

ADDIS ABABA SCIENCE AND TECHNOLOGY UNIVERSITY

COLLEGE OF NATURAL AND SOCIAL SCIENCES

DEPARTMENT OF INDUSTRIAL MANAGEMENT



**EFFECTS OF OCCUPATIONAL SAFETY AND HEALTH PRACTICES ON WORK
FORCE RETENTION (THE CASE OF AKAKI BASIC METAL INDUSTRY)**

**A Thesis Submitted to Addis Ababa Science and Technology University
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Requirements for the Degree of Master (MSc) of Industrial Management**

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Declaration

I, Ashenafi Seifu Bako, declare that this study entitled "The Effect of Occupational safety and health practices on work force retention" is my own effort and study. It has been carried out by me independently except for the guidance and suggested from my research advisor Dr. Thilahun Goshu and it has not been submitted for any degree or Diploma in AASTU or any other University. It is presented here, in partial fulfillment of the requirements for the degree of Msc. In Industrial management.

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Statement of Certification

This is to certify that Ashenafi Seifu Bako has carried out his research work on the topic entitled "The effect of occupational safety and health practices on work force retention" under my supervision. This work is original in nature and it is suitable for submission for the award of degree for Masters in industrial management

Advisor Dr. Thilahun Goshu

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Abbreviations

- WHO - World health organization
- ILO - International labor organization
- OSH - Occupational safety and health
- ABMI - Akaki basic metal industry
- SPRM - Safety procedure and risk management
- OSS - Organizational safety support
- FAST - First aid support and training
- SAHR - Safety and health rule
- OHP - Organizational hazard prevention
- WFR - Work force retention

Abstract

Organizations have both legal and moral obligations to provide healthy and safe working environments as well as ensuring the total well-being of their employees. The provision of any health and safety practices varies from according to the locations and size of the organization, the nature of work being performed and type of employees. Organizations depend on employees as working partners and fellow members of the organization community. By reducing the rates and severity of occupational accidents, diseases, workplace violence, stress related illness, and improving the quality of work for their employees, organizations become significantly effective. The objective of the study is to evaluate the effects of occupational safety and health practices on work force retention in Akaki Basic Metal Industry. The study adopted Descriptive Research Design inform of Survey where data was collected from across population by use of Primary source for purposes of establishing the effects of occupational health and safety practices on employee retention at Akaki basic metal industry. A structured questionnaire was used to collect data. A Five point Likert scale was used to determine the degree to which various practices are being used by departments in the industry. To present and analyze the data collected by the researcher through the use questionnaires in finding out the facts in support of the statement of problem, the researcher analyzed and report the information in form of percentages, continuous prose and through use of Statistical Package for Social Sciences (SPSS). Correlation and Regression analysis was used to establish the effects of occupational safety and health practices on employee retention. The finding established that occupational safety and health practices have a positive relationship with work force retention at Akaki basic metal industry. The findings also indicate that there is a strong relationship between Occupational health and safety practices and work force retention. The study concludes that Occupational health and safety practices have a positive effect on work force retention. It is recommended that companies should align their occupational safety and health practice to their business strategies.

Keywords: *occupational health and safety practices, work force retention*

CHAPTER ONE: INTRODUCTION

1.1. Background of the Study

The effect of occupational safety and health practices and policies on work force retention is an important study in the fields of occupational safety and health (OSH) management. Organizations have witnessed the importance of OSH management practices on work force retention (Singh, 2010). The purpose of this research paper is to analyze the factors affect work force retention due to the OSH management practices implemented by the organizations in Akaki basic metal industry.

