findings provided that the company does comply with the rules and regulations of OSHA practice as it was responded by all respondents 5 (100%) from management office. The company complies with the rules and regulation of OSHA practice by way of ensuring that it has policy that governs health and safety affairs in the company and also it has health and safety equipment for effective performance of day to day activities held at work places.

Moreover, the researcher wanted to get the answers of the respondents from management office as whether company has a formal health and safety training

programme for their workers. It was revealed that the company does have such formal health and safety training programme for their workers. According to the OHS Act of 2003 Section 32, it is the responsibility of the employer upon consultation with the chief Inspector to ensure that all exposed workers are instructed on the hazards prevailing in their work places; safety measures are taken to avoid injury and training is provided at least once in every two years. The study conducted by Zeng (2010) revealed that, construction workers identified training as a necessary element of safety performance.

4.4 The Role of Resources in Influencing Health and Safety Program

Performance

This is the second objective of the study aimed at investigating the role of resources in influencing health and safety program performance. The questions based on this objective were responded accordingly. This objective is categorized in different questions as analyzed below:

4.4.1 Supply of Adequate Resources (Safety Equipment) at the Construction

Site

The study was interested in finding out as whether the respondents who are workers at Advent Construction Ltd are supplied with adequate resources. It was revealed that, about 50 (100%) of the respondents admitted that they are supplied with adequate resources. It is the role of management to ensure that all important health and safety tools are available at work places. The study conducted in Libya by Al-Kilani (2011) found that, supplying of adequate health and safety equipment in the construction projects has many advantages, as it reduces the accidents on the

construction sites, helps end projects in the early time, increases workers' morals, increased productivity and decreased the number of compensation. Moreover, the study wanted to know items which are supplied by the company during the construction. The researcher observed that various items are provided during the work. These are safety boots, hard hats (helmet), reflector coat, work gloves, glass and overall.

4.4.2 Advantages of Using Safety Equipment (Protective Equipment) in Reducing Accidents at Work Site

The researcher was interested in finding out the advantages of using safety equipment in reducing accidents at work site. The findings are summarized as indicated in Figure 4.2.

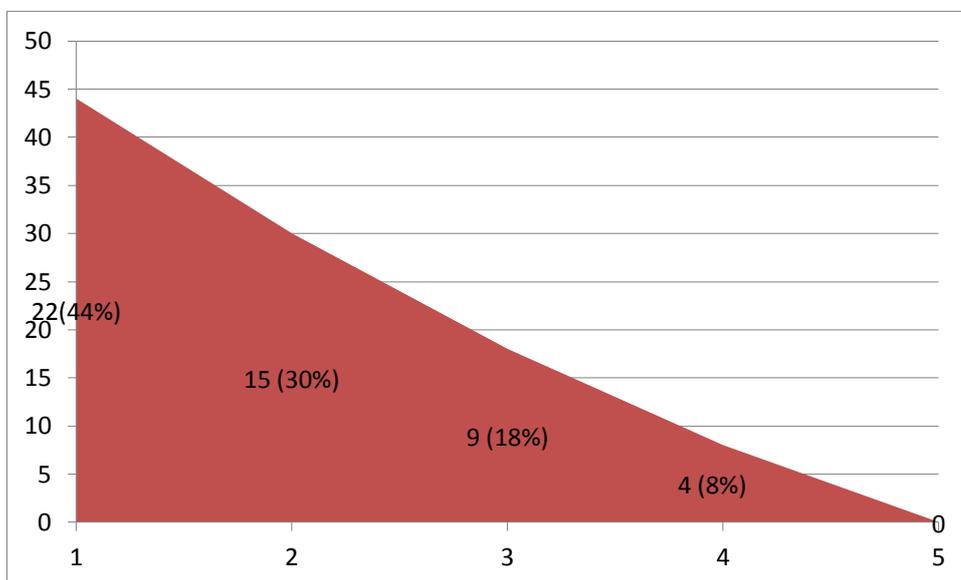


Figure 4.2: Advantages of using Protective Equipment

Source: Field Data (2016)

The findings revealed that, about 22 (44%) of the respondents said protective equipment such as hard hats (helmet) help in protecting their heads against falling

objects and side of the head, eyes and alike, 15 (30%) of the respondents said protective equipment such as boots protect them from punctures (protecting against foot and leg injuries), that is when staff/employees make a step on things which are sharp or be struck by objects which are sharp, safety boots can help them, 9 (18%) of the respondents said protective measures help them as they prevent slips, trips and falls and 4 (8%) of the respondents said protective measures such as safety gloves help them in protecting against cuts from sharp objects.

Based on the above findings, it is concluded that the protective play significant role in reducing unnecessary accidents. While some respondents said they help in protecting their heads against falling objects and side of the head, eyes and alike, others said protective measures protect them from punctures (protecting against foot and leg injuries), prevent slips, trips and falls and help them in protecting against cuts from sharp objects.

