



ST. MARY'S UNIVERSITY

SCHOOL OF GRADUATE STUDIES

**THE EFFECT OF OCCUPATIONAL SAFETY AND HEALTH
PRACTICES ON ORGANIZATIONAL PERFORMANCE: THE CASE OF
GRADE-1 CONSTRUCTION COMPANIES, ADDIS ABABA**

BY

MOHAMMED NASIR

JANUARY 2022

ADDIS ABABA

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MOHAMMED NASIR

SGS/0618/2011A

ADVISOR: DEJENE MAMO (Asst. Prof.)

**A THESIS SUBMITTED TO ST. MARY'S UNIVERSITY, SCHOOL OF
GRADUATES IN PARTIAL FULFILLMENT FOR THE REQUIREMENT
OF THE DEGREE OF MASTERS OF PROJECT MANAGEMENT**

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MOHAMMED NASIR

APPROVED BY BOARD EXAMINERS

Dean, Graduate

Studies Signature and Date

Advisor

Signature and Date

External Examiner

Signature and Date

Internal Examiner

Signature and Date

DECLARATION

I, the undersigned, declare that this thesis entitled “**THE EFFECT OF OCCUPATIONAL SAFETY AND HEALTH PRACTICES ON ORGANIZATIONAL PERFORMANCE: THE CASE OF GRADE-1 CONSTRUCTION COMPANIES, ADDIS ABABA**” is my original work, prepared under the guidance of Dejene Mamo (Asst. Prof). All sources of materials used for this thesis have been duly acknowledged. I further confirm that the thesis has not been submitted either in part or full to any other higher learning institution for the purpose of earning any degree.

Name

St, Mary’s University, Addis Ababa

Signature

January 2022

ENDORSEMENT

This thesis has been submitted to St. Mary's University, School of Graduate Studies for examination with my approval as a university advisor.

Advisor

St, Mary's University, Addis Ababa

Signature

January 2022

ACKNOWLEDGEMENT

I wish to thank Allah for the strength and guidance that gives to me throughout my life.

With love and sincerity, I express my gratitude to all those who have dedicated their resource to ensure the completion of this work. I am particularly grateful to my advisor Dejene Mamo (Asst. Prof.) for the devotion and tolerance shown to me.

Finally, I would like to express my deepest gratitude to the managements of Dugda, Bamacon, Acer, Rama and Sunshine Construction Company and their staffs, Ato Daniel Solmon and Tefera Alemu in particular, for their enthusiastic cooperation and unlimited hospitality.

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ACRONYMS

SAHR -	Safety and Health Rules
SPRM -	Safety Procedures and Risk Management
FAST -	First Aid Support and Training
OSS -	Organizational Safety Support
OHP -	Occupational Hazard Prevention

ABSTRACT

The aim of this study was to investigate the effect of occupational safety and health management practices on organizational performance in the case of selected Grade-1 building construction companies in Addis Ababa. Quantitative research approach along with explanatory research design was applied to examine the relationship between occupational safety and health variables and organizational performance. Employees of the selected construction companies were considered as target population, of which a total of 272 usable and valid responses were obtained through convenience non-probability sampling technique. The data set obtained from private building construction enterprises through self-administered questionnaire were analyzed by multiple linear regression model with the help of SPSS 21.0. Both descriptive and inferential statistics were adopted to investigate the relationship of the stated variables. Results of the findings revealed that such occupational safety and health management practices as safety procedures and risk management, safety and health rules, first aid support and training, and organizational safety support had a positive effect on organizational performance. Moreover, it was seen that safety occupational safety support and safety procedure & risk management positively and strongly affect organizational performance. It can, thus, be concluded that all the five dimensions of occupational safety and health practices had positive and statistically significant effect on the performance of construction companies in Addis Ababa.

Keywords: Safety and Health Practices, Occupational Organizational Performance, Building Construction, Safety and Health Support.

CHAPTER ONE

INTRODUCTION

1.1. Background of the Study

In the contemporary business world, the global rise in work-related illness, injuries and casualties have been escalating in an alarming rate. As reported by International Labor Organization (2017), from 2001 to 2010, the major injuries and deaths accounted for 1,749 per year on average but the figures rose up by two thirds of averaged 5,247 adversities. The biggest escalation was recorded in developing countries where the hits one and half holds (Hopkins, 2020). This upsurge has raised international concerns on companies' safety & health management preparedness, their abilities to quickly respond to casualties in order to limit their impact on employees.

Failure to properly identify and adequately understand the factors that cause work-related casualties by the concerned department or assigned officials in a timely manner may results in increased number of casualties. According to United States congressional investigation on coal mining tunnel collapse in 2010, the federal and state agencies did not plan and allocate the resources using safety & health policies and procedures adequately to ensure decisive response actions. It was admitted that many injuries and causality management procedures and proactive plans generated by the occupational safety and health managements were improperly implemented. Occupational safety & health is defined as a multidisciplinary concept that concentrates on the promotion of health, safety and welfare of staffs engaged in work or employment (Mileti, 2009). It has been recognized as key decision-making support tool for the betterment of organizational performance.

Mintzberg (1983) theorizes that most of the emergent organization including construction are project intensive; and the widespread use of projects in construction industries demand safe and healthy work environment that can efficiently manage the temporary endeavors which are critical to company's strategic objectives. Since 1970s, the use of organizational safety and health issues have been incorporated in their human resource policies to influence their employee's productivity resulted in better investment implementation (Soderlund, 2014). The concepts of organization productivity and better performances clearly point to the requirement of safe and healthy labor force

as a candid tool. Its uptake by labor intensive projects, like construction, would certainly determine the level of success of such organizations (Seo, 2016).

According to the International Labor Organization (2017), approximately 2.3 million people die each year as a result of work-related accidents or illnesses, with occupational accidents accounting for 350,000 of these deaths. According to the United Nations Development Program (2013), Sub-Saharan countries, which are classified as having low human development, account for 65 percent of the causality. Furthermore, according to the report, 264 million nonfatal accidents occur each year, resulting in work-related illnesses and three days off work. According to Seo (2016), industries, particularly those in developing countries, face enormous economic and personnel costs as a result of workplace injuries. The labor organization explains in a recent publication that the daily occurrence of 860,000 occupational accidents with either a direct or indirect cost for occupational illnesses and accidents is estimated to be \$3.2 trillion worldwide.

The East African region is more prone to both work-related injuries and fatalities, hence, important considerations should be made on the preparedness of construction companies in compliance of occupational safety and health policies. Several studies reveal that companies that had mitigated the startling and tremendously high rates of work-related deaths and injuries in developing nations has brought better performance of the respective organizations (Boyle, 2015; Ford and Tetrick, 2013). However, causality responses to these situations in the region often becomes desperate due to inadequate occupational safety policy coupled with poor planning, insufficient budget and lack of managements support and regular audit against inadequate preparedness. According to Chatora (2005), inadequate and uncoordinated information flow; poor institutional arrangements; delays in emergency response; and inadequate systems, equipment and procedures for emergency risk management play significant role in hindering the mitigation and prevention of occupational safety and staff health adversities. Ethiopian construction industry is not far from these facts.

The construction industry in Ethiopia, next to mining sector, is one of the most hazardous sectors and also considered by construction workers as dangerous and hazardous field (Asres, 2017). People working in the construction are exposed to various physical, mechanical, chemical and psychosocial risk factors. According to Zemedkun (2018), Ethiopia is one of the east African countries that has become a preferred destination for road and building construction investment, with the construction industry accounting for more than 29% of the country's gross foreign exchange earnings. Construction activities, however, present not only economic opportunities for

the country but also major challenges, particularly in the area of occupational safety and health for employees in this sector (Asres, 2017).

In Ethiopia, lessons learnt from construction machineries' accidents, disintegration of scaffolds, store fires, workers' fall from higher storeys and building (condominium and commercial buildings) collapse which had 4 fatalities with 13 reported heavy injuries. According to Ethiopian Contractors Association (2019) status report, the compensation for fatalities and material losses are accounted for estimated Birr 232 million. The report has all shown the level of lack of preparedness and insufficient and ineffective application of occupational safety and health practices in planning and allocation of emergency resources (Ethiopian Labor Association, 2018).

Companies and regulatory bodies took corrective measures to mitigate the causalities and increased activities in safety planning, provision of early warning systems to the fire stations and increased preparedness through training of occupational perils and hazards. However, according Zemedun (2018), the impact of reacting or merely responding against the occurrence was inefficient as it did not take into consideration of the major factors that affect occupational safety and health practices and their effects on organizational performance. In light of all these, the investigation of factors affecting the occupational safety and health practices along with their influence on operations performance requires further investigations.

1.2. Statement of the Problem

According to International Labor Organization (2017) report, globally, an estimated number of 271 million people per annum suffer with work-related injuries, and 2 million dies because of these injuries. The construction industry, employing the largest labor force, has accounted for about 11% of all occupational injuries and 20% deaths resulting from occupational accidents (Frankiln, 2013). At least 60,000 estimated fatalities occur at construction sites around the world every year, implying that one fatal accident occurs every ten minutes in the sector. Most of these accidents are attributed to unsafe behavior and conditions (Masha, 2015). Work-related health and safety problem in construction are, thus, major issues that need due considerations as they affect the life of the workforce, project time, project cost as well as project quality.

Construction industry is unique and complex compared to other industries. It embraces a wide range of materials and products, building services, manufactures, contractors, sub-contractors, operation, with harmful chemicals and substances, as well as hazardous equipment. These situations make the

industry as one of the most perilous industries that causes high rate of accidents (Vitharana, 2015). For instance, in Ethiopia, during the last few years several accidents have occurred on various sites of construction projects all over the country where some of them were cause for fatal injuries. Referring the annual magazines of ministry and bureau of labor and social affairs presented that the prevalence of work-related injury in construction industry is 265 per 1,100 exposed workers per year (Thewodros, 2018). Hence, construction sector become one of three most hazardous and dangerous industries with frequent and high-rate occurrence of accidents that entails both fatal and non-fatal injuries and illness of workers, practitioners as well as great loss of economy to the company and country at large (Hanna, 2017).

According to a report of Ethiopian ministry of labor and social affairs (MOLSA, 2020), from 371 companies total of 4,535 work related accidents were reported, of which 100 (2.21%) were fatal in 2018/19 fiscal year. Due to these safety and health related problems, a cost of ETB 3.8 mil was incurred for medical compensation and 11,466 workdays absenteeism by injured employees. Based on the aforementioned report, the construction industry is third hazardous sector (5.16%) victims of non-fatal work-related accidents, next to manufacturing and agriculture, hunting, forestry and fishing. This proves that the construction industry takes away more lives due to the fatal accident. In a nutshell, injuries related to construction work remain a serious problem worldwide so that construction industries suffer distinctly higher rate of fatal and non-fatal injuries to workers (Karupannan, 2016). This, in return, significantly affects the productivity of the employees and the overall organizational performance at large.

Previous studies proposed several factors to explain why companies struggle in having well-functioning systematic occupational safety and health practices. Among these are lack of commitment, lack of knowledge, lack of financial resources, and lack of formalized routines, as well as letting staff's safety and health take a back seat to productivity and profitability (Duijm, 2008; Karlun, 2014; Nordlöf, 2015). According to Shikdar's (2013) study, some common characteristics of construction industry include inappropriate workplace design, ill-structured jobs, mismatch between job demands and worker's abilities, adverse environments, poor human-machine system design, and inappropriate management programs. These factors lead to workplace hazards, poor employee health, mechanical hardware injuries, and disabilities, which reduce the worker productivity and work/product quality and increase the cost. However, less due considerations have been given for the integration of these factors on the overall operational performance of a firm.