Improving work force productivity and occupational health and safety (OHS) have been an important field of interest of industry especially in developing countries. Some common characteristics of such industries 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 work force health, mechanical hardware injuries, and disabilities, which reduce the worker productivity and work/product quality and increase the cost (Shikdar & Sawaqed, 2003). Identifying the reasons of the high rate of accidents and poor industrial safety track records is crucial in developing countries. The lack of experience from developed countries' technology and machinery is quoted as a cause. According to Takala (2005), the director of the ILO's safe work program, one of the suspects of the high rated incidents is stated the lack of training and skills in developing nations. Most people in these economies have never worked in heavy industry and only some of them have little experience on hazards like electricity (Perez-Floriano & Gonzalez, 2007). McLain and Jarrell (2007) suggested that the perceived compatibility of safety and production demands has a positive impact on safe work behavior and reduced the interference of safety hazards performing other tasks. This is an additional benefit in case of compatibility with safe working behavior. Therefore, such findings indicated that managers should pay attention to compatibility of safety and work as an integral part of job design. Management commitment to safety has a positive relationship with organizational commitment, job satisfaction and job-related performance. Moreover, commitment to safety has

also a negative relationship with work force withdrawal behaviors (Michael et al., 2005). Ongoing attendance to safety results in organizational rewards, in turn increase employee motivation. Such positive impress may impact other work attitudes like affective commitment besides raising safety climate (Clarke, 2006). The present study aims to contribute in literature by defining five dimensions for OHS practices: Safety Procedures and Risk Management (SPRM), Safety and Health Rules (SAHR), First Aid Support and Training (FAST), Organizational Safety Support (OSS), and Occupational Hazard Prevention (OHP). These dimensions as included in the research model are intended to test the causal relationship between worker force retention to investigate the effect OHS practices.

Occupational safety and health is a discipline dealing with prevention of work related injuries and diseases, and the protection and promotion of healthy workers. It aims at the improvement of working conditions and environment. Occupational health entails the promotion and maintenance of the highest degree of physical and mental health and social well-being of workers in all occupations (Taderera, 2012). Occupational Safety and Health has recently become a much higher priority in light of the growing evidence of great loss and suffering caused by occupational diseases and ill-health across many different employment sectors, and is of concern to managers at least partly because of increasing number of deaths and accidents occurring at work.. Occupational Health and Safety (OHS) is a complex area which interacts widely with a broader spectrum of business interests and concerns. To date OHS has been confined to the periphery of Human Resource Management (HRM), where its role, influence and importance have been overlooked (Cassio, 2004). The study was supported by Goal-Freedom Alertness Theory founded by Kerr (1954) and Distractions Theory founded by Hinze (1997). Goal-Freedom Alertness Theory states that safe work performance is the result of psychologically rewarding work environment as workers will be safe in a positive work environment if managers and supervisors actively work to alleviate hazards, illnesses and accidents at the workplace. Distractions Theory states that safety and health is situational and has two components. The first component deals with hazards posed by unsafe physical conditions and the other dealing with a worker pre-occupation with issues not directly related to the task being performed. The study was carried out at Akaki basic metal industry because the industry has failed to put in place adequate health and safety measures in the workplace to safeguard not

only the employees and management but also customers and other stakeholders who might have some kind of interest in the industry. Naidoo & Willis (2002) identify a number of benefits to the organization from promotion of health and safety workplace as improvements of productivity as a result of reduced sickness absence, enhanced corporate image and staff turnover. Safety measures prevent accidents and ensure regular flow of work which helps to improve the morale and productivity of workers. It also contributes to team work and a sense of belonging to employees. On the other hand Boyd (2003) argues that when employee performance increases, it will lead to the organization's effectiveness. Among the positive consequences of safe and healthy workplaces are: higher productivity owing to few lost workdays, increased efficiency, quality from a healthier workforce, reduced medical and insurance costs, lower workers' compensation rates and direct payments because of fewer claims being filed, and improved reputation. According to McCunney (2001), the primary beneficial impact of occupational health and safety on productivity is reduced absenteeism. The challenge of organizations today is how to enlist the hearts and minds of all their employees. Occupational exposures versus ergonomic, physiological and psychosocial factors are found in today's work environment. Such factors, individually or in several complex combinations, threaten workers' safety and health and reduce well-being and productivity (Health and Safety Executive, 2008). World Health Organization (2013) estimates that over 160 million of new cases of work-related illnesses occur every year. International Labor Organization estimates that 2.2 million workers die every year as a result of work-related ill-health and injury, 350 thousand of these deaths are due to accidents and the rest due to occupational illness and accidents. On top of these International Labor Organization estimates that there are 264 million non-fatal accidents occur each year that result in more than three (3) days absence from work and 160 million people suffer from work-related diseases. In economic terms, the ILO has estimated that 4% of the world's annual GDP is lost as a consequence of occupational diseases and accidents (ILO, 2013). In the past one year slightly more than three (3) million US workers suffered from occupational injuries and illnesses resulting from accidents at work number of fatal accidents. This statistics results in an incidence rate of 3.3 cases per 100 equivalents to full-time workers (Bureau of Labor Statistics, 2013). In the United Kingdom 2 million people are reported to be suffering from illness believed to be caused or made worse by their current or past work. Overall UK performance is better than many other European countries