4.4.3 The Extent Identified Resources help in Reducing Accidents at Work Site

The respondents were required to provide their responses as to what extent the identified resources help in reducing accidents at work site. Figure 4.3 provides summary of the findings:

As it indicated in Figure 4.3 that, about 40 (80%) of the respondents said at large extent the identified resources help in reducing accidents at work site and 10 (20%) said that, at moderate level, the identified resources help in reducing accidents at work site. This implies that protective measures are helpful in reducing risk of accident at the working places particularly in the construction sites where there is high risk of accident.

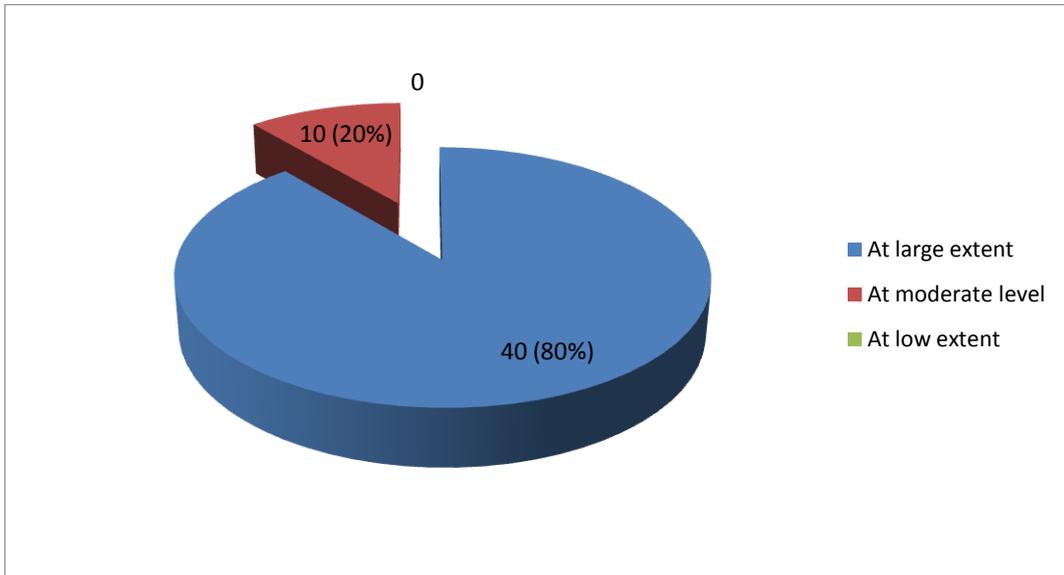


Figure 4.3: The Extent Identified Resources Help in Reducing Accidents at Work Site

Source: Field Data (2016)

4.4.4 Management's Responses Concerning the Role of Resources in Influencing Health and Safety Program Performance

The researcher was interested in asking the management as whether the company has adequate resources on health and safety program. It was indicated that, all respondents, 5 (100%) said the company has adequate resources in supporting health and safety program.

This is also agreed by workers as it was indicated previously. It is the duty of the construction company management to ensure that workers are supplied with enough and adequate resources. The study found that, the company has various items/resources in supporting health and safety program. These are safety boots, hard hats (helmet), reflector coat, work gloves, glasses and overall.

It was further provided that, the protective measures are helpful in ensuring effective health and safety program. This was supported by all respondents, 5 (100%) who are staff from the management office.

Furthermore, the researcher found it was necessary to find out as whether ratio of the resources complies with the number or ratio of workers who work in various construction sites supervised by Advent Construction Ltd Company. It was pointed out by the respondents, 5 (100%) that the ratio of the resources complies with the number or ratio of workers who work in various construction sites supervised by Advent Construction Ltd Company.

The study views that, this is very important because lack of adequate resources may affect performance of the workers at work places because if some workers are do not wear protective measures and others wear, it means that there is a high risk of getting accidents for those who do not protective measures because those who work in construction companies are particularly at risk and face a number of potential hazards. Therefore, all employers are legally required to ensure the health and safety of their employees.

The study by Mwaisaka (2013) observed that, workers who do not wear protective gear lamented that, at workplace there is no enough protective gear to be won by all workers. This results to some of workers to miss protective gear which in turn put their safety and health at risk. The study findings indicate that, generally, workers are not always protected while on duty.

4.5 The Role of Workers in Influencing Health and Safety Program Performance

This is the third objective of the study, which was to examine the role of workers in influencing health and safety program performance. The questions based on this objective were responded accordingly. This objective is categorized in different questions as analyzed below: -

4.5.1 Awareness of Workers on Health and Safety Program conducted at Advent Construction Company Ltd

It was observed that, it was necessary to find out as whether the workers at Advent Construction Company Ltd are aware of health and safety program conducted at the company. The findings are stipulated in Figure 4.4.