Concerned with protecting the safety, health and welfare of people engaged in employment, setting occupation safety and health status of staffs at the highest level is a basic human right that should be accessible by each and every worker. Regardless of their nature of assignment, employees should be able to carry out their responsibilities in a safe and secure working environment, free from hazards. These rights are set out in legislation to ensure that employers are clear about the obligations and the consequences for neglecting them (International Labor Organization, 2012). However there have been problems, failure to observe its efficiency is the major problem in Ethiopian construction industry. It has been expensive to handle employees who get injuries at work place, in term of compensation and treatment. There have been recurring accidents due to lack of preventive measures, personal protective equipment, and incompetence.

The aim of this study was, thus, to investigate the influence of occupational safety and health management practices on operation performance taking selected construction companies in as a case. This research gap will be addressed through identifying the factors that affecting occupational safety and health management practices and their effects on organizational performance. The survey will be conducted on staffs of Grade-1 building construction companies to gather their perception towards factors affecting their respective companies' safety and health practices along with their effects on the performance of the organization.

1.3. Research Questions

1. What is the effect of safety and health rules on organizational performance of Grade-1 building construction companies in Addis Ababa?
2. How does safety procedures and risk management affect organizational performance of Grade-1 building construction companies in Addis Ababa?
3. What is the influence of first aid support and training on organizational performance of Grade-1 building construction companies in Addis Ababa?
4. What is the effect of organizational safety support on organizational performance of Grade-1 building construction companies in Addis Ababa?
5. How does occupational hazard prevention affect organizational performance of Grade-1 building construction companies in Addis Ababa?

1.4. Objectives of the Study

1.4.1. General Objective

The general objective of the study was to investigate factors affecting occupational safety and health management practices and their effect on organizational performance in the case of selected Grade-1 building construction companies in Addis Ababa.

1.4.2. Specific Objectives

- i. To examine the effect of safety & health rules on organizational performance of Grade-1 building construction companies in Addis Ababa.
- ii. To analyze the influence of safety procedures & risk management on organizational performance of Grade-1 building construction companies in Addis Ababa.
- iii. To examine the effect of first aid support & training on organizational performance of Grade-1 building construction companies in Addis Ababa.
- iv. To analyze the effect of organizational safety support on organizational performance of Grade-1 building construction companies in Addis Ababa.
- v. To examine the effect of occupational hazard prevention on organizational performance of Grade-1 building construction companies in Addis Ababa.

1.5. Significance of the Study

The research identifies the major factors affecting health and safety practices and their effects on organizational performance in buildings construction from both the international and Ethiopian points of view. In so doing:

- It helps to understand the health and safety practices of the country based on current practices in construction industry. It helps also clearly understand which factor is more effective to improve organizational performance of business companies. These in turn contributes to the existing body of knowledge in the area while helping buildings construction stakeholders improve health and safety standards and informs policy makers to scrutinize the sector by stipulating internationally acceptable health and safety standards.
- The study may also have a great importance to the management of Grade-1 building construction companies in Addis Ababa. It would help them bridge the gap between

strategy formulation and strategy execution so that the initiated and future intended programs on Occupational Health and Safety are executed and implemented successfully. The research findings may also provide a better understanding of promoting strategic thinking among the managers of their respective company and others in different industries, in creating a safe working environment.

- The study could be taken a source of reference for future researchers on the other related topics and area of studies.

1.6. Scope of the Study

This study covered the relationship between occupational safety and health management practices and organizational performance of construction companies in Addis Ababa. Scope in terms of conceptual, methodological and geographical perspective are the areas of possible emphasis or significance that wouldn't be included in this research though.

The study was geographically limited to Addis Ababa. The city is main capital city of the country and the place where over 90% of Grade-1 building construction companies are located. Taking construction companies in Addis Ababa can be taken as a representative of the other compnies in other federal and regional cities. Thus, other construction companies, located out of Addis Ababa were intentionally excluded from this study.

Dispite the vast scope of the issues surrounding organizational performance, conceptually, limited to investigate only the influence of factors affecting occupational safety and health management practices. These major factors are namely safety & health rules, safety procedures & risk management, first aid support & training, organizational safety support, and occupational hazard prevention. Demographic factors like gender, sex, company size, type of work, etc. could also affect organizational performance but not included as they were out scope of this study.

Methodologically, the study was also scope to Grade-1 building construction companies. Employees of selected building construction companies in Addis Ababa are cosnidered as population of the study. Other staffs assigned in different stations located out of Addis Ababa were also excluded. Besides, only explanatory research design was adopted for the fact that concerned managers were relectant to be interviwed due to COVID-19 epidemic. Had it been conducting in-depth interview and focus group discussion is practicable, the findings of this study would have been different. The study was conducted with in the period of October – December, 2021.

1.7. Definition of Key Terms

Safety and Health Rules (SAHR) - strong commitment of organizations for workplace safety allows an increase in desired worker behaviors and attitudes as well as a decrease in problems associated with occupational safety (Makandi, 2011; pp 201).

Safety Procedures and Risk Management (SPRM) - A good safety and risk management is a system that is entirely integrated into the company and that is binding. Available policies, strategies, and procedures in the company provide standards and harmony (Mutemi, 2015; pp 141).

First Aid Support and Training (FAST) – Refers to a support provision to a person who is in need of first aid medication along with training staffs to improve the motivation of participants in order to prevent occupational accidents so as to create positive behaviors. (Kaguathi, 2013; pp 240)

Organizational Safety Support (OSS) – Refers to organizations with a good working climate may increase the potential of their workers to higher levels (Kaguathi, 2013; pp 75).

Occupational Hazard Prevention (OHP) - Defined as controlling hazardous situations, appropriate physical working conditions, rewarding and recognition, development of friendship and workers' fitness in jobs create an efficient and working environment (Schaap, 2016; pp 108).

1.8. Organization of the Study

The paper was organized in five chapters. The first chapter discusses the introduction part of the study that include Background of the Study, Statement of the Problem, Objectives of the Study, Significance of the Study, Scope of the study and Organization of the Study. The second chapter refers the review of related literatures that were appropriate and relevant to the current study. The third chapter presents the steps followed and methodology used for the collection, analysis and interpretation of the data was used to achieve the study objectives. The fourth chapter presents the step-by-step data analysis, interpretation and discussion part of the study. And finally, the fifth chapter presents the conclusion and recommendation of the study were reached based on the result obtained from the research process.

CHAPTER TWO

REVIEW OF THE RELATED LITERATURE

2.1. Theoretical Literature

The study is based on the social cognitive theory, safety climate theory and the domino theory/sequence of events theory.

2.1.1. Concepts Related Occupational Safety and Health Management

2.1.1.1. Social Cognitive Theory

This theory is associated with concept of self-efficacy and outcome expectancy. Bandura (2011) asserted that the aforementioned concept has been widely employed in a variety of health-related settings. It is further argued that self-efficacy is chosen in context of social cognitive theory due to the fact that it has many applications in a variety of settings and also due to significant overlap of determinants between social cognitive theory and similar health related theories.

The Social Cognitive Theory has two tenets. The first describes how psychology needs to incorporate the social context within the study of human behavior since people are essentially social in nature. The second tenet outlines how people employ their cognition for avenues of thinking and communicating to adapt to social contexts. In other words, this theory construes cognition as part of social acts (Barone, 2016).

It is argued that people strive to have control over the various aspects that define their environment. Every individual seeks to have control over desired outcomes and achieve control over the undesired events. Bandura (2011) stated that from a social cognitive point of view, people are exposed to different interdependent circumstances every day, determine the best approach to these situations, assess their perceived competence (self-efficacy) to execute their intentions, determine if the behavior they perform will produce the desired outcome (outcome expectancy), and finally decide the vitality of obtaining the outcome (outcome value). In his study Peterson (2010), observed that safety-related education occurs in industrial settings almost reflexively. The scholar posited that, from a social cognitive perspective, the foregoing can essentially have a variety of effects.

It is exemplified that typical safety education sessions focus either on giving employees information regarding hazardous conditions or employ scare tactics to warn employees about dangerous safety-related situations. Bandura (2011) advised that in order to have the greatest impact on employees'

self-efficacy, a shift in emphasis is required. Instead of trying to scare employees into health and safety, they should be provided with requisite tools so as to exercise personal control over their health habits. Thus, in order to have an effect on employee's safety self-efficacy, safety education ought to focus on providing employees with training to give them much needed skills to perform their work tasks safely. It is reasoned that while a typical safety education session might fail to impact employees' self-efficacy, it could possibly influence their outcome expectancies.

It is exemplified that, if employees watch a safety video which depicts a finger amputation occurring as a result of an employee failing to turn off the power to a machine; a shift in the viewer's outcome expectancies could change towards that particular type of injury. The severity of the injury is argued that it would lead to expectancies concerning the physical disability (physical outcome expectancy) from amputation, adverse social reactions from family, friends, and workmates (social outcome expectancy), and if the person held safety as a core value this will result in a negative self-evaluation. It is as such deducted that from a social cognitive perspective the combination of safety training and safety education could increase employees' self-efficacy and therefore shape their outcome expectancies if they had quality training and believe they can have input in the safety process. Arguably, safety interventions that focus on providing practical tools and methods for improving safety ought to enhance employees' safety self- efficacy regarding injury prevention.

2.1.1.2. Safety Climate Theory

According to Law (2011), psychological safety climate (PSC) is defined as shared perceptions of organizational policies, practices, and procedures for the protection of employees' psychological health and safety that emanates largely from management practices. The PSC theory extends that the job demands-resources framework and suggests that organizational level PSC influences work conditions and subsequently psychological safety climate draws upon perspectives from the work of stress, psychological risk, and organizational climate literatures.

In their study, Dollard and Bakker (2010) noted that PSC is a facet - specific component of organizational climate relating to freedom from psychological harm at work. It is further said that it reflects management commitment to worker's psychological health and the priority they give to safeguarding psychological health as opposed to production demands. PSC is likened to organizational climate in that it is conceived as a property of the organization, consisting of

aggregated perceptions of individuals within that organization regarding management commitment to protecting their psychological health and safety. According to James (2008), the PSC constructs stems largely from the idea that individuals ascribe meaning to their work environment, that is, their working conditions, management systems, pay, co-worker relations, and treatment equity.

2.1.1.3. Domino Theory /Sequence of Events

Heinrich (1959) developed this theory from industrial accidents data that have shaped much of the subsequent industrial engineering work of accidents and injuries. The author was among the first to point out that the conditions that lead to accidents and injuries are in fact those that lead to excessive costs in production and poor quality of products. Though many industrial engineering models of occupational accidents and injuries have been proposed over the years, Heinrich's–Domino model has been among the most widely discussed and applied since the 1930's.

According to Micah and Atkins (2012), Heinrich-Domino theory that was developed in 1931 stipulates that an incident is one factor in a sequence of events that may result in an injury. The theory states that: - 1) A potential injury (the final domino) occurs as a result of an incident. 2) An incident occurs only as a result of a personal unsafe act or mechanical/physical hazard. 3) Personal or mechanical hazards exist only because of faults of people. 4) Faults of people are inherited or acquired as a result of their social environment in which they were born, bred or educated.

The converse of these statements is not true and for an injury or damage to property to occur, all four factors are involved. It therefore follows that if one of the factors in the sequence leading to an accident can be removed, then the loss can be prevented. Attention should be mainly focused on the factor preceding the accident. Heinrich stated that the unsafe acts of persons constituted a dominant source of accidents. Control of individual staff was thus the key to the prevention of these accidents.