such as Germany, France, Italy, Spain and Poland in the key areas of injuries, fatalities and self-reported work related ill-health (British Safety Council, 2014).

In Africa the issue of Occupational health and safety practices has been ignored by most countries and organizations. The ILO reported that 63,900 work deaths occurred in the 54 African countries and that an estimated 1,560,000 disabling work injuries occurred (ILO, 2010). The fundamental perspective on why majority of African countries and organizations struggle to foster an effective occupational health and safety workplace is that most employers put greater emphasis on productivity and profitability while compromising health and safety standards, procedures, policies and programmes. In Ethiopia the status of occupational safety and health situation/conditions is an issue of growing concern by the employers, government, managers, industrialists, workers and other stakeholders. Health and safety has not been given increasing emphasis by managers, employers, employees, trade unions, employers' associations and other stakeholders in recent years (Nyakang'o, 2009). The above understanding coupled with the fact that at the core of every business is man whose output is partially dependent on his/her state of health, an appreciation of the concept of occupational health and safety becomes imperative to the success of any organization.

1.2. Research Problem

Health at work and healthy work environments are among the most valuable assets of individuals, communities, companies and countries. Occupational safety and health is an important strategy not only to ensure the health and safety of workers, but also contribute positively to productivity, quality of products, work motivation, job satisfaction and thereby to the overall quality of life of individuals and society (WHO, 1994). Virtually all employees in an organization are affected by occupational safety and health for better or worse. Employees at work environment are out in the open to many of the health and safety hazards as they are exposed to potentially dangerous equipment, machines, tools or chemicals in the workplace. Due to mounting social and public pressure and rising consumer expectations, enterprises are increasingly being expected to go beyond the legal requirements and act more responsibly. Creating workplaces that are healthy for the employees and that prevent illness and disease, is

one way in which companies can meet these rising expectations while also improving productivity and competitiveness (Torrington et.al, 2008).

Akaki basic metal industry has developed policies, guidelines and programs on occupational safety and health that are applied and implemented across the board to all employees. The industry is also committed to excellence and success in the energy sector through motivation kitty awarded to best performing employees and departments. Akaki basic metal industry has an occupational safety and health program that has been designed to recognize employee performance. However, from the statutory safety and health audit report conducted in 2013 shows that work related accidents, illness and injuries have increased by 20-30% especially among technical workers, and that there are challenges with implementation of occupational safety and health programs. Health care costs have continue to increase, this has led to a conflict between the needs of the company to push for increased output and efficiency and the needs of employees to be protected from hazards and accidents in the place of work.

Absenteeism for health reasons was also cited by the audit report as among the many reasons often disrupts performance of individuals employees as sick or injured employees are likely to perform less if they do try to work. Several studies have been done in relation to occupational health and safety to employee retention. Badekale (2012) conducted a descriptive research in form of a survey on the effects of organizational health and safety policies on employee performance in Larfage (WAPCO) Ewekoro, Ogun State in Nigeria which revealed that a healthy worker is a productive worker. The study found out that lack of good safety practice, and health care costs are some of the issues that successful health and safety programs. Indakwa (2013) also did a cross-sectional study on the perceived influence of occupational health and safety practices on job satisfaction among employees in the sugar industry.

The research established that occupational health and safety influence job satisfaction, and the findings of the study was that occupational safety and health influences job satisfaction. On the other hand, Mberia (2007) also conducted a survey which seeks to establish the occupational health and safety programmes adopted by banks operating in Kenya. The findings of the study revealed that banks are very keen on physical and mechanical hazards that affect employees.