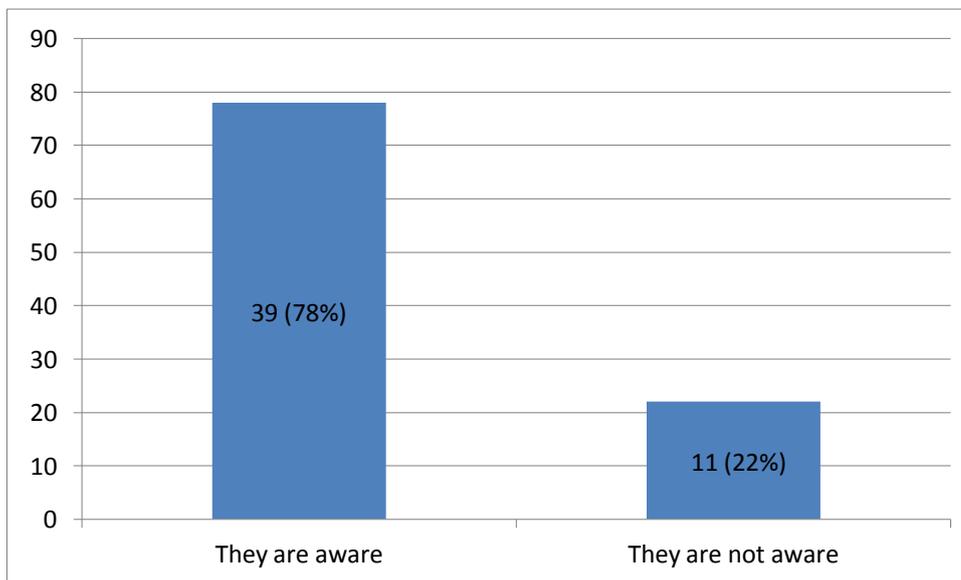


Figure 4.4: Awareness of Workers on Health and Safety Program

Source: Field Data (2016)

In analyzing data from Figure 4.4, it was found that, about 39 (78%) of the respondents said to be aware of the health and safety program at Advent Construction Company Ltd and 11 (22%) of the respondents said they are not aware of the health

and safety program at Advent Construction Company Ltd. Therefore, the data analysis shows that majority of respondents at the company are aware of the health and safety program. This implies that, workers are informed about health and safety program. It is the duty of the company through management to make sure that workers have good information concerning health and safety program because as it is known that the workers are the ones who perform all physical activities at the construction companies.

With regard to the workers who said they are not aware of the health and safety program at the Advent Construction Company Ltd, the researcher found that it is not true because through observation, the study found that all workers use protective measures and also there is a place where First Aid Kit Box has been placed. Having all these, it implies that workers know and understand about health and safety program. But all in all, it is the duty of management to ensure that every worker is well informed about health and safety program. On the other hand, it is the responsibility of the worker to ensure that he/she is well informed about health and safety program at the work place.

The study is also supported by Elsi (2009) who emphasized that, to ensure safety at the workplace, workers should make sure that they are well informed about the program and how it works. Thus understanding of the safety strategies and stipulations of the establishment becomes crucial. Everyone has to keep to the rules and procedures of an organization in order to ensure a safe working environment for themselves and other workers.

4.5.2 The Extent Workers are Aware of Health and Safety Program at Advent Construction Company Ltd.

The respondents were required to provide their responses as to what extent they are aware of health and safety program conducted at Advent Construction Company Ltd. The question was answered by 39 respondents who admitted that they are aware of health and safety program conducted at Advent Construction Company Ltd.

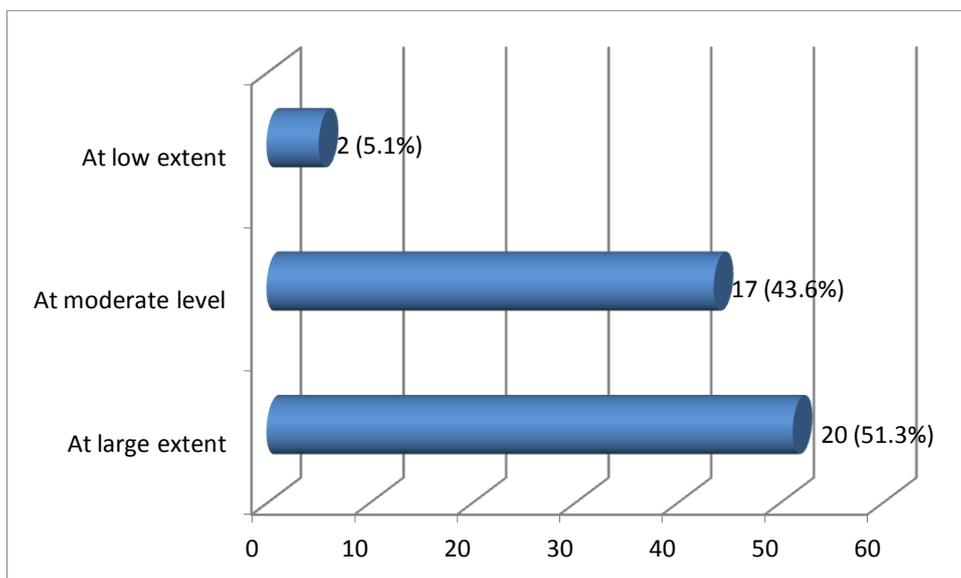


Figure 4.5: The Extent Workers are Aware of Health and Safety Program at Advent Construction Company Ltd

Source: Field Data (2016)

As stipulated in Figure 4.5 that, about 20 (51.3%) of the respondents said to a large extent they are aware of health and safety program conducted at Advent Construction Company Ltd, 17 (43.6%) said that, to a moderate level, they are aware of health and safety program conducted at Advent Construction Company Ltd and the rest of the respondents, constituting 2 (5.1%) said to a low extent they are aware of health and safety program conducted at Advent Construction Company Ltd. Therefore, the data analysis of the findings provides that, majority of respondents said to a large extent

are aware of health and safety program conducted at Advent Construction Company Ltd. This implies that, there is a high level of awareness of health and safety program at Advent Construction Company Ltd.