2.1.2. Occupational Health and Safety Management

Efficient use of communication and information networks in enterprises both helps with reducing number of accidents and improves the perception of workers as regards management's commitment for OHS (Gyekye, 2012). Occupational Health and Safety Management Systems (OHSMS) is a combination of the planning and review, the management organizational arrangements, the consultative arrangements, and the specific program elements that work together in an integrated way to improve health and safety performance (Gallagher, 2011). Occupational health and safety practices are characterized by five basic dimensions. These are occupational hazards prevention,

safety procedures and risk management, organizational safety support, first aid support and training, and safety and health rules. In addition, safety procedures and risk management, safety and health rules, and organizational safety support affect job performance of the employees

2.1.2.1. Safety and Health Rules

Strong commitment of organizations for workplace safety allows an increase in desired worker behaviors and attitudes as well as a decrease in problems associated with occupational safety (Makandi, 2011). Safety management systems are integrated mechanisms designed to control the risks that may affect worker health and safety in organizations and at the same time to ensure that the company complies with the regulations. A good safety management system should be completely integrated with the company and with binding power; a cohesive system of policies, strategies and procedures provides consistency and harmonization (Fernández-Muniz, 2009). Health and safety policy and procedures are a part of efficient health and safety management framework. General health and safety policies demonstrate the management's willingness to provide the workers with a healthy and safe workplace (Christian, 2009).

2.1.2.2. Safety Procedures and Risk Management

A good safety and risk management is a system that is entirely integrated into the company and that is binding. Available policies, strategies, and procedures in the company provide standards and harmony (Mutemi, 2015). Risk management is a technique that has been used increasingly in organizations and public sector in order to improve safety and reliability and minimize losses. It includes defining, assessing, and controlling the risks (Cox & Tait, 1998). Similarly, occupational health safety risk management is also described as a three-phase process. First, the hazards in the workplace are defined. Second, the hazards underlying the risk are assessed. Finally, appropriate controls are put in place for accordingly defined risks (Lingard & Holmes, 2001). Understanding and managing all risks that would likely affect the organization will render better performance and competitive advantage.

2.1.2.3. Occupational Hazard Prevention

Controlling hazardous situations, appropriate physical working conditions, rewarding and recognition, development of friendship and companion, and workers' fitness in jobs create an efficient and working environment (Schaap, 2016). A review of occupational accidents and health

problems associated with work provides that those experienced accidents at electricity, gas, steam, water, and sewage system fields and those experienced occupational accidents in the construction sector rank the first (Tuk, 2015). Albert and Hallowell (2013) suggested in their study that use of safety-related procedures, following instructions, cutting of power lines, and stopping operation of equipment in an attempt to prevent injuries were a cost-inefficient strategy yet very effective as regards preventing injuries. The findings of the study underscored that the benefit of applying injury prevention strategies were low compared to other sectors (e.g., construction sector). Consequently, investment in safety interventions may not offset economic returns yet creates value as non-monetary benefits (e.g., decreased worker turnovers) and decreases social costs (e.g., social injustice) associated with injuries.

De Koster (2011) demonstrated that focusing on safety helped with reducing accidents. In this context direct costs include first intervention, ambulance and hospital expenses, payments for temporary or permanent incapacity for work or death, pecuniary and non-pecuniary damages payable to the worker or worker's relatives, and damages payable to insurance, where indirect cost items include loss of reputation, long-term efficiency, and legal expenses. In general, companies should invest in practices reducing occupational accidents in order to improve their safety performances. This idea is supported by the fact that such companies that focus on safety in their daily operations and working methods as Scania, Tata Steel, and Nissan experience lesser number of accidents and decrease relevant costs.

2.1.2.4. Organizational Safety Support

Organizations with a good working climate may increase the potential of their workers to higher levels (Kaguathi, 2013). Operation of safety climate relies on the perception of workers and that safety climate as created by the so-called shared perception of workers is associated with policies, procedures, and practices associated with the value and importance of safety within the organization (Griffin & Neal, 2000). Zohar (1980) suggested that the most consistent factor that contributed in the safety climate was strong commitment of management for safety.

Safety commitment is demonstrated by a series of differences: senior management regularly participates in safety activities; safety officer holds higher rank and status in the organization; safety training is emphasized; open communication and close contact between management and workers; stable workforce (e.g., less turnovers), and promotion of safety via guidance and counseling rather

than via coercion and admonition etc. However, the essence of conceptualization of safety climate in an institution is the fact that safety is a prioritized issue for enterprises. Managerial support for safety and importance of safety in the organization are considered the basis of safety climate.

Kabanoff (1995) defined the criterion of beliefs as regards what was important for individuals and the entire organization. Perception of organizational values is important since it influences the way workers interpret policies, procedures, and practices. According to Griffin and Neal (2000), for instance, safety climate perception was the extent the workers believe in the value of their safety and wellbeing in the organization.

2.1.2.5. First Aid Support and Training

It refers to a support provision to a person who is in need of first aid medication along with training staffs to improve the motivation of participants in order to prevent occupational accidents so as to create positive behaviors. (Kaguathi, 2013). First aid training in the scope of OHS is quite necessary in order to control the excessive self-confidence, i.e., the unrealistic “nothing happens to me” idea, and raise awareness as regards emergent situations. First aid training ensures that participants are protected against injuries and occupational diseases. Participants show better efforts for decreasing the risks at workplace subsequent to the first aid training. It can be said that the first aid training improves the motivation of participants in order to prevent occupational hazards and diseases. However, it should be noted that the degree of change towards positive behaviors due to the foregoing increased motivation is also dependent upon other organizational factors. A good rewarding mechanism is also required in order to establish occupational health and safety in the working environment (Lingard, 2002). Therefore, it can be said that first aid support and training (FAST) is associated with alienation and organizational performance.

2.1.3. Organizational performance

Organizational performance is described as an organization’s ability to acquire and utilize its scarce resources and valuables or expeditiously as possible in the pursuit of its operational goals. (Griffin, 2006). Performance management can be defined as a systematic process for improving organizational performance, by developing the performance of individuals and teams. It is a means of getting better results by understanding and managing performance, within an agreed framework of planned goals, standards and competency requirements. Processes exist for establishing shared understanding about what is to be achieved, and for managing and developing people in a way that

increases the probability that it will be achieved in the short and longer term. It focuses people on doing the right things by clarifying their goals. It is owned and driven by line management (Armstrong, 2009).

Excellent performance can be achieved through the human resources department, by ensuring to link effective human resource practices and organizational performance to attain the set goals and objectives in the firm. Organizational performance in any organization is reflected in the effectiveness and efficiency with which goals and objectives are achieved (Wright, 2005). Efficient organizational performance means that the employee will carry out duties effectively and efficiently to meet agreed job objectives. To improve performance, organization ought to link human resource practices and performance, to motivate, attract and retain top performers. The ability to effectively manage staff performance can lead to positive outcomes which include: reduced turnover, increased profit margins, cost savings, customer satisfaction, growth and increased market share (Kirkpatrick, 2006).

Job performance entails the way the employees actually perform the job, duties and responsibilities given to him and the result of the effects in achieving the overall organizational objective (Armstrong, 2009). Performance can also be measured through a performance measure programme and tools such as reports, 360-degree feedback, balance score card and other tools to determine progress.

A performance measurement programme is designated to measure input, output, outcome, efficiency or effectiveness. It is very important to measure performance because of better decision making, promotes accountability and allows organizational learning and improvement, and it provides means of performance comparison. The measurement of organizational performance is not easy for business organizations with multiple objectives of profitability, employee satisfaction, productivity, growth, social responsibility and ability to adapt to the ever-changing environment among other objectives. Although performance has been traditionally conceptualized in terms of financial measures, some scholars have proposed a broader performance construct that incorporates nonfinancial measures including among others, market share, product quality, customer satisfaction, customer loyalty and company image.

2.1.4. Occupational Safety and Health Practices and Organizational Performance

According to Pollitt (2011), supervisors are the link between management and the operative employees, they are in the best position to promote safety. Accidents can be reduced through; accident identification. Even though hazards look different in every workplace and in every type of industry, there are five defined classes. Here's a list and introductory definitions for each. Physical hazards are things or agents that may come into contact with the body with potential for harm. Many physical hazards are things that can be seen, like a slippery work surface, a loose railing on a scaffold, or a missing guard on a meat slicer. Other physical hazards are referred to as 'physical agents.' These are sources of energy that can't always be seen, but still have potential to harm the body. Physical agents include things like level and nature of noise, vibration, radiation, temperature and pressure.

Chemical are in everything around us. They can be natural or manufactured, and come in the form of liquids, gases, vapours, solids or particulates (very small pieces). Naturally occurring and manufactured chemicals both carry potential for harm for people working around them. This potential is based on the level and type of exposure that someone may have to a chemical or chemical product. In Canada, laws like WHMIS (Workplace Hazardous Materials Information System) and Transportation of Dangerous Goods are in place to support the safe handling and transportation of certain chemical products. Biological hazards are typically in the form of bacteria and viruses transmitted by contact with insects, birds, animals, plants and fungi, and other humans. Unprotected exposure to biological hazards can result in a range of infections and illnesses. Some may appear fairly commonplace, like catching a cold/ skin rash from the customer served at lunch, but have serious side effects such as a poor recovery. Other types of biological hazards, like body fluid borne diseases or bacteria carried by some fungi, can be extremely dangerous (Pollit 2011).

According to Hudson (2010), ergonomic hazards are caused by the way work tasks are designed and carried out. The injuries that result from ergonomic hazards always affect the muscles and the skeleton, and are the most common type of workplace injury in Nova Scotia. These injuries may happen suddenly, but are more likely to form over very long periods of time. Ergonomic hazards can be seen in work that involves awkward body postures (working in the same body posture for long periods), high body force (lifting or carrying heavy or awkward loads), and high task repetition (same movements over long periods). Improper or poorly designed work stations, tools and equipment are also a part of ergonomic hazards.

Psycho-social hazards can arise out of the many different ways that people interact with each other. This type of hazard may show up as negative workplace conditions like bullying, violence or sexual harassment. It can be due to stress outside or inside the workplace, the type of work being done or because of the attitudes and behaviors that different people bring to their jobs. Psycho-social hazards have the potential to harm our physical and mental health and safety, and the health and safety of the workplace. Nova Scotia's Workplace Violence Regulation is one example of safety law that guides employers and workers to recognize and deal with psycho-social hazards as seriously they would any other class of hazard (Matthwman, 2006).

2.2. Empirical Review

Effect of safety & health rules on organizational performance

Yule (2015) conducted a study on the effect of occupational safety and health practices on job performance in UK copper mining. The results found that well designed safety rules and procedures had positive and significant effect on employee performance. It concluded that the action of the supervisors is fair and congruent with organization policy on safety.

Lin and Mills (2011) studies the impact of organizational health on employee commitment and organizational performance in the case of Nigerian road construction companies. The findings revealed that clear policy statements played an important role in reducing accident rates resulted in improved organizational productivity.

Camps and Luna (2012) studies indicated a link between safety policy & procedures and increased organizational performance. Consequently, they suggested effective policies assist workers to have a sense of belonging and thus, be more accountable for safety in their workplace. This implies that there is no practical preventive ability to plan and mitigate the occurrence of accidents. Based on these findings, the following hypothesis is proposed as:

H1 - Safety & health rules has positive and significant effect on Organizational Performance

Effect of safety procedures & risk management on organizational performance

Baxter, Bedard, Hoitash & Yezegel (2013) studies have shown that there is a strong correlation between organizational performance and the implementation of risk management. Therefore, if risk management practices are implemented and implemented effectively, the overall performance of the

organization will be improved. By propagating a risk management culture within an organization, managers can improve their organization's performance. According to Camps and Luna (2012), the performance of an organization depends on the practice of the organization's high-performance business system. These practices certainly include risk management practices (Camps, 2012).

Christian (2009) conducted a study on factors affecting occupational safety and health management practices in the case of Elliot construction company. The results revealed that safety procedures and risk management were found significant and positively related to organizational performance. This finding is consistent with DeJoy (2010). His study also found out creating perception of safety climate by emphasizing organizational policies and practices has positive effect on employee commitment and organizational performance.