Jelimo (2013) conducted a descriptive research on the effects of occupational health and safety practices on employees' productivity. The study find out that occupational safety and health practices has a positive relationship with productivity of employees. However, none of the studies conducted have provided or linked the relationship between occupational safety and health to retention of employees especially in the metal sector. It is from this knowledge that the study seeks to unpack the relationship between occupational safety and health practices on retention of work force at Akaki basic metal industry by answering the following question: What is the effect of occupational safety and health practices on retention of work force at Akaki basic metal industry?

1.3. Research Questions

The following research questions were used to achieve the objectives of the study. These include;

1. What are the occupational safeties and health practices put in place in the ABMI?
2. How has occupation safety and health practices affects work force retention in ABMI?
3. What is the attitude of management towards effects of occupational safety and health practices on work force retention?

1.4. Research Aims and Objectives of the Study

The main research aim of this study is to evaluate the effects of occupational safety and health practices on work force retention in **ABMI** work force. **The ABMI objectives derived are as listed below:**

- To examine the effect of Occupational hazards Prevention (OHP)on work force retention.
- To examine the effect of Safety procedure & risk management on work force retention.
- To examine the effect of Organization safety supports on work force retention.
- To examine the effect of First aid supports and training on work force retention.
- To examine the effect of Safety & health rules on work force retention.

- To examine the how has occupational safety and health practices affects work force retention in ABMI.

1.5. Importance of the Study

The findings of the study will enable the management and employees to identify the various occupational safety and health practices hence relevant information on the way of improving employee work performance by enhancing the safety and health standards on the job. The research will be of benefit to other researchers as they may use it as a reference guide when carrying out a similar study on the impact of occupational health and safety practices on retention of employees. It will help them identify the gap left by the researcher in the course of carrying out this study. The findings will be useful for policy makers, practitioners, and implementers who could use the results of the study to identify and bridge the gap of occupational safety and health practices in the workplaces.

This would help in improving retention and reducing accidents and work related illness. Academicians/scholars will also benefit from the study since it will add value to the existing body of knowledge by stimulating new areas for further research through the findings and subsequent recommendations. Finally the study will provide the Government of Ethiopia with an insight on how to review, design, develop and implement the new occupational safety and health legislation. Also in ensuring that the new law on OSHA is adhered to by all employers and organizations to reduce work related accidents, injuries and diseases.

1.6. Organization of the Study

This paper is organized as follows: The First Introduction part is discussed above comprises background of the study, research problem, research question, research aim and objectives of the study, importance of the study, organization of the study. The Second part is the theoretical framework and research hypothesis development includes concepts of occupational safety and health, occupational health and safety management, occupational safety and health programs, occupational health and safety practices ,work force retention, The effects of occupational safety and health practice on work force retention, and research model hypotheses. The Third part the

research design and methodology discusses research methodology, research questioner, pilot testing of questioner, target population, sample size sample method, ethical considerations, data analysis plane, and research limitations. The Fourth part the results and discussion presents demographic analysis, normality of data distribution, scale reliability, factor analysis, descriptive analysis, correlation analysis, and regression analysis. Final part is conclusion and recommendation, and direction for further research.

CHAPTER TWO: LITERATURE REVIEW

Introduction

The chapter focused on the literature review on occupational safety and health practice on employee retention. The chapter highlights the concepts of occupational safety and health practices, and the effects of occupational safety and health practices on work force retention.

2.1. Concept of Occupational Safety and Health

Occupational health and safety is a cross-disciplinary area concerned with protecting the safety, health and welfare of people engaged in work or employment. The goal of all occupational health and safety programs is to foster a safe work environment (Amazon, 2006). Occupational health deals with ill-health arising from working conditions/or environment that slowly accumulate to lead to deterioration of the workers health. However occupational safety is concerned with prevention of accidents and minimizing the aspect of work environment that has the potential of causing immediate violent harm to employees (Armstrong, 2012).