4.5.3 Work Experience of Workers in Construction Work

At this point, the researcher wanted to know work experience of the workers of Advent Construction Company Ltd in construction work. The findings indicated that, about 46 (92%) of the respondents said they have work experience in construction work while 4 (8%) of the respondents said they have no work experience in construction work. Therefore, the data analysis stipulates that high percentage of respondents have work experience in construction work.

This gives a meaning that, if they have work experience in construction work, there is a high probability of understanding at large the issues related to health and safety at the construction companies. As it has been noted that, workers who work in construction industries are highly exposed to a number of hazards, Therefore, most of them with work experience have the advantages of having knowledge and understanding about health and safety aspects. Furthermore, the study wanted to know work experience of workers in terms of years. The question was answered by 46 respondents who said that they have work experience in construction work. The results are summarized in Figure 4.6.

According to the findings, about 24 (52.2%) of the respondents said they have an experience of 3 years in construction work, 19 (41.3%) of the respondents said they have work experience of 5 years in construction work and 3 (6.5%) of the respondents

said they have work experience of 8 years in construction work. Therefore, the data analysis shows most of the workers at the Advent Construction Company Ltd have enough experience in construction works. The study observed that, in most cases, work experience has been helping workers by raising their level of carefulness while performing construction works at the site, because the more workers become experienced, the more they become aware of the health and safety conduct at the construction site.

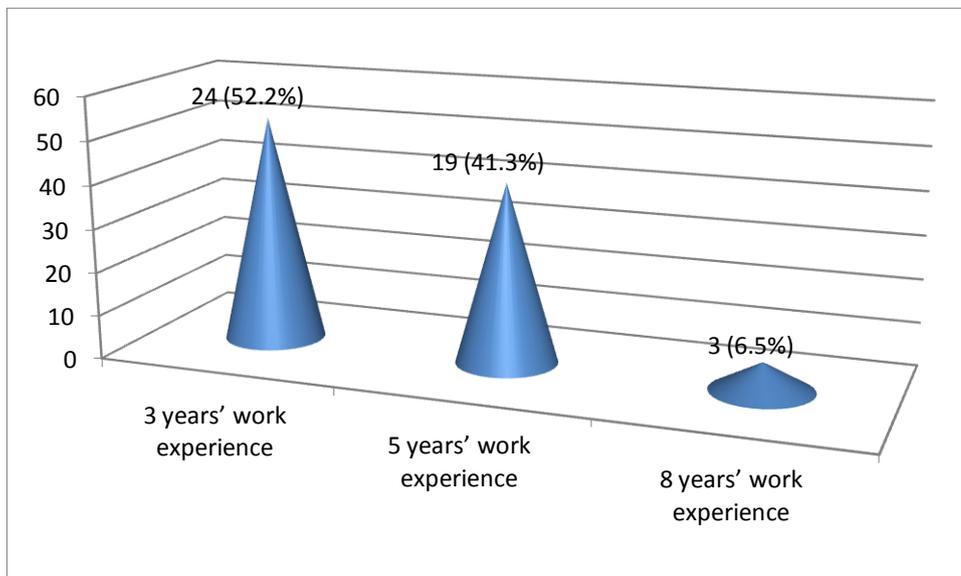


Figure 4.6: Work Experiences of Workers in Construction Work

Source: Field data (2016)

According to the findings, about 24 (52.2%) of the respondents said they have an experience of 3 years in construction work, 19 (41.3%) of the respondents said they have work experience of 5 years in construction work and 3 (6.5%) of the respondents said they have work experience of 8 years in construction work. Therefore, the data analysis shows most of the workers at the Advent Construction Company Ltd have enough experience in construction works. The study observed that, in most cases,

work experience has been helping workers by raising their level of carefulness while performing construction works at the site, because the more workers become experienced, the more they become aware of the health and safety conduct at the construction site.

4.5.4 Experience of Accident

The sought it was important to find out experience of workers with regard to the accident in the construction site, as whether they got or experienced any kind of accident while performing their duties. It was found that, about 41 (82%) of the respondents said they did not get accident at construction site and 9 (18%) of the respondents said they got accident at construction site. Therefore, the results inform the researcher that, most of the workers at the Advent Construction Company Ltd have not experienced any accident at their work places. This gives a meaning that the workers are careful and aware of the risks associated with the accidents.