Michael (2015) indicate that employees consider organization's proactive actions in regards to risk assessment and prevention for safety as a kind of perceived organizational support. Gyekye and Salminen (2007) also point out that workers with supportive perception reciprocate this with greater affective commitment, participation, and loyalty resulted in betterment of organizational performance. Based on these findings, the following hypothesis is proposed as:

H2 – Safety procedure & risk management has positive and significant effect on Organizational Performance

Effect of first aid support & training on organizational performance

O'Toole (2002) conducted a survey on the effect of occupational safety and health practices on employee job performance. He found out insufficient safety training was the root cause of accidents at the workplace since employees did not have the knowledge and skills to recognize potential hazards. Lingard (2002) also explained first aid support and training significant and positively related to organizational performance. The findings are consistent with the similar studies in literature. The significant effect of the organization's first-aid support and training practices on organizational performance is backed by Michael (2005) stating that intangible benefits build an attitude in the minds of employees known as perceived organizational support. Perceived organizational support has been found positively related to organizational outcomes.

First aid training is another way to reduce unsafe acts, especially for new employees, you should instruct them in safe practices and procedures, warn them of potential hazards, and work on developing a safety –conscious attitude. Employers should combine them with other techniques

(like, screening and training) to reduce unsafe conditions and acts, and also change the posters often. Incentive programs are also successful at reducing workplace injuries (Cole 1997). Based on this explanation, the following hypothesis is proposed:

H3 – First aid support & training has positive and significant effect on Organizational Performance

Effect of organizational safety support on organizational performance

Yeh's (2014) study on assessment of occupational safety and health practices of mining industry in Congo, he suggested that organizational safety support has significant and positively related to organizational performance. Organizational support theory and social exchange theory helped with explaining the antecedents and results of affective commitment in many studies such as Rhoades (2001) and Wachter and Yorio's (2014) findings. Similarly, Huang (2006) explained that administration with proactive and constructive return-to-work policies would likely deliver a powerful message to employees since their physical and psychological well-being is matter of importance for organization.

The findings from Olutuase's (2014) research revealed that the level of safety commitment by the senior and middle management of a typical Nigerian construction company is far below acceptable global standards. This conclusion was attributed to inadequate and untimely supply of Personal Protective equipment (PPE) to workers and in most cases, there was little or no investment in safety wares. This conclusion was substantiated by Agwu and Olele (2014) who stipulated those accidents on Nigerian construction sites are predominantly due to lack of PPE, failure to wear PPE, use of defective tools and failure to secure and warn against inherent hazards.

Griffin and Neal (2000) noted that when supervisors engage in safety-promoting behavior's, employees perceive a positive safety climate and get more involved in appropriate safety behavior's thus avoiding more injuries and pain, due to increased awareness and focus on safety. Employees who observe their leaders behaving safely at work will more likely behave in a safe manner, while regarding their leaders as role models (Hofmann & Morgeson, 2004). Based on this explanation, the following hypothesis is proposed:

H4 – Organization safety support has positive and significant effect on Organizational Performance

Effect of occupational hazard prevention on organizational performance

Study by Dwomoh (2013) has shown that the company's health and safety measures are positively correlated with the performance of its employees resulted in better organizational outcomes. If the company can reduce the level and severity of work accidents, illness and matters related to stress, as well as improve the quality of work life of its work, the company will be more effective (Kaynak, 2016). Olutuase (2014) stressed that majority of construction companies in Nigeria lack the potential to identify all conceivable risk factors and hazards before or during construction activities.

Danish (2013) conducted a survey on factors affect occupational safety and health management on operational performance in the case of road construction companies in Nigeria. Occupational hazard prevention was detected to have significant effect on organizational performance. A reason of it may be the fact that the employees perceived this variable as the hygiene factor. Such elements like management policy and management, working conditions, wage levels, level of happiness at private life, and the relationship between lower and higher ranks in the organization etc. are called as “hygiene factors.” wneh hygiene factors are adequately provided, it becomes possible to keep workers in the organization and have them work. Based on this explanation, the following hypothesis is proposed as:

H5 – Occupational hazard prevention has positive and significant effect on Organizational Performance

2.3. Conceptual Framework

The aim of this study is to investigate factors affecting occupational safety and health management practices on organizational performance taking BG-1 construction companies in Addis Ababa as a case. According to the aforementioned theoretical and empirical literature review, identified factors affecting occupational safety and health management practices are occupational hazards prevention, safety procedures & risk management, organizational safety support, first aid support & training, safety & health rules are considered as independent variables. While organizational performance as dependent variable. The figure-1 depicts the relationship between the independent and dependent variables as the model suggested by Christopher (2012).

Independent Variables

Dependent Variable



Figure 1: Conceptual framework (Source: Christopher, 2012)

CHAPTER THREE

RESEARCH METHODOLOGY

3.1. Research Design

The research design refers to the overall strategy chosen to integrate the different components of the study in a coherent and logical way, thereby, ensuring the study will effectively address the research problem (De Vaus, 2006). It constitutes the blueprint for the collection, measurement, and analysis of data. There are three types of research design namely exploratory, descriptive and explanatory research. Explanatory research was applied to establish cause-and-effect relationships between variables. Causal analysis is concerned with the study of how one or more variables affect changes in another variable. It is thus a study of functional relationships existing between two or more variables (Kothari, 2004). This paper followed the explanatory research design to investigate the relationship between factors affecting occupational safety and health management practices (predictors) and organizational performance (construct) variables.

3.2. Research Approach

The research approach is a plan and procedure that consists of the steps of broad assumptions to detailed methods of data collection, analysis, and interpretation. It is, therefore, based on the nature of the research problem being addressed (Crowell, 2010). There are three types of research approach, qualitative, quantitative and mixed. The objective of quantitative research is to develop and employ mathematical models, theories and hypothesis pertain the natural phenomena (Abiy, 2009). In this case, research design was employed quantitative research approach method for the fact that it involves generation of data in quantitative form for analysis. Data were quantified and statistical methods are used in data analysis to seek evidence about the characteristics or a relationship between variables.

3.3. Target Population, Sample Size and Sampling Technique

3.3.1. Population

A population can be defined as the complete set of subjects that can be studied: people, objects, organizations from which a sample may be obtained (Shao, 1999). As it is defined in the scope, the study investigates the proposed relationship between factors affecting occupational safety and

health management practices and organizational performance variables in Ethiopian construction industry taking selected Grade-1 building construction companies in Addis Ababa.

As of September, 2021, there are a total of 156 registered and active Grade-1 building construction companies (BC-1) in Addis Ababa. Based on their annual turnover of over ETB 100 million, Ethiopian Fortune rated five top BC-1 companies in Addis Ababa are Sunshine, Rama, Acer, Bamacon and Dugda construction plc. According to MOLSA (2021) database, there are estimated 6,817 permanent and contract employees working for the listed five companies in Addis Ababa. Thus, the sample frame constitutes both permanent and contract employee who have been actively working in the companies more than a year. Serving more years in the respective companies were believed to have the opportunity to have detail information regarding company's policy and practices towards occupational safety and health related issues.

3.3.2. Sampling Technique

There are two sampling strategies in use to select the targeted respondents from the sample frame. There are probability and non-probability methods of sampling (Creswell, 2009). The former applies to random (equal chance) selection, while the latter is subjective and relies on the researcher's decision or reasoning. In this study, convenience non-probability sampling technique was used for the fact that construction companies are hesitant to disclose their staff's employment history. This makes probability sampling impractical, and convenience sampling was appropriate.

3.3.3. Sample Size

Sampling is the process of selecting a number of study units from a defined study population (Saunders, 2010). Determining sample size is very important issue because samples that are too large are uneconomical while too small samples may lead to inaccurate results. Here in this study, sampling is required as the targeted population (employees of five BG-1 construction companies) are substantially larger in number to conduct census. Therefore, proportionate sample size using Yemane's sample determination formula will be:

$$n = \frac{N}{1+Ne^2} = \frac{(6,817)}{1+(6,817*0.05^2)} = 378 \text{ employees}$$

Thus, the study had a sample of 378 respondents to participate in the survey. The distribution of sample respondents from each selected companies is illustrated on Table-1 above.

Table 1: Proportionate Sample Size

Company	No. of Employees	Proportion	Sample Proportion
Acer	1,153	0.169	64
Dugda	883	0.130	49
Bamacon	1,631	0.239	90
Sunshine	2,358	0.346	131
Rama	792	0.116	44
Total	6,817		378

Source: Own Survey, 2021)

3.4. Type of Data and Data Source

According to Catherine (2007), data may be collected as primary, secondary or both. Primary data are originated by the researcher for the specific purpose of addressing the problem at hand. On the other hand, secondary data contains relevant data that has been collected for a different purpose, but from which the conclusion is valuable for the purpose. In this study only the primary source of data from the targeted respondents were used for analysis.

3.5. Data Collection Instrument

Questionnaires was used for collection of primary data from targeted respondents. It will be prepared very carefully so that it may prove to be effective in collecting the relevant information. Structured questionnaire is a questionnaire in which there are definite, concrete and pre-determined questions. The questions will be presented with exactly the same wording and in the same order to all respondents. Resort is taken to this sort of standardization to ensure that all respondents replied to the same set of questions (Kombo & Tromp, 2011).

After having reviewed different literatures, a self-administered questionnaire is adapted to address factors affecting occupational safety and health management practices and their effect on organizational performance. Occupational health and safety practices scale is adapted from the article of Christopher (2012) and the safety climate survey by Glendon and Litherland (2001). The scale as developed by Goris (2003) is used for job performance.

The questionnaire form includes a total of 31 items composed of 26 items intended for measuring occupational health and safety practices, and 5 for job performance, in addition to items included in the personal information section. Occupational health & safety practices include the following five basic dimensions: Occupational Hazard Prevention (OHP), Safety procedures & Risk Management

(SPRM), Organizational Safety Support (OSS), First Aid Support & Training (FAST), and Safety and Health Rules (SAHR). A 5-point Likert-scale based questionnaire is used as a major instrument of data collection. Likert scale ranges from 1- for "Strongly disagreed" to 5- for "strongly agreed".

3.6. Data Collection Procedure

After the instrument is developed the next steps were distributing the questionnaires and collecting the data back in accordance with the sampling procedure and technique stated in the previous part. In line with this, location of the five selected BG-1 construction companies within same neighborhoods were grouped so as to easily access and save time. Once their location is identified, the consent of managements from selected companies regarding their willingness towards conducting the survey in their premises were requested. After having their approval, once again the consent of the respondents was also requested. If agreed, the questionnaires were distributed to the respondents during their tea break or other convenient time without affecting their operations. As an option, respondents were also contacted through their email address and be reminded continuously to check and respond in time.

3.7. Data Analysis Method

Data in this study was analyzed using both descriptive and inferential statistics. Descriptive statistics is used to interpret data in general and for testing hypothesis and investigating research objectives inferential method is used using statistical package for social science (SPSS) version 20. Descriptive statistics was applied to interpret demographic variables of the respondents, mean and standard deviations of each study variables; whereas inferential statistics is used for testing hypothesis, correlation and multi-regression analysis. Tables and graphs were used to present analysis results pictorially.

The proposed research model is formulated based on the identified independent and dependent variables. It investigates their relationship using multiple linear regression method. Multiple linear regressions are made to define the relationship and to evaluate the most dominant occupational safety and health management practices affecting the organizational performance.

Dimensions of occupational health and safety practices are Occupational Hazard Prevention (OHP), Safety procedures and Risk Management (SPRM), Organizational Safety Support (OSS), First Aid Support and Training (FAST), and Safety and Health Rules (SAHR) are considered as independent variables while organizational performance as dependent variable. In order to investigate the

relation between the two variables, a multi-regression analysis model specification is designed as follows:

$$PERF = \beta_0 + \beta_1 SAHR + \beta_2 OSS + \beta_3 FAST + \beta_4 SPRM + \beta_5 OHP + e$$

Where:

PERF - Organizational Performance

OHP - Occupational Hazard Prevention,

SPRM - Safety procedures and Risk Management

OSS - Organizational Safety Support

FAST - First Aid Support and Training

SAHR - Safety and Health Rules

β_0 - Constant;

$\beta_{1,2,3,4,5}$ - Coefficients of Predictors

3.8. Validity

Validity is the degree to which the data collection process correctly calculates what it is supposed to quantify (Saunders, 2010). The questionnaires were reviewed by the advisor of this study, employee safety and health managers from building construction companies to check the suitability of the questions, the language (style of expression) and the suggestions needed to be included to enhance the questionnaire. Besides, since there are some employees who couldn't speak English, the questionnaire was translated in to Amharic (local official language) by professional translators. Finally, after having made all the requisite corrections, it was found reasonable to distribute them to the targeted respondents.