According Mejjia (2010) asserts that occupational safety and health is abroad area which includes both physical and emotional well-being. Effectively managing workplace safety and health requires far more than reducing the number of job related accidents and injuries. Health and safety is a positive concept that includes social and personal resources as well as physical capabilities (Nutbeam, 1990). It has been conceptualized as the ability to have and to reach goals, meet personal needs and cope with everyday life (Raphael, Brown, Renwick & Rootman, 1997).

The concept of accident proneness is now largely discredited; safety and health practices concentrate as far as possible on ensuring that the employee is suitable for the job and that work is conducted in a safe environment (Graham and Bennet, 1995). Jackson et.al. (2009 states that the term occupational safety and health refers to the physiological – physical and psychological conditions of a workplace that result from work environment provided by the organization. Physiological-physical conditions include diseases and accidents such as actual loss of life, repetitive motion injuries, back pain, carpal tunnel syndrome. Psychological conditions

encompass symptoms of poor mental health and job burnout, including apathy, emotional exhaustion, withdrawal, confusion about roles and duties, mistrust of others, inattentiveness, irritability and a tendency to become distraught over trifles. These conditions often are responses to workplace stress and a low quality of work life.

2.2. Occupational Health and Safety Management

Occupational Health and Safety Management Systems (OHSMS) have been defined by Gallagher (2001) as "...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." 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 et al., 2012). 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 et al., 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 et al., 2009). 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. 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 (TUIK, 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 et al. (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, Boston Scientific, and Nissan experience lesser number of accidents and decrease relevant costs. 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: (a) senior management regularly participates in safety activities, (b) safety officer holds higher rank and status in the organization, (c) safety training is emphasized, (d) open communication and close contact between management and workers, (e) stable workforce (e.g. less turnovers), and (f) 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.

2.3. Occupational Safety and Health Programs

Occupational safety and health programs involve practices or activities that are undertaken by the organization in reducing unsafe conditions and unsafe acts in the workplace. Reducing unsafe conditions is always an employer's first line of defense in accident prevention (Hopkin, 2010). He further observe that in designing safe and healthy environments, employers need to pay special attention to vulnerable workers in the workplace either due to lack of education, ill-fitting personal protective equipment, physical limitations or cultural reasons. The achievement of a healthy and safe place of work and the elimination of maximum extent of possible hazards to health and safety is the responsibility of everyone employed in an organization as well as those working under contract.

The occupational safety and health programs are designed to minimize the impact of work related illnesses and accidents arising from the work (Armstrong, 2012). Designing and implementing intervention programs is more challenging to organizations/or companies with none operations around the world because it is more difficult to monitor progress. Related to this challenge and responsibility of Human resource professionals and organizations in managing the conditions resulting from major diseases epidemics and major disasters. Because the magnitude of the impact of diseases and disasters. Organizations must be proactive in managing occurrence (Stewart and McGoldrick, 1996). On the other hand Dessler (2008) argues that healthy and safe working environment does not just happen it has to be created.

The organizations with the best reputation for safety have developed well planned, thorough health and safety programs. Concern for safety should begin at the highest level within the organization, manager and then supervisor. If an organization takes effective safety and health measures, fewer of its employees will have short or long term ill-effects as a result of employed at that organization. Nzuve (2009) believe that organizations depend on employees as working partners and fellow members of the organization community. The achievement of a healthy and

safe place of work and elimination of maximum extent of possible hazards in an organization as well as those working there under contract. By reducing the rates and severity of occupational accidents, diseases, workplace violence, stress related illness, and improving the quality of work for their employees, organizations become significantly effective. Organizations invest in health and safety programs in part of humanitarian reasons but also out of concern of controlling costs of many kinds, extending from fines Occupational Safety and Health Act for non-compliance to health insurance premiums, to payments for non-productive labor. They also benefit from having healthy employees as some have been willing to invest for this purpose by setting wellness programs and facilities (Miner and Crane, 1995). Many interventions can be used to improve workplace safety and health. Among the most common are programs designed to reduce accidents and injuries, reduce diseases, improve employees' ability to manage stress and overall health. While some of the interventions are intended to change the lifestyles and non-work behaviors of employees. All these interventions can reduce the many costs associated with employee injuries, illness and death (Werner (2009).