According to Saurin (2005),in Al-Kilani (2011), an accident is an unplanned instantaneous occurrence that results from a human's interaction with its physical and social work environment that causes incidents and material damage. Unsafe acts are defined as events where the danger situation results from the continuous negligent action of one or more workers over some time.

Moreover, the study was interested in finding out causes of accidents happened to the workers who admitted that they experienced or got accident at the construction site. The question was addressed by 9 respondents who said that they got accident at the construction site. The findings are stipulated in Figure 4.7.

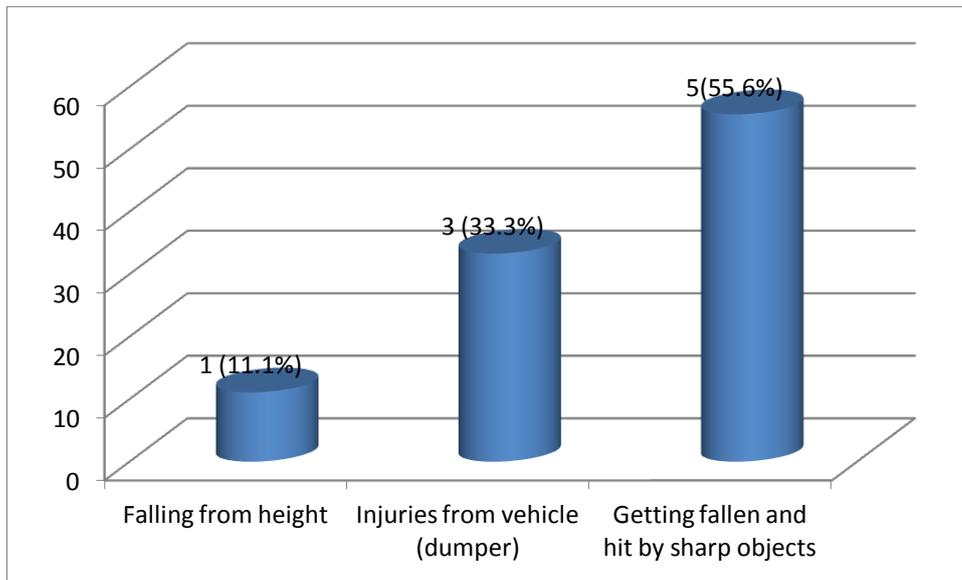


Figure 4.7: Causes of Accident

Source: Field Data (2016)

As pointed out in Figure 4.7, about 1 (11.1%) of the respondents said they fell from height, 3 (33.3%) of the respondents said they got injured from vehicle used to carry materials in construction sites (dumper) and the rest of the respondents 5 (55.6%) said they were fallen and hit by sharp objects. Therefore, the findings inform the researcher that, the high percentage of workers got accident as the sharp objects from height fell over them. This gives a room to argue that the most common cause of accidents at the construction sites is the falling of the sharp objects from the height. This can be caused by human error.

Furthermore, the study found that, accidents at the construction sites can be caused by various aspects such as lack of training, lack of safety equipment, poor planning of the building and unsafe site conditions. This is also similar to what was found in the study conducted by Toole (2002) who listed the main causes of accidents in the construction sites. These are absence of appropriate training, inadequate authorization of wellbeing,

absence of security gear, perilous techniques or sequencing, risky site conditions, not utilizing gave security hardware, poor mentality toward wellbeing, and secluded, sudden deviation from recommended conduct.

4.5.5 Management Response on the Role of Workers in Influencing Health and Safety Program Performance

The study found it was necessary to get the perceptions of the respondents with regard to the role of workers in influencing health and safety program. Various questions were asked in this aspect. Concerning with the issue of awareness of workers on health and safety program, the results indicated that, about 5 (100%) of the respondents who are staff from management office said that their workers are aware of the health and safety program conducted at Advent Construction Company Ltd.

This implies that management understands the importance of educating their workers about health and safety program. When the workers have enough understanding and well informed about the importance of health and safety program and how it works, the possibility of avoiding unnecessary accidents is high. It was observed that, the main cause of accident in most of construction industries is lack of understanding about the use and importance of protective measures and first aid among the workers.

The study by Al-Kilani (2011) unveiled that, no introduction for new staff or specialists is done, dangers are not called attention to, and no wellbeing gatherings are held. Representatives are required to gain from their own oversight or experience. Furthermore, absence of medicinal offices, shanty lodging, and substandard sanitation tend to exist on remote ventures. Laborers attempt a hazard while at work and the

accompanying issue ranges are normal. With regard to the level of workers' awareness on health and safety program, it was found that, about 4 (80%) of the respondents who are staff from management office said at large extent their workers are aware of health and safety program and 1 (20%) of the respondents said at moderate level, their workers are aware of health and safety program. This gives a justification that the management agrees with the fact that their workers are aware of the health and safety program at work places.

On the issue of workers' experience in construction site, it was found that, about 5 (100%) of the respondents said most of their workers have enough experience in construction works. This gives a justification of the fact that management is aware of the work experience of their workers in construction works.