3.9. Reliability

Reliability is the extent to which a measurement gives results that are consistent and fundamentally concerned with issues of consistency of measures (Bryman and Bell, 2013). Cronbach's alpha is a measure of internal consistency, that is, how closely related a set of sample items are as a group. It is considered to be a measure of scale reliability. A "high" value for alpha does not imply that the measure is one-dimensional. Technically speaking, Cronbach's alpha is a coefficient of reliability (or consistency). According to Hair (as cited by Mengstie, 2019), if α is

greater than 0.7, it means that it has high reliability, 0.5 is sufficient, and if α is smaller than 0.3, then it implies that there is low reliability.

Table 2: Reliability Test of the Results

Reliability Statistics		
Variables	No. of Items	Cronbach's alpha
Safety and Health Rules	5	.791
Organizational Safety Support	4	.808
Frist Aid Support and Training	4	.722
Safety procedures and Risk Management	5	.719
Occupational Hazard Prevention	5	.830
Organizational Performance	5	.775
Valid	28	.777

(Source: Own Survey Result, 2021)

The above Table-2 revealed that the Cronbach's alpha results for all dimensions and constructs are more than the threshold value of 0.7. Therefore, each dimension (Safety and Health Rules, Organizational Safety Support, First Aid Support and Training, Occupational Hazard Prevention, and Organizational Performance). Cronbach's alpha result is higher than the minimum required ($\alpha = .70$). In addition, the overall Cronbach's alpha result of the 28 items was found to be **0.777** which is higher than the min acceptable value. It can be concluded the scale has good internal consistency.

3.10. Ethical Considerations

In order to keep the confidentiality of the data given by respondents, the respondents were not required to write their name and assured that their responses were treated in strict confidentiality. The purpose of the study is disclosed in the introductory part of the questionnaire. Furthermore, the researcher tries to avoid misleading or deceptive statements in the questionnaire. Lastly, the links of questionnaires were sent only to voluntary participants after having their full consents, those who do not have willingness were not contacted.

CHAPTER FOUR

DATA ANALYSIS AND INTERPRETATIONS

This chapter displays the major findings, analysis and discussion of the sample population based on the primary data gathered from both permanent and contract employee who have been actively working in the companies more than a year. The data obtained from the respondents were summarized and analysed using both descriptive and inferential statistics. The former is adopted for description of general information of the respondents and summary of their perception towards the study variables. The summarized data of the study variables were then analysed by using inferential statistics. It comprises correlation, assumption tests and multiple linear regression analysis to test the proposed hypotheses and address the research questions. Data was analysed using SPSS version 21.0. Accordingly, first the sample respondents' information was presented using frequency and valid per cent. Then employee's level of agreement for each variable is presented using the aggregated mean value. At last results of correlation and regression analysis are presented and discussed.

The response rate is one of the important aspects. It indicates the quality of the survey (Crowell, 2012). With regards to respondents' response in this survey, a total of 313 out of the 378 distributed questionnaires were returned which accounted for a response rate 82.5%. This indicates that surveys with higher response rates (near 60 or 70%) have accurate measurements than the ones with lower response rates (20%). Thus, higher response rates are always preferable compared to lower ones. The returned questionnaires were checked further for errors and as a result, 41 incomplete questionnaires (missing data) were identified and discarded. Finally, a total of 272 valid and usable responses were used for final analysis.

4.1. Demographic Characteristics of the Respondents

The first part of the questionnaire consists of the demographic characteristics of the respondents. It inquired a limited amount of information related to their personal and socio-demographic status. Accordingly, the following variables such as sex, age, company, profession and experience category were summarized and described in the following Table-3.

As shown in the Table-3, out of the total respondents, 181(66.5%) were male respondents and the remaining 91(33.5%) were female counterparts. This implies that the majority of the respondents/ from the selected construction companies were male workforce. However, with the scope and the sample size of this study, it would be premature to make conclusive remarks as to what this gender discrepancy means, other than the sampling diversity. Perhaps, further endeavors with specific focus to gender might explore this venue from a gender-related perspective.

Table 3: General Information of the Respondents

Category	Freq.	Percent (%)
Sex		
Female	181	66.5%
Male	91	33.5%
Total	272	100.0%
Age/ Years		
18 - 30	116	42.7%
31 – 45	101	37.1%
46 – 60	36	13.2%
>60	19	7.0%
Total	272	100.0%
Education		
High School and Below	96	35.3%
Vocational (10 ⁺)	121	44.5%
First Degree	34	12.5%
Masters & above	21	7.7%
Total	272	100.00%
Company		
Rama	49	18.0%
Dugda	79	29.0%
Acer	34	12.5%
Bamacon	21	7.7%
Sunshine	89	32.7%
Total	272	100.0%
Profession		
Engineer	22	8.09%
Architect	4	1.47%
Project Manger	6	2.21%
Foreman	27	9.93%
Construction Workers	213	78.31%
Total	272	100.0%
Experience		
1 - 5 years	79	29.0%
5 - 10 years	101	37.1%
10-15 years	59	21.7%
>15 years	33	12.1%
Total	272	100.0%

Source: SPSS output, 2021

Referring age category, the age distribution showed that the majority of the respondents, 116(42.7%), were found within the age range of 18-30 years old followed by 31-45 years old which accounted for 101(37.1%). The rest 36(13.2%) and 19(7.0%) were found within the age group of 46-60 years and above respectively. Most of the respondents involved in the study were adults below 45 years old. Thus, this result implies that the respondents that participated in this survey were more of young productive labor force. Of course, it is noteworthy to acknowledge that this phenomenon is largely due to the nature of the labor-intensive industries, as construction is a unique and complex project in which most of the required work is hand-on. However, it would be interesting to cross reference this finding with findings regarding other variables and see if there's valuable insight to arrive at.

Regarding the educational background of the respondents, 121(44.4%) were vocational followed by 96(35.3%) high school certified. First degree holders accounted for 34(12.5%) while the rest 21(7.7%) masters and above. It implies that relatively majority of the labor force were from lower-level academic achievement (high school and vocational) with technical background. It is known that the nature of construction works demands laborers than white collars as it is a labor-intensive field, and the findings are reconciled with the facts on ground.

As far as the company to which the respondents are belonged is concerned, the majority, 91(33.5%) were from Sunshine followed 77(28.3%) from Dugda and 49(18.0%) from Rama. The rest 34(12.5%) and 21(7.7%) from Acer and Rama respectively. The results implied sample representativeness for the fact that relatively proportionate distribution of respondents was contacted from each company.

Engineers and foreman represented 22(8.1%) and 27(9.9%); while architects and project managers constituted 4(1.5%) and 6(2.2%) respectively. And construction workers took the highest share, 213(78.3%). It indicates that the nature of building construction demands more of construction workers (like carpenters, Mason, electrician, etc.) as it is a labor-intensive project.

It was also found that more than half, 167(61.4%), of the respondents have served their respective companies less than five years while 72(26.5%) from 5-10 years and the rest 25(9.2%) and 8(2.9%) served for 10-15 years and above respectively. It implies that majority of the workforces stayed in their respective companies for shorter periods as building constructions are projected-based with

relatively short span of life. Having less experienced staffs may affect the overall performances as their effectiveness is believed to be relatively lower than employees with better experiences.

4.2. Descriptive Analysis

Under the description of study variables, summary of occupational safety and health dimensions (safety and health rules, organizational and safety support, first-aid support and training, safety procedure and risk management, occupational hazard prevention) and organizational performance are discussed. Respondents evaluated this dimension with five-point Likert scale. According to Best (1987), the scale is set in such a way that respondents strongly disagreed if the mean scored value is in the range of 1.00 – 1.80; disagreed within 1.81 – 2.60; neither agreed nor disagreed within 2.81 – 3.40; agreed if it is in the range of 3.41 – 4.20; while strongly agreed when it falls within 4.21 – 5.00. In addition, standard deviation shows the variability of an observed response.

Table 4: Description of the Study Variables

Description	N	Mean	Std. Dev.
Safety and Health Rules	272	3.97	.524
Organizational Safety Support	272	3.66	1.151
Frist Aid Support and Training	272	3.52	.499
Safety procedures and Risk Management	272	3.61	.632
Occupational Hazard Prevention	272	3.83	.589
Organizational Performance	272	3.74	.673
Valid N (listwise)	272		

(Source: Own Survey, 2021)

Referring the results on Table -4, the grand mean of Safety and Health rule dimension was found to be 3.97 (Std. .524). It indicates that the majority respondents inclined to agree on the safety and health rules of the organizations. The standard deviation indicates less variation of the respondents in these regards as the deviation coefficient is below 1.00. Sufficient rest/ break time, consistent practices of safety rules under tight conditions and periodic staff health examination influences organizational performance. This implies that safety and health rules are predictors of performance of the companies.

Similarly, referring Organizational Safety Support (grand mean, 3.66 with Std 1.151) reveals that majority of respondents agreed on the safety support the organization offer. Respondents agree on offering sufficient time to recover for employees and the organization paid well when injury happens. But reluctance of staffs to follow organizational safety procedures and willingness to take periodic medical examination in workplace are also admitted. The respondents had varied stand in this issue as the standard deviation was found to be greater than 1.00. This implies that provision of safety support by the companies affect their performance.

As far as first aid support and training concerned, the grand mean of 3.52 (Std .499) indicates that the respondents slightly agreed that the companies provided trainings on first aid medical treatment during emergency, and creating awareness on hygiene and health hazards. This shows that first aid treatment during emergency situation and provision of relevant training on how to react when a certain accident occurs on the workers affect performances of their organization.

Regarding Safety procedures and Risk Management, the grand mean of 3.61 (Std .632) showed that majority of the employees agreed on management's practices of setting safety procedures and risk assessments. This implies that assigning fair and proportionate workload, informing staffs before assigned to other tasks; identifying probable risks along with their consequences and ease of recognizing safety procedures affected their performances.

Same token, the respondents agreed (mean 3.83 with std, .583) on companies' hazard prevention practices in terms of appropriate waste disposal, specific risky area assignment with appropriate safety equipment, avoidance of hazardous mistakes through internal audits and creating conducive work-environment with sufficient lighting and clear lay-outs. The findings illustrate that these attributes are predictors of organizational performance implying that occupational hazard prevention could reduce serious damages occurrence in the organization.

Finally, regarding organizational performance, the respondents were satisfied (grand mean, 3.74 with std, .673) with even if assigned in hazardous tasks and happy with the health and safety equipment provided. Besides, they acknowledged that the companies achieved their goals, their customers are satisfied with the products/ services offered and number of projects increased every year. It indicates that performance improvements have been perceived positively by majority of the respondents.

4.3. Inferential Statistics

Inferential statistics uses sample measurements of the subject and make generalization about the larger population. It comprises correlation analysis among variables; assumption of data test for their suitability or fitness to the intended regression analysis model (namely normality, collinearity, linearity and homoscedasticity); and finally, multi-regression analysis in terms of model summary, ANOVA test and beta coefficients determination are conducted to address the objectives of this study.