2.4. Occupational Health and Safety Practices

Recent occupational accidents urged enterprises to put more importance on occupational health and safety practices. The pressure by both the public authority and the business and social milieu has played an important role in it. The present study investigated occupational health and safety (OHS) practices in five dimensions, i.e. safety procedures and risk management, safety and health rules, first aid support and training, occupational accident prevention, and organizational safety support. A survey form was developed in order to investigate the effect of OHS practices on work force retention, organizational commitment, and job performance as a throughput of such practices. The data set analyzed by structural equation modeling using least squares method. The findings of the analysis suggested that such OHS 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 commitment. Moreover, it was seen that safety and health rules and organizational safety support decreased alienation, where first aid support and training played a role in increasing work alienation. Finally, safety procedures and risk

management, safety and health rules, and organizational safety support had indirect effects on retention of the employees.

2.5. Work Force Retention

Work force retention could be described as the efforts by any business or organization to develop strategies and initiatives that support current staff into remaining with the organization. Retention is “the ability to hold onto those employees you would want to keep for longer than your competition” (Johnson, 2000). Success or otherwise of an organization in retaining its employee’s is measured in terms of work force Retention Rate (ERR) or through assessment of the Employee Turnover Rate (ETR). High employee retention rate means that employee turnover rate has been low and vice versa. All organizations will therefore always seek and strive to maintain high rates of employee retention (ER)-especially of their key talents, thus maintaining low levels of staff turnover.

Ability of an organization to retain its work force has two-fold implications. Organizations that retain their high performers are bound to be successful in performance and at the same time avoid expenses that are incurred in advertisement of vacant positions, recruitment and selection, induction and training new employees that follow and employee lost (Okioga, 2012). From studies conducted it is suggested that the cost of employee turnover often ranges from 50% to 200% of an employee’s annual salary based on the type and level of job he/she holds, (World atWork,2012). In the hotel industry, low employee retention rates have been observed to interfere and disrupt the internalization of standards by the employees thus resulting to lower quality of service, reduced customer satisfaction and making an establishment less competitive.(Kimungu& Maringa, 2010).

2.6. The Effects of Occupational Safety and Health Practice on Work Force Retention

The employee retention can be negatively affected by Occupational health and safety which means if there is lack of high employee in the organizations retention also gets affected hence also affecting the overall organization employee retention. For Example: If the workplace is not health hazard proof it will cause a disease among workforce hence negatively affect the

employee retention and organization as affirmed by Karen Danna et al (1999). A concern in principle for the health and safety of employees and encouragement of employees' self-interest and safety are obvious prerequisites. Workplace reality can be different because of perceptions that health and safety constraints operational freedom and inhibits productivity. Higher performance HR strategies recognize creating an environment where people feel physically and psychologically safe seems to a fairly fundamental demonstration that workers are valued (Pilbeam & Corbridge, 2010). Sikpa (2011) studied an assessment of occupational health and safety practices on employee retention at the Tetteh Quarshie Memorial Hospital in Ghana and found out that the current occupational health and safety practices in the hospital are inadequate, and that the management, staff, patients and other stakeholders are exposed to several risks and hazards. The study concluded that there cannot be any effective occupational safety and health practices if both the employers and employees fail to perform their respective responsibilities. Accidents are costly to the affected employees and the organization.

Therefore every effort should be made in order to avoid them from happening at the workplaces. Badakale (2012) also conducted a study that sought to determine the effects of occupational health and safety policies on employee retention in Larfage (WAPCO) PLC, Ewekoro, Ogun State in Nigeria. His study found the amount of time wasted during accident and cost that is ignorantly spent on health care is higher than the cost spent on planning and providing a safe working environment and a good safety policy. The study concluded that occupational health and safety should be given a serious attention on the shop-floor bearing it in mind that it is a right for the employees and required by law. Among the four factors that were being investigated, health and safety measures, social welfare programmes, accident prevention programmes and occupational health programmes. The four factors had a positive and significant correlation with employee retention. Therefore, the implementation of health and safety programmes at the work place has a positive impact on employees' retention. The study concluded that health and safety measures at work place have a positive and significant correlation to work retention therefore each and every company should practice or implement the health and safety programmes at their work place if they are to improve work force retention.