4.6 The Role of Safety Inspection by OSHA Representatives in Influencing Health and Safety Program Performance

This is the fourth objective of the study, which was to determine the role of safety inspection by OSHA representatives in influencing health and safety program performance. The questions based on this objective were responded accordingly. This objective is categorized in different questions as analyzed below: -

4.6.1 Inspection Time

The study asked the respondents who are OSHA representatives the times they do inspection to the working places. This involved 5 respondents. The findings indicated that, about 5 (100%) of the respondent said they normally inspect 2-3 times a year. This gives an implication of the fact that; inspection at working places normally is

conducted in 3 times a year. However, the researcher views that 3 times a year is not satisfactory because there is a tendency for employers not to comply with the rules and regulations of health and safety, so if there is no frequent inspection, that gives them a room to misbehave.

4.6.2 Things which are Considered During Inspection

OSHA representatives were asked things they take into consideration when they make inspection. Almost, all respondents (5 respondents) had the similar answers about the issue at hand. It was found that, things which they consider when make the inspection are: -if the project is registered, if the they have done what is called risk assessment, if the company does have all health and safety tools and if the they have their own policy and whether such policy complies with the rules and regulation of OSHA.

Quoting one of the respondents, the following was said:

“It is our duty to ensure that in our inspection, we should find the registration of the project, risk assessment, health and safety tools and the policy of the company. Contrary to that, we take further action”

Moreover, the researcher wanted to be informed by the OSHA representatives on the action (if any) they take to the companies which do not comply with policy, rules and regulations of the OSHA. It was said that normally fine is taken as an action for those companies which do not comply with the policy, rules and regulations of the OSHA respectively.

4.6.3 Challenges Facing OSHA Representatives while Perform their Duties

Every work/task has got its own challenge despite the fact that challenges differ from one institution to the other institution. The respondents from OSHA office were asked

on what challenges they face while perform their duties. The respondents (5 respondents) had almost the similar challenges they face while perform the inspection at working places. The findings showed that, there is shortage of resources (staff and funds), lack of corporation to some employers and low compliance to OHS standards. The study findings are similar to the Amweelo (2008) where he observed that, a lack of resources and labour inspectors has hampered efforts to address the issue of safe work effectively.

The occupational health and safety legislation has been reviewed and an agency has been established. However, the shortage of staff and funds hinder its efficient functioning. At the same time, it must be stressed that, despite these positive developments, the overwhelming majority of Tanzanian workers (approximately 90 per cent) remain in vulnerable and informal employment.

4.6.4 Measures to be taken for Construction Companies to maintain Health and Safety Program

It was found that, about 3 (60%) of the respondents said workers should wear their personal protective equipment properly and as directed by their employer or comply by the person in control of the site, 1 (20%) of the respondents said the employers should conduct risk assessment management in order to ensure that unnecessary accidents do not take place and 1 (20%) of the respondents said employers and contractors should provide programs which are useful and suitable and which are complying with national Laws and Regulations to ensure the health and safety of employees.

4.7 Discussion of the Findings

This section discusses the findings of the study in linking to the literature reviews of empirical study.

4.7.1 The Role of Management in Influencing Health and Safety Program

Performance

With regard to the role of management on the availability of occupational health and safety regulation at work place, the study found that, the company has occupational health and safety regulation. Therefore, the company complies with the rules and regulation practice governed by the national Occupational Health and Safety Policy and Occupational health and safety Act of 2003. The study findings are similar to the study conducted by Parboteeah and Kapp (2011) in Mwaisaka (2013) who observed that, complying with workplace rules and regulations is the ultimate key to health and safety in the workplace. Enforcing a rule is to ensure safety through compliance. A safe working condition is determined by the level of compliance with the safety rules. Thus, all employers have a duty to comply with the relevant health and- safety law when working in the construction companies.

4.7.2 The Role of Resources in Influencing Health and Safety Program

Performance

On the issue of supplying of adequate resources (safety equipment) at the construction site, the study found that, the workers are supplied with adequate resources. The findings are similar to the study conducted in Libya by Al-Kilani (2011) who found that, supplying of adequate health and safety equipment in the construction projects has many advantages, as it reduces the accidents on the construction sites, helps end

projects in the early time, increases workers' morals, increased productivity and decreased the number of compensation.

4.7.3 The Role of Workers in Influencing Health and Safety Program

Performance

Concerning with the issue of awareness of health and safety program as the part of the role of workers in influencing health and safety program, the study found that, it is the responsibility of the worker to ensure that he/she is well informed about health and safety program at the work place.

The study is also supported by Elsi (2009) who emphasized that, to ensure safety at the workplace, workers should make sure that they are well informed about the program and how it works. Thus understanding of the safety strategies and stipulations of the establishment becomes crucial. Everyone has to keep to the rules and procedures of an organization in order to ensure a safe working environment for themselves and other workers.

4.6.4 The Role of Safety Inspection by OSHA Representatives in Influencing

Health and Safety Program Performance

With regard to the time of inspection conducted by OSHA officers, the findings revealed that, inspection at working places normally is conducted in 3 times a year.

With regard to the challenges facing OSHA representatives while perform their duties, it was found that, there is shortage of resources (staff, protective equipment and funds), lack of corporation to some employers and low compliance to OHS standards.