4.3.1. Correlation Analysis

This study employs correlation analysis, which investigates the strength of the relationships between the studied variables. Correlations are perhaps the most basic and most useful measure of association between two or more variables (Festinger, 2005). Pearson correlation is one of known methods for correlation analysis was used to provide evidence of convergent validity. The correlation coefficients reveal direction of relationships (either positive or negative) and the intensity of the relationship (-1.0 + 1.0). To interpret the direction and strengths of relationships between variables, the guidelines suggested by Field (2005) were followed. His classification of the correlation coefficient (r) refers 0.1– 0.29 is weak; 0.3 – 0.49 is moderate; and ≥ 0.5 is strong.

Table 5: Relation between Occupational Safety & Health Practices and Organizational Performance

Dimensions	SAHR	OSS	FAST	SPRM	OHP	PERF
Safety and Health Rules (SAHR)	1					
Organizational Safety Support (OSS)	.417	1				
Frist Aid Support and Training (FAST)	.360*	.604**	1			
Safety procedures & Risk Management (SPRM)	.681*	.081*	.104	1		
Occupational Hazard Prevention (OHP)	.092	.283*	.501*	.405*	1	
Overall Sales Performance [PERF]	.441*	.691*	.574**	.577*	.425*	1

* Correlation is significant at the 0.05 level (2-tailed)

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

(Source, Own Survey, 2021)

Table -5 below illustrates the relationship between the five dimensions of between Occupational Safety & Health Practices and organizational Performance. Safety procedures and Risk Management ($r = .577$), Organizational Safety Support ($r = .691$), Frist Aid Support and Training ($r = .574$), Safety and Health Rules ($r = .441$) and Occupational Hazard Prevention ($r = .425$) with overall organizational performance. However, amongst independent variables it was found statistically insignificant relations between Safety and Health Rules and Occupational Hazard Prevention ($r = .092$); and Safety and Health Rules and Organizational Safety Support ($r = 0.417$). In summary, Safety & Health Rules and Occupational Hazard Prevention have positive and moderate whereas, the relationship between the other three occupational safety and health dimensions has positive and strong significant relationship with organizational performance. This implies that the five independent variables are good predictors of organizational performance.

4.3.2. Assumption Tests for Multiple Linear Regression Model

Multiple regression is an analysis that assesses whether one or more predictive variables explain the dependent (criterion) variable. The regression assumptions are correlation (linear relationship), Multicollinearity, Multivariate Normality and Homoscedasticity.

4.3.2.1. Multicollinearity

Multicollinearity refers to the situation in which the independent/predictor variables are highly correlated (Robert, 2006).

Table 6: Collinearity Diagnostics

Model	Collinearity Statistics		
	Tolerance	VIF	
1			
	Safety and Health Rules	.338	2.959
	Organizational Safety Support	.491	2.037
	Frist Aid Support and Training	.565	1.770
	Safety procedures & Risk Management	.662	1.511
	Occupational Hazard Prevention	.597	1.675

a. Dependent Variable: Organizational Performance

When independent variables are Multicollinearity, there is “overlap” or sharing of predictive power. Thus, the impact of Multicollinearity is to reduce any individual independent variable’s predictive power by the extent to which it is associated with the other independent variables. “Tolerance” and “variance inflation factors” (VIF) values for each predictor is a means of checking for multicollinearity. Tolerance value below 0.1 and VIF value above 10% indicate a Multicollinearity problem (Saunders, 2010).

In this study, it shows that the collinearity statistics analysis of variance inflation factors (VIF) value ranges from 2.959 to 1.511 and Tolerance value ranging with .338 to .662 indicated that there was no collinearity problem. This could be taken as a confirmation that there were no multicollinearity problems to proceed for regression analysis. That means when the independent variables in this model were highly related with one another, they would have been mainly measuring the same thing or convey essentially the same information.

4.3.2.2. Linearity Test

A linear relationship (or linear association) is a statistical term used to describe a straight-line relationship between two variables. I.e., linearity means that the predictor variables in the regression have a straight-line relationship with the outcome variable. Linear relationships can be expressed either in a graphical format where the variable and the constant are connected via a straight line or in a mathematical format where the independent variable is multiplied by the slope coefficient, added by a constant, which determines the dependent variable. Figure-6 illustrates that the observed data have positive linear pattern parallel with a straight line (expected values). Thus, it can be concluded that the independent variables has direct relationship with dependent variable.

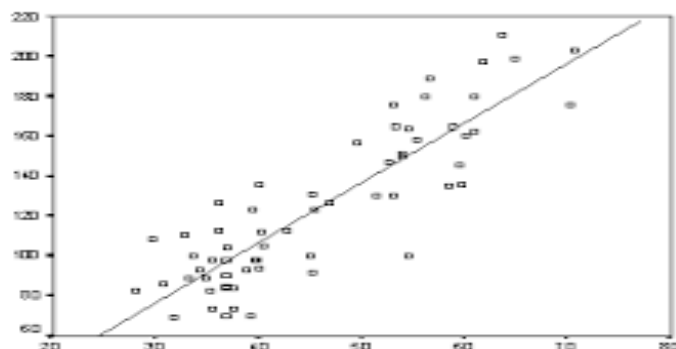


Figure 2: Linearity Test

4.3.2.3. Homoscedasticity Test

Homoscedasticity refers to whether these residuals are equally distributed, or whether they tend to bunch together at some values, and at other values, spread far apart. A scatterplot of residuals versus predicted values is good way to check for homoscedasticity. There should be no clear pattern in the distribution; if there is a cone-shaped pattern, the data is heteroscedastic. As can be seen on figure -2, the assumption test for homoscedasticity is accepted for the fact that the points scattered along the centerline randomly and no cone shaped pattern is observed.

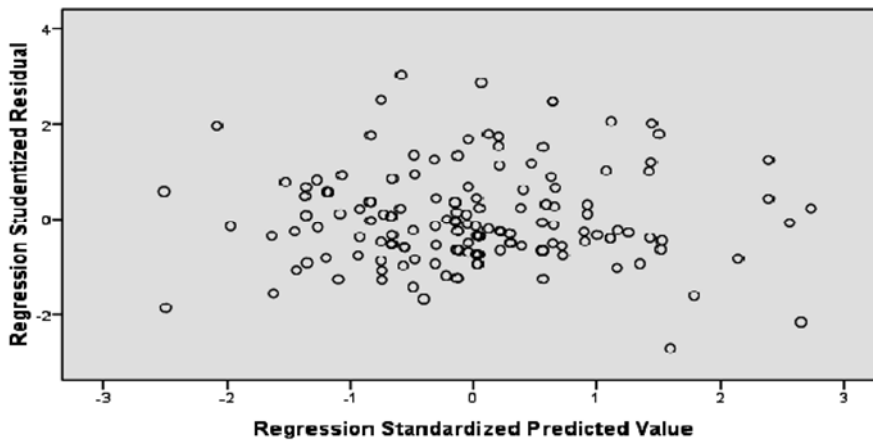


Figure 3: Scatter Plot for Homoscedasticity Test

4.3.2.4. Multivariate Normality

To check that a distribution of scores is normal, it needs to look at the values of Kurtosis and Skewness. Both of which have an associated standard error. The values of skewness and kurtosis should be zero in a normal distribution. Positive values of skewness indicate a pile-up of scores on the left of the distribution, whereas negative value indicates a flat distribution. The further the value is from zero, the more likely it is that the data are not normally distributed. Both of which have an associated standard error. However, the actual value of skewness and kurtosis are not, in themselves, informative. Instead, it needs to take the value and convert it to a z-score. The z-score is simply a standardize score from a distribution that has Mean of 0 and standard deviation of 1.0.

Table 7: Normality Test

	N	Mean	Std. Dev.	Skewness		Kurtosis	
	Stat	Stat	Stat	Statistic	Std. Error	Statistic	Std. Error
Safety & Health Rules	272	3.97	.524	-.944	.140	1.133	.280
Organizational Safety Support	272	3.66	1.151	-1.182	.140	0.843	.280
Frist Aid Support & Training	272	3.52	.499	.028	.140	1.094	.280
Safety procedures & Risk Mgmt.	272	3.61	.632	-1.113	.140	.803	.280
Occupational Hazard Prevention	272	3.83	.589	-1.108	.140	1.137	.280
Organizational Performance	272	3.74	.673	.821	.140	.244	.280
Valid N	272						

(Source, Own Survey, 2021)

As presented in Table -7, except first aid support & training and organizational performance, all occupation safety and health dimensions' z-scores skewed to the right side but were found to be within acceptable range (skewness within -2.0 to 2.0; and Kurtosis within -2.0 to 2.0). Therefore, it is pretty clear then that the numeracy scores are negatively skewed, indicating a pile-up of scores on the right of the distribution.

4.3.3. Regression Analysis

Linear regression estimates the coefficients of the linear equation, involving one or more independent variables that best predicts the value of the dependent variable. Multiple regression analysis in this research was used to model the value of the construct variable (Organizational Performance) based on its linear relationship to two or more predictors (safety and health rules, organizational and safety support, first-aid support and training, safety procedure and risk management, occupational hazard prevention). This means, the overall operational performance is an aggregation of the occupational safety and health dimensions. In order to indicate the impact that each predictor has on the construct variable, the unstandardized coefficients are checked.

Table 8: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Sig.
1	.815 ^a	.664	.633	.287	.000

^a Dependent Variable, Organizational Performance

^b Predictors: (constant), SAHR, OSS, FAST, SPRM, OHP

As indicated in the model summary of the analysis on Table -8, above, the value of R (.815) indicated relations of the five independent variables with the dependent one affecting approximately 66.4% (R^2) of the variance of organizational performance. However, the remaining 33.6% was explained by other variables not included in this study.

Table 9: ANOVA Analysis

Model	Sum of Squares	Df	Mean Square	F	Sig.
1 Regression	14.580	5	2.916	47.809	.000 ^b
Residual	16.224	266	0.061		
Total	30.804	271			

^a. Dependent Variable: Organizational Performance

^b. Predictors: (Constant), SAHR, OSS, FAST, SPRM, OHP

As indicated in Table -9, the ANOVA test, F value of 47.809 is significant at $p < 0.001$. Therefore, it can be inferred that with 66.4% of variance (R^2), occupational safety and health dimensions are significant and the model appropriately measured the dependent variables - organizational performance. In short, the regression model predicts overall organizational performance and has been significantly explained by the five independent (occupational safety and health) dimensions.

Table 10: Estimated Regression Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	0.227	0.309		0.735	.051
1 Safety & Health Rules	0.284	0.055	0.244	5.164	.000
Organizational Safety Support	0.414	0.048	0.2	8.625	.007
Frist Aid Support & Training	0.211	0.04	0.44	5.275	.000
Safety Procedures & Risk Mgmt.	0.312	0.088	0.409	3.545	.000
Occupational Hazard Prevention	0.208	0.039	0.139	5.333	.002

^a Dependent Variable: Organizational Performance

The last output in the analysis of the multiple regression models represents the output for the beta coefficients of each occupational safety and health dimension. The regression equation for this research is presented below.

$$PERF = \beta_0 + \beta_1 SAHR + \beta_2 OSS + \beta_3 FAST + \beta_4 SPRM + \beta_5 OHP + e$$

Based on multiple linear regression analysis on Table -10, substituting the results in the model yields:

$$PERF = .227 + .284 SAHR + .414 OSS + .211 FAST + .312 SPRM + .208 OHP + e$$

Where: PERF - Organizational Performance,
OHP - Occupational Hazard Prevention,
SPRM - Safety Procedures and Risk Management
OSS - Organizational Safety Support
FAST - First Aid Support and Training
SAHR - Safety and Health Rules
 β_0 - Constant; $\beta_{1,2,3,4,5}$ - Coefficients of Predictors

The regression analysis revealed that each occupational safety and health dimensions have positive and significant effect on overall organizational performance. Organizational safety support (B = .414) is relatively the strongest predictor of organizational performance followed by safety procedure & risk management (B = .312) and safety & health rules (B = .284) but first aid support & training and organizational hazard prevention (B = .202, and B = .208) have lower contribution to the prediction model. This predicted change in the organizational performance for every unit change in that specific predictor. For instance, this signifies that for every additional point or investment on organizational safety support, one could predict a gain of 0.414 points on the overall organizational performance of the companies provided that other variables being held constant; and the same is true for other occupational safety and health dimensions. The results implies that all dimensions of occupational safety and health had positive and statistically significant influences on overall organizational performance at 95% confidence level ($p < 0.05$), indicating that for the selected construction companies, these factors are important in predicting their overall firm performances.