Jelimo (2013) did a study on the effects of occupational health and safety practices on employee retention. The study found out that there are occupational health and safety practices that have positive relationship work force and include; fire prevention and protection, lighting and ventilation, personal protective equipments and good housekeeping, while chairs/tables and facilities for sitting, first aid kit and medical facility and drinking water and sanitary facilities had negative relationship. The study concluded that when an organization fully implements occupational health and safety practices improves work force' retention. It was also realized that absence of Occupational Health and Safety practices could easily result in absenteeism, high work force turnover, increased medical bill and insurance claim, injuries and frequent accidents. The study recommended continuous improvements of occupational health and safety practices as it greatly influences work force retention.

2.7. Research Model and Hypotheses

A theoretical research framework was proposed for the purpose of the present study. The research model is provided in Figure 1. According to the above given explanations, we expect occupational health and safety practices such as occupational hazards prevention, safety procedures and risk management, organizational safety support, first aid support and training, safety and health rules, affect retention of the employees. Consistent with the literature review and argumentations, the following hypotheses were proposed. we expected positive influence of occupational health and safety practices on work force retention. Consequently, we hypothesized:

H1: Improved Occupational hazards Prevention practices have a significant and positive influence towards work force retention

Occupational safety and health practices

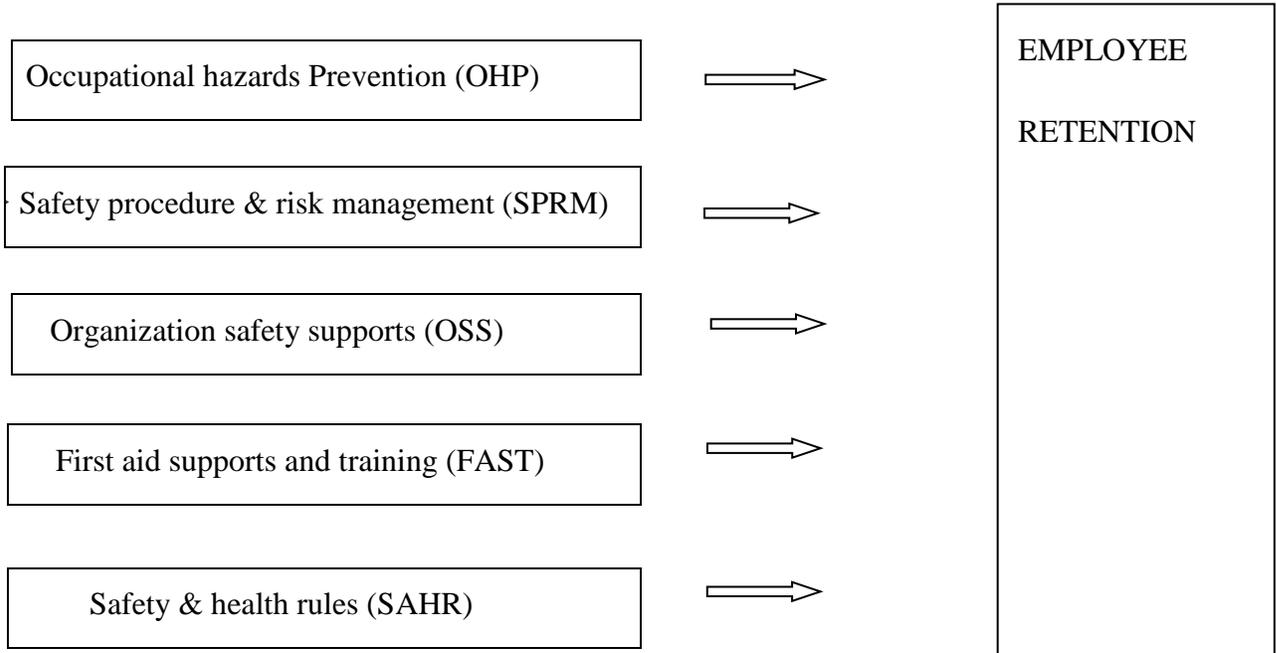


Figure1. Proposed theoretical research model

H2: Increasing Safety procedure & risk management opportunities has a significant and positive influence on work force.