The study findings are similar to the Amweelo (2008) where he observed that, a lack

of resources and labour inspectors has hampered efforts to address the issue of safe work effectively. The occupational health and safety legislation has been reviewed and an agency has been established. However, the shortage of staff and funds hinder its efficient functioning. At the same time, it must be stressed that, despite these positive developments, the overwhelming majority of Tanzanian workers (approximately 90 per cent) remain in vulnerable and informal employment.

CHAPTER FIVE
SUMMARY OF THE FINDINGS, CONCLUSION AND
RECOMMENDATIONS

5.1 Summary of the Findings

The primary purpose of the study was to assess factors influencing health and safety program performance. The study reviewed different literatures, which attempted to address issues related to the subject matter. The research employed a case study design based on a single unit. Apart from that, the study employed primary and secondary data for gathering information of the study. The sample size of the study was 60 respondents, whereby 50 were workers from Advent Construction Company Ltd, 5 respondents from management office of the study area and 5 respondents were OSHA representatives. The following are the summary of the research findings from the research objectives.

- (i) Findings revealed that, issue related to the health and safety program were found to be available at the Advent Construction Company Ltd. These are availability of occupational health and safety regulations at workplace, supervision and monitoring of hygiene and sanitary facilities for health and welfare of the workers, inspection of health safety of protective devices, provision of First Aid and health education and safety training to the workers.
- (ii) The results revealed that workers at Advent Construction Ltd are supplied with adequate resources. Various items are supplied at the construction sites. These are safety boots, hard hats (helmet), reflector coat, work gloves and overall. Furthermore, number of advantages of using safety equipment in reducing

accidents at work site was identified. These are:- they help in protecting their heads against falling objects and side of the head, eyes and alike, others said protective measures protect them from punctures (protecting against foot and leg injuries), prevent slips, trips and falls and help them in protecting against cuts from sharp objects.

- (iii) The findings also unveiled that, majority of workers at the Advent Construction company are aware of the health and safety program. At large extent they are aware of health and safety program conducted at the company.
- (iv) Furthermore, the results revealed that, inspection at working places normally is conducted in 3 times a year. On the other hand, it was found that, there are things which OSHA officers consider when make inspection. These are:- if the project is registered, if the they have done what is called risk assessment, if the company does have all health and safety tools and if the they have their own policy and whether such policy complies with the rules and regulation of OSHA.

5.2 Conclusion

The subject of safety and health in the workplace covers a wide spectrum of issues. Among them are issues such as working with hazardous chemicals and minerals, exposure to contagious diseases and passive smoking. Naturally, a need for safety is an intrinsically human concern. Every individual in life whether one is employed or not, both at the workplace and outside the workplace has the intrinsic need to be safe. In this case, workers, as mature individuals, are responsible for every decision they make with regard to securing their own health and safety in every social setting. Therefore, there is no doubt that safety and health in the workplace have become an

integral component to the viability of business for employers, labour unions, governments, and environmentalists in general. The primary purpose of the study was to assess factors influencing health and safety program performance. Specifically, the study intended to identify the role of management in influencing health and safety program performance, to investigate the role of resources in influencing health and safety program performance, to examine the role of workers in influencing health and safety program performance and to determine the role of safety inspection by OSHA representatives in influencing health and safety program performance.

5.3 Recommendations

Based on the findings, the following recommendations are hereby suggested:

- (i) Employers and contractors should provide programs which are useful and suitable and which are complying with national Laws and Regulations to ensure the health and safety of employees. This involves maintaining a workplace that has minimal risks and accidents that can result in injury or death.
- (ii) Workers must wear their personal protective equipment properly and as directed by their employer or comply by the person in control of the site.
- (iii) They should take care of the equipment, not misuse them and report any defects and problems to the supervisors. In order to enhance the role of management in health and safety the existing legislation should be amended to put more emphasis on role of management.
- (iv) Employers should conduct risk assessment management in order to ensure that unnecessary accidents do not take place.

- (v) Provisions should be made to make it a statutory duty for every contractor to have a safety management programme on site. Contractors should be compelled to draw up safety responsibilities and authority structure which should be available in every site to inform all parties as to their responsibilities as far as health and safety is concerned.
- (vi) Furthermore, there is also a need to develop strong and effective research capacity for implementation of national occupational health and safety promotion program.
- (vii) All parties in construction project must contribute their rightful parts towards making construction sites healthy and safe.

5.4 Areas for Further Studies

The study assessed factors influencing health and safety program performance. Suggestions for future studies are provided accordingly.

- (i) Assessment of workers' health and safety at work places.
- (ii) Improving safety performance in construction projects.
- (iii) Status of occupational health and safety and related challenges in construction industries.

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APPENDICES

Appendix I: Questionnaires Served to Workers

I am Naila Khamis from Open University of Tanzania, undertaking a research title *“factors influencing health and safety program performance”*. I guarantee that the information obtained will be used for academic purpose only. High degree of confidentiality will be ensured. I thank you in advance for any for your support.