4.4. Discussion

Brief explanation of the major findings in regards to dimensions of occupational safety and health management practices (safety & health rules, organizational safety support, first-aid support & training, safety procedure & risk management, occupational hazard prevention) and their respective effect on organizational performance is illustrated as follows:

The first specific objective was to examine the effect of safety and health rules on organizational performance. The results indicate that safety and health rules are good predictors of organizational performance ($B = .284, p < .05$). The finding is supported by a study of Christian (2019) which explains health & safety policy and procedures are a part of efficient health and safety management framework. Company's health and safety policies demonstrate the management's willingness to provide the workers with a healthy and safe workplace results in enhanced employee and organizational performance at large.

The second objective was also to examine the effect of organizational safety support on organizational performance. The results revealed that organizational safety support had relatively the highest positive and statistically significant effect on organizational performance ($B = .414, p < .05$). According to Hallowell (2013), firms with a good working climate often increases the potential of their workers to higher levels. Consequently, investment in safety support/ interventions may not offset economic returns yet creates value as non-monetary benefits, for instance decreased worker turnovers and decreases social costs / social injustice associated with injuries.

The third objective was to analyze the effect of first aid support and training on organizational performance. The findings explained that first aid support and training is a predictor of organizational performance ($B = .211, p < .05$). The significant effect of the organization's first-aid support and training practices on organizational performance is backed by Michael (2015) stating that intangible benefits build an attitude in the minds of employees aka perceived organizational support. Perceived organizational support has been found positively related to outcomes like affective commitment.

The fourth objective was to examine the effect of safety procedure & risk management on organizational performance. The results of the finding showed that safety procedure & risk management had positive and significant effect on the performance of the companies ($B = .312, p < .05$). it was found to be the strongest predictor preceded by organizational safety support. This finding is consistent with Herein (2010) whose study also confirm that practices applied to increase safety climate can conclude with more committed and loyal employees. Creating perception of safety climate by emphasizing organizational policies and practices has positive effect on employee commitment and employees consider organization's commitment for safety as a kind of perceived organizational support.

Finally, the fifth objective was to examine the effect of organizational hazard prevention practices on organizational performance. It was found that hazard prevention had positive and statistically significant on performance of an organization ($B = .208, p < .05$). this finding is in contradiction against the findings of Danish (2013) which argues that occupational hazard prevention was detected to have no significant effect on organizational commitment. A reason of it may be the fact that the employees perceived this variable as the hygiene factor (like management policy, working conditions, wage levels, level of happiness at private life, etc.) might not adequately be provided, thus, it becomes impossible to keep workers in the organization and wouldn't motivate personnel but only prevent dissatisfaction. However, lack of hygiene factors will disrupt motivation (Eren, 2003). Based on the above results, all the proposed hypotheses are supported as shown on Table -11 below:

Table 11: Summary of the Research Hypothesis Test Results

Hypothesis		Result of the Study	
H1	Safety & Health Rules has positive and significant effect on organizational performance	Supported	$\beta = .284, p < 0.05$
H2	Organizational Safety Support has positive and significant effect on organizational performance	Supported	$\beta = .414, p < 0.05$
H3	Frist Aid Support & Training has positive and significant effect on organizational performance	Supported	$\beta = .211, p < 0.05$
H4	Safety Procedures & Risk Mgmt. has positive and significant effect on organizational performance	Supported	$\beta = .312, p < 0.05$
H5	Occupational Hazard Prevention has positive and significant effect on organizational performance	Supported	$\beta = .208, p < 0.05$

Source: Own Survey Result, 2021

CHAPTER FIVE

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

5.1. Summary of Major Findings

General Information

With regards to socio demographic characteristics of the respondents, out of the total 272 respondents:

- 66.5% were male; 42.7% within the age range of 18-30 years-old; 44.4% vocational diploma holders; 78.3% construction workers and 61.4% have served their respective companies less than five years.

Specific Objective -1. The effect of safety and health rules on organizational performance

- Majority of the respondents inclined to agree that the companies clearly defined safety and health rules and procedures in their policies emphasizing on sufficient rest/ break time, safety rules obedience under tight conditions, periodic staff health examination, etc.
- Safety & health rules dimension has positive and moderate ($r = .441$) relationship with organizational performance.
- The results indicate that safety & health rule has positive and statistically significant effect on organizational performance ($B = .284, p < .05$).

Specific Objective -2. The effect of organizational safety support on organizational performance

- Majority of the respondents agreed on the companies offered sufficient time to recover for staffs and paid fair compensation when injury occurred (grand mean, 3.66 with Std 1.151).
- But reluctance of staffs to follow organizational safety procedures and willingness to take periodic medical examination in workplace are major hindrance.
- Safety & health rules dimension has positive and strong ($r = .691$) relationship on organizational performance.

- Organizational safety support had relatively the highest positive and statistically significant effect on organizational performance ($B = .414$, $p < .05$).

Specific Objective -3. The effect of first aid support and training on organizational performance

- The respondents slightly agreed that the companies provided trainings on how first aid medical treatment during emergency, and create awareness on hygiene and health hazards (grand mean of 3.52, Std .499).
- First Aid Support & Training dimension has positive and strong ($r = .574$) relationship with organizational performance.
- The findings revealed that first aid support & training is a predictor of organizational performance ($B = .211$, $p < .05$).

Specific Objective -4. The effect of safety procedures & risk management on organizational performance

- Majority of the employees agreed (grand mean of 3.61; Std .632) on management's practices in regards to assigning fair and proportionate workload, identifying probable risks along with their consequences and ease of recognizing safety procedures in advance.
- Safety procedures and Risk Management has positive and strong ($r = .577$) relationship with organizational performance.
- Safety procedure & risk management had positive and significant effect on the performance of the companies ($B = .312$, $p < .05$).

Specific Objective -5. The effect of occupational hazard prevention on organizational performance

- The respondents agreed (mean 3.83 with std .583) on companies' hazard prevention practices in terms of appropriate waste disposal, specific risky area assignment with appropriate safety equipment, and avoidance of hazardous mistakes through internal audits.
- Occupational Hazard Prevention has positive and moderate ($r = .425$) relationship with organizational performance.
- It was found that occupational hazard prevention had positive and statistically significant effect on performance of an organization ($B = .208$, $p < .05$).

5.2. Conclusion

The escalation of occupational accidents forced companies to put more importance on occupational health and safety practices. Imposition of pressure from public, social and business public and the pressure by both the public authority and the business and social setting have played an important contribution in it. The present study, thus, was aimed to investigate the effect of occupational health and safety practices in five dimensions, i.e., safety procedures & risk management, safety & health rules, first aid support & training, occupational accident prevention, and safety support on organizational performance in the case of selected Grade-1 construction companies, Addis Ababa.

The student researcher undertook the appropriate scientific study with the objective to investigate the effect of occupational health and safety management practices on organizational performance. Safety & health rules, Safety procedures & risk management, first aid support & training, Occupational accident prevention, and Organizational safety support were tested to determine if they made any contribution to the explained variance of organizational performance. The results of the findings illustrated that all the five independent variables have positive and statistically significant effect on organizational performance in the context of selected Grade-1 building construction companies. Accordingly, the results found support for the five proposed hypotheses.

Safety as a fundamental human right is a primary demand of the majority of governmental authorities and every citizen. Furthermore, survival of the organizations in exceptional circumstances such as economic crisis depends on the organizational commitment and contribution to the organization of safe, healthier, well trained and experienced employees. Many research results support that occupational health and safety management has positively significant impact on employee behavior and attitude resulted in enhancement of the overall organizational performance at large. While focusing the merits in assessing contributions made by safe and healthier employees to the organization, especially occupational health and safety management practices influence employees' attitude and behavior remarkably, which in turn enhance organizational performance, is taken into consideration. Sustaining safe and healthier human resources in a conducive work environment to compete in today's competitive working life is very important. According to the principle of reciprocity, Occupational health and safety practices as perceived organizational support will yield work from employees for the benefit of the organization. The employees acting with a sense of gratitude and comfort will increase their efforts for the wellness of the organization.

5.3. Recommendations

Based on the major findings and conclusions, the following possible suggestions are forwarded:

- First, safety & health rules have positive and significant effect on organizational performance. Failure in clearly setting safety and health rules and procedures adversely affect desired worker behaviors and attitudes as well as aggravates problems associated with occupational safety. Thus, it is recommendable that managers should formulate their policies and procedure clearly and easily understandable manner with strong rules and regulations enforcement.
- Safety procedures and risk management has also positive and significant effect on organizational performance. A good safety and risk management system needs to be entirely integrated into the companies with binding enforcement as employees are sometimes reluctant to follow safe procedures. Thus, it can be suggested that human resource management in collaboration with occupational safety and health department to standardized and harmonized the available policies, strategies, and procedures.
- Similarly, first aid support & training has positive and significant influence on organizational performance. Failure in providing relevant training on first aid medical treatment demotivated employees and create the sense of insecurity. Thus, better performance of staffs could be achieved through training staffs on how react during emergency situations. Human resource managers should launch recurrent and refreshment courses in order to mitigate occupational injuries and fatalities.
- Organizational safety support leads companies to facilitates with a good working climate that may increase the potential of their workers to higher levels. Setting and enforcing rules and procedures are nothing without the support of the higher managements. Thus, managements should ascertain the provision of personal and work-area safety equipment sufficiently.
- Finally, occupational hazard prevention is mandatory so as to mitigate the overall damage. But in most cases managers take reactive measures after the accidents or incidents have already been occurred. However, proactive measures are required in regards to controlling hazardous situations beforehand. Managements should carry out periodic assessment to identify hazardous causes so as to formulate safety prevention strategies. This might help in creating appropriate physical working conditions, rewarding, developing friendship, and competent working environment

5.4. Limitation and Further Research

The present study has limitations as with all the research fields. Effects of occupational health and safety on organizational performance were investigated through a single model. The mediating role of organization commitment and job satisfaction affect the relationship between occupational safety and health management practices and organizational performance. Besides, its effects on workers' motivation, working hours, and intention to cease employment may be involved in further studies.

Besides, primary data collected from the targeted respondents were used for analysis. Interview and focus group discussion could be collected due to hesitation of the higher-level managers for fear of COVID epidemic. Had it been these qualitative data are included, it would have been better to see the bigger picture of the study area.

The effects of occupational health and safety on organizational performance can also be investigated on the basis of sex, culture and payment. In addition, in-depth interviews and focused group discussion could also be used to collect qualitative data.

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Appendices

Appendix –A. Survey questionnaire to be filled by respondents.



ST. MARY'S UNIVERSITY, SCHOOL OF GRADUATE STUDIES

DEPARTMENT OF PROJECT MANAGEMENT

Survey Questionnaire

Questionnaire to be Filled by Respondents

Dear Respondents,

My name is Mohammed Nasir, a postgraduate student of St. Mary's University, School of Graduate Studies. I am conducting my thesis entitled "factors affect occupational safety and health management practices on organizational performance and their effect on organizational performance in the case of selected BG-1 construction companies in Addis Ababa" to fulfill the requirements of Master of Arts in project management. The purpose of this questionnaire is to gather data regarding how occupational safety and health practices affect the performance of the organizations. Your honest and sincere responses for this questionnaire, will play a great role in making the research successful. I assure you that all the responses would be treated confidentially and only be used for academic purpose. Participation is purely voluntary and no need to write your name.