Part I Preliminary Information

Please put a tick on the appropriate space(√)

1. What is your age?
 18 - 25 26 - 30 31-Above

2. Sex
 Male Female

3. What is the level of your education?
 Primary school leaver
 Secondary school leaver
 Certificate holder
 Diploma holder
 Degree/ post graduate holder
 Master and above

Questions based on the specific objectives

To identify the role of management in influencing health and safety program performance

- 4 Do you agree with the management of Advent Construction Ltd ensure the following issues related with health and safety program?

Aspects	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
The availability of occupational health and safety regulations at workplace					
supervision and monitoring of hygiene and sanitary facilities for health and welfare of the workers					
Inspection of health safety of protective devices					
Provision of First Aid					
Health education and safety training to the workers					
Advice to employers on the above mentioned items					
Reporting of occupational deaths, diseases, injuries, disabilities ,hazards and their related preventive measures at working					

5 At what extent does the management of Advent Construction Ltd ensure availability of the identified above issues related with health and safety program?

- a) At large extent
- b) Moderate
- c) Low extent

To investigate the role of resources in influencing health and safety program performance

6 Are you supplied with adequate resources (safety equipments) at the construction site?

- YES
- NO

What are they (if any) ?

.....
.....
.....

7 How do safety equipments help in reducing accidents at work site?

Explain

.....
.....
.....

8 At what extent the identified resources help in reducing accidents at work site?

- (a) To a large extent
- (b) To a moderate extent
- (c) To a low extent

To examine the role of workers in influencing health and safety program performance

9 Are you aware of the health and safety program?

(a) YES

(b) NO

10 At what extent are you aware of health and safety program?

a) To a large extent

b) To a moderate

c) To a low extent

11 Do you have enough experience in this construction work?

YES

NO

If Yes, how many (years) (if any).....

12 How does work experience help you in implementing health and safety program at site? Explain.....

13 Have you ever got an accident while performing construction works at the site?

(a) YES

(b) NO

14 If Yes, what was the cause of that accident?

Please explain.....

.....

.....

Appendix II: Questionnaires Served to Company Management

I am Naila Khamis from Open University of Tanzania, undertaking a research title *“Factors influencing health and safety program performance”*. I guarantee that the information obtained will be used for academic purpose only. High degree of confidentiality will be ensured. I thank you in advance for any for your support.

Questions related to the specific objectives of the study

To identify the role of management in influencing health and safety program performance

1. What is your role in ensuring health and performance safety program is implemented effectively in your company?

Please explain

.....
.....
.....

2. Does your company have an internal health and safety department?

YES

NO

3. If YES, what role does it play?

Please explain

.....
.....

4. Does your company get site health and safety inspections from OSHA officers?

YES

NO

If YES, how many times per month/year?

Please indicate.....

5. Do you have the safety policy of the company?

(a) YES

(b) NO

6. If YES, does it comply with the rules and regulations of OSHA practice?

(a) YES

(b) NO

7. Does your company have a formal health and safety training programme for your workers?

(a) YES

(b) NO

To investigate the role of resources in influencing health and safety program performance

8. Do you have adequate resources (safety equipments/first aid etc) at your company?

(a) YES

(b) NO

9. If Yes, what are they?

Mention them

.....
.....

10. Are they helpful in ensuring effective health and safety program?

- (a) YES
- (b) NO

11. Does the ratio of the resources comply with the number or ratio of workers who work in various construction sites supervised by your company?

- (a) YES
- (b) NO

To examine the role of workers in influencing health and safety program performance

12. Are your workers aware of the health and safety program?

- (a) YES
- (b) NO

13. At what extent are they aware of health and safety program performance?

- (a) To a large extent
- (b) To a moderate

(c) To a low extent

14. Do you have workers with enough experience in this construction work?

(a) YES...

(b) NO

If Yes, how many.....

Appendix III: Questionnaires Served to OSHA Representatives

I am Naila Khamis from Open University of Tanzania, undertaking a research title *“factors influencing health and safety program performance”*. I guarantee that the information obtained will be used for academic purpose only. High degree of confidentiality will be ensured. I thank you in advance for any for your support.

To determine the role of safety inspection by OSHA representatives in influencing health and safety program performance

1. How many times do you inspect the construction companies?

Please specify

2. What do you consider when inspecting construction companies?

Please justify.....

.....

3. What action do you take for construction companies which do not comply with policy, rules and regulations of the OSHA?

.....

.....

4. What challenges are you facing in performing your duties?

.....

.....

5. What suggestions do you provide for construction companies to maintain health and safety program?

.....

Appendix IV: Interview Guide Questions (Workers)

1. Are you supplied with adequate resources (safety equipments) at the construction site?
2. How do safety equipments help in reducing accidents at work site?
3. Are you aware of the health and safety program?
4. Have you ever got an accident while performing construction works at the site?

Appendix V: Interview Guide Questions (Management)

1. What is your role in ensuring health and performance safety program is implemented effectively in your company?
2. Does your company get site health and safety inspections from OSHA officers?
3. Do you have the safety policy of the company?
4. How does OSHA policy/rules and regulation support health and safety program in your company?