I thank you in advance for offering your golden time and if you have any question, please feel free to contact me by the below contact:

Mohammed Nasir

Phone: +251 924480861

Email: mom_522@gmail.com

I. General Information

Please mark [X] in the appropriate box to indicate your choice

1. Sex Male Female
2. Age (Years) 18 – 30 31 – 45 46 – 60 > 60
3. Company Rama Dugda Acer Bamacon
 Sunshine
4. Profession Engineer Architect Project Manager Foreman
 Construction Workers Officers (Accountant/ procurement/etc
5. Experience 1 – 5 years 5 - 10 10 -15 years >15 years

II. Questions regarding Study Variables

Here, under the questions with regard to factors affecting occupational safety and health management practices in the case of BG-1 construction companies in Addis Ababa, therefore, you are kindly requested to put “X” mark on the box which represents your degree of agreement.

1 = strongly agree, 2 = agree, 3 = neutral, 4 = disagree, 5 = strongly disagree.

Dimensions -	Scale				
SAHR - Safety and Health Rules					
Timing for sufficient rest is underway in my organization.					
Safety rules are always practical in my organization.					
Safety rules are followed in my organization even under tight schedule.					
Health examination is made in my organization prior to the employment.					
Periodical health examinations are undertaken in my organization after hiring					

OSS - Organizational Safety Support					
Adequate timely medical treatment provided in my workplace.					
Sufficient time is granted for a worker can be recovered.					
Adequate damages are paid in case of injury.					
Occupational safety regulation is followed in my organization.					
FAST - Frist Aid Support and Training					
Emergency treatment is available in case of accident in my organization.					
Workers are trained against health hazards in my organization.					
Workers are provided with health and hygiene training in my organization.					
Workers are provided with first aid training in my organization.					
SPRM - Safety procedures and Risk Management					
Workers are informed about changes in division of labor in my organization.					
Probable risks and results are defined in my organization.					
Written work procedures are compliant with practice in my organization.					
Workers can easily recognize the relevant procedure of each task in my organization.					
Workload is reasonably balanced in my organization.					
OHP - Occupational Hazard Prevention					
Filed Workers use safety equipment (glasses, helmets, boots, gloves, masks, etc.) in my company.					
Only those specifically assigned workers with proper safety equipment have access to serious/likely hazardous places in my company.					
Deficiencies/mistakes revealed during internal audits for safety & health are monitored/ removed.					

There is appropriate lay-out with sufficient lighting in my workplace					
Appropriate waste disposal is underway in my workplace					
PERF - Organizational Performance					
I am satisfied with health and safety programs of the company					
I am happy with the works I am assigned.					
Employee satisfaction level is high in the company					
Customers are satisfied with the products they offer					
No. of projects has increased substantially every year					

Many thanks!!!

ቅጥያ-1- በመላሾች የሚሞላ መጠይቅ



ቅድስት ማሪያም ዩኒቨርሲቲ የድህረ ምረቃ ትምህርት ክፍል

የፕሮጀክት አስተዳደር ትምህርት ክፍል

የዳሰሳ መጥይቅ

በመላሾች የሚሞላ መጠይቅ

ውድ መልስ ሰጪዎች፣

ስሜ መሐመድ ናስር ይባላል፣ በቅድስት ማሪያም ዩኒቨርሲቲ የድህረ-ምረቃ ትምህርት ክፍል ተመራቂ ተማሪ ነኝ። የመመረቂያ ጽሁፌን አዲስ አበባ የሚገኙ የተመረጡ የህንጻ ግንባታ ስራ ተቋራጭ-ደረጃ 1 ኮንስትራክሽን ኩባንያዎች የስራ አፈጻጸም ላይ ደህንነት እና ጤና ላይ ተጽዕኖ የሚያሳድሩ የስራ ተግባሮች ላይ በማጥናት የፕሮጀክት አስተዳደር መመሪያ ጽሁፍ ማሟያዬን እያጠናሁ እገኛለሁ። የዚህ መጠይቅ አላማ የስራ ደህንነት እና ጤና ተግባሮች የኩባንያዎቹ የስራ አፈጻጸም ላይ ያላቸውን ተጽዕኖ ማጥናት ነው። ለዚህ መጠይቅ የሚሰጡት ትክክለኛ መልስ ለጥናቱ ስኬታማነት ጉልህ አስተዋፅኦ ይኖረዋል። እኔ እርሶ የሚሰጡት መልስ ሚስጥራዊነቱ እንደሚጠበቅ እና ለትምህርት ጥናት አገልግሎት ብቻ እንደሚውል አረጋግጥሎታለሁ። መጠይቁ ላይ የሚያደርጉት ተሳትፎ በፍቃደኝነት ላይ የተመሰረተ እና ስሞትንም መጻፍ አያስፈልገትም።

ውድ ጊዜዎትን ሰውተው ለመጠይቁ ምላሽ ስለሚሰጡ በቅድሚያ አመሰግናታለሁ፣ እባክዎትን የትኛውም አይነት ጥያቄ ካሎት በሚከተለው አድራሻ ላይ ሊያገኙኝ ይችላሉ።

መሐመድ ናስር

ስልክ ቁጥር:- +251 924480861

የኢ-ሜይል አድራሻ: mom_522@yahoo.com

I. አጠቃላይ መረጃ

እባክዎትን ትክክለኛ ነው ብለው የሚያስቡት የመልስ ሳጥን ውስጥ የ[X] ምልክት ያድርጉ።

1. ጾታ ወንድ ሴት
2. እድሜ (አመት) 18 - 30 31 - 45 46 - 60 > 60
3. ከባንያ ራማ ዱግዳ አሰር ባማኮን ሰንሻይን
4. ስራ መሃንዲስ አርክቴክት ፕሮጀክት ማናጀር ፎርማን
 የኮንስትራክሽን ሰራተኛ የቢሮ ሰራተኛ (አካውንታንት/ግዢ ወ.ዘ.ተ)
5. የስራ ልምድ 1 - 5 ዓመቶች 5 - 10 10 -15 ዓመቶች
 >15 ዓመቶች

II. የጥናቱ ተለዋዋጮችን አስመልክቶ ያሉ ጥያቄዎች

የህንጻ ስራ ተቋራጭ- ደረጃ 1 ኮንስትራክሽን አድራሻ፡- አዲስ አበባ ድርጅት ላይ ስራ ላይ ተጽዕኖ የሚያስከትሉ የደህንነት እና ጤና ሁኔታዎችን አስመልክቶ፣ የስምምነት ደረጃዎት ይገልጻል ብለው የሚያስቡት ሳጥን ላይ የ“X” ምልክት እንዲያኖሩ በትህትና ይጠየቃሉ።

1=በጣም እስማማለሁ፣ 2=እስማማለሁ፣ 3= ገለልተኛ አቋም አለኝ፣ 4=አልስማማም፣ 5=በጣም አልስማማም።

መለኪያዎች	መስፈርት				
የኤስኤችአር- ደህንነት እና ጤና መመሪያዎች					
በድርጅቱ ውስጥ በቂ የስራ እረፍት ጊዜ አለ					
በድርጅቱ ውስጥ የደህንነት መመሪያዎች ሁል ጊዜ ተግባራዊ ይሆናሉ።					
በድርጅቱ ውስጥ ብዙ የስራ ጊዜ እቅድ ቢኖርም እንኳ የደህንነት መመሪያዎች በጥብቅ ተግባራዊ ይሆናሉ።					
በድርጅቱ ውስጥ ቅጥር ከመፈጸሙ በፊት በቅድሚያ የጤና ምርመራ ይከናወናል።					

በድርጅቱ ውስጥ ከቅጥርም በኋላ እንኳን ለሰራተኞች በየጊዜው የጤና ምርመራ ይከናወናል።					
ኦክስጅን- ድርጅታዊ የደህንነት ድጋፍ					
በስራ ገበታዬ ላይ ጊዜውን የጠበቀ በቂ የህክምና አገልግሎት ይቀርባል።					
አንድ ሰራተኛ ከጉዳቱ እንዲያገግም በቂ ጊዜ ይሰጠዋል።					
ጉዳት በሚደርስ ጊዜ ለደረሱ ጥፋቶች በቂ ካሳ ይከፈላል።					
በድርጅቱ ውስጥ የስራ ደህንነት መመሪያ ተግባራዊ ይሆናል።					
ኤፍኤኤስቲ (ፋስት)- የመጀመሪያ ደረጃ የህክምና እርዳታ እና ስልጠና					
በድርጅቱ ውስጥ ድንገተኛ አደጋ በሚከሰት ጊዜ የህክምና እርዳታ አገልግሎት ይቀርባል።					
በድርጅቱ ውስጥ ጤና ላይ ጉዳት ስለሚያደርሱ ነገሮች ለሰራተኞች ስልጠና ይሰጣል።					
በድርጅቱ ውስጥ ተቀጣሪ ሰራተኞች የጤና እና ንጽህና ስልጠና ይሰጣቸዋል።					
በድርጅቱ ውስጥ ተቀጣሪ ሰራተኞች የመጀመሪያ ደረጃ የጤና እርዳታ ስልጠና ይሰጣቸዋል።					
ኤስፒኦርኤም- የደህንነት መመሪያዎች እና የአደጋ አስተዳደር					
በድርጅቱ ውስጥ ለሰራተኞች የስራ ክፍፍል ለውጦች በሚኖሩ ጊዜ መረጃ ይቀርባላቸዋል።					
በድርጅቱ ውስጥ አደጋ ሊያስከትሉ የሚችሉ ጉዳዮች እና ውጤቶች ተዘርዝረው ይታወቃሉ።					
በድርጅቱ ውስጥ የተጻፉ የስራ ሂደቶች ስራን ከመተግበር ጋር የተጣጣሙ ናቸው።					
በድርጅቱ ውስጥ አስፈላጊ ለሆነ ለእያንዳንዱ ስራ ተቀጣሪ ሰራተኞች አስፈላጊ የአሰራር ሂደቶችን በቀላሉ ያውቃሉ።					

በድርጅቱ ውስጥ ያለው የስራ ጫና ተመጣጣኝ ነው።					
አኤችፒ- በስራ ላይ የሚያጋጥሙ አደጋዎችን መከላከል					
በድርጅቱ ውስጥ ሰራተኞች (የአይን መከላከያ መነጻጸፍ፣ ሄልሜት፣ ቦት ጫማዎች፣ ጓንቶች፣ ማስኮች፣ ወዘተ) የደህንነት መሳሪያዎችን ይጠቀማሉ።					
በድርጅቱ ውስጥ ተገቢ የደህንነት መከላከያ መሳሪያዎችን ያደረጉ ሰራተኞች ብቻ አደጋ ሊያደርሱ የሚችሉ የስራ ቦታዎች ላይ ይሰራሉ።					
በውስጥ አዲት ጊዜ ደህንነት እና ጤና ላይ ችግር የሚያስከትሉ አሰራሮች ቁጥጥር ይደረግባቸዋል/ ወይም ይወገዳሉ።					
በስራ ቦታዬ ላይ ተገቢ የመሳሪያዎች አቀማመጥ እና በቂ ብርሃን ይገኛል።					
በስራ ቦታዬ ላይ ቆሻሻ በተገቢ መንገድ ይወገዳል።					
ፒኢአርኤፍ- ድርጅታዊ አፈጻጸም					
በኩባንያው የጤና እና ደህንነት ፕሮግራሞች ረክቻለሁ።					
በተሰጠኝ ስራ ደስተኛ ነኝ።					
በኩባንያዬ ውስጥ የተቀጣሪ ሰራተኞች እርካታ ከፍተኛ ነው።					
ደንበኞች በሚቀርቡላቸው ምርቶች ደስተኞች ናቸው።					
የፕሮጀክቶች ቁጥር በየጊዜው በማያቋርጥ ሁኔታ እየጨመረ ይገኛል።					