H3: The combined effects of Safety procedure & risk management along with Occupational hazards Prevention opportunities have a significant and positive impact on work force retention

H4: An Organization safety support has a significant and positive influence on work force retention.

H5: If Organization safety supports and First aid supports and training are combined, there is a significant and positive impact on work force retention

H6: There is significant and positive impact of First aid supports and training on work force retention

H7: Improved occupational health and safety practices in the workplace have a positive and significant influence on work force retention.

CHAPTER THREE: RESEARCH DESIGN AND METHODOLOGY

3.1. Research Methodology

Based up on the above discussed review of literature a theoretical frame work has been developed and presented in figure 1.it is formed to examine the effects of occupational safety and health practices on work force retention.

The aim of this study was to investigate the relationship and to predict the effects of occupational safety and health practices on work force retention in Akaki Basic Metal Industry. The study used correlation and regression research design. This research study used quantitative method for data collection. Because this method allows testing theories and hypotheses, collect large number of data, which is more appropriate to answer the question, similarly this method is more objective and reliable yet not influenced ISSN(International Standard Serial Number) by the personal opinion of the researcher in representing the phenomena. This method allowed researcher to restructure complex problem to a limited number of variables and supports understating the predictors of the result (Creswell, 2013). Also this method enabled to explain and test theory unlike qualitative method where the researcher is not aware of the important variables to examine and the data collection is sensitive and flexible to the social context (Gravetter & Forzano, 2015). Primary Research is adopted as there is no formal and reliable data currently available on this research topic in the research context. Also primary research provides satisfactory results and is appropriate for intensive investigations, similarly the target issues are addressed; the interpretation of data is more effective, addresses the specific research issues, the data collected is decent and the researcher has greater control (Rønsen & Smith, 2014).

3.2. Population

The population for this study include employees of ABMI. The population divided in to two management staff and non-management staff working in ABMI. The target population for this study comprises of seven hundred sixty one (761) work force of ABMI .Out of seven hundred

qualified staff that could be used for the study only two hundred fifty one (251) staff was selected for the study.

3.3. Sampling Procedure

A sample size of 251 work force was selected out of total population of 761. the number of work force to make up the sample the management staff were 20% (50.2) sample size and 80% the non- management staff (200.8) work force determined.

3.4. Research Instrument

The study collected primary data using a survey questionnaire which the subjects were asked to respond to the items provided. The survey questionnaire was split in to seven separate section. These are Demographic, occupational Hazards prevention, Safety procedure and risk management, Organization safety support, First aid support and training, Safety and health rules and work force retention.

3.5. Data Collection Technique

In this study there was application of both the primary and secondary data. Secondary data was used to understand and effectively apply the findings of research carried out by other researchers. In addition it was also used to evaluate and assess the soundness of their theories in relation to the case under study. This data was obtained from books, internet magazines, and from recent journals. This primary data was relied on heartily than the secondary data because it was collected by the researchers hence unique to the researchers and the study it self. The method that was used to collect the primary data was questionnaire which is a popular means used by many researchers and commonly recognized the respondents. It was also considered because it was relatively cheap due to the population target and easy for respondent to fill because they were given time to understand the questions before responding.

This study utilized quantitative and qualitative data. According to Creswell (2013) research involves collecting and analyzing qualitative statically analyzing scores collected on instruments to answer research questions or to test hypotheses. This section presents the data collection instruments that the study's adapted. These instruments are questionnaires and document analysis.

3.6. Data Analysis Technique

The data collected was then quantitatively analyzed using various statistical methods including the statistical package for social sciences (SPSS). The outcomes the descriptive statistics in terms of means, standard deviation, and correlation of all the variables were presented in table format. Pearson's "r" correlation test was used to compute the degree of relation between the various items of OHP,SPRM,OSS,FAST,SAHR and WFR.

3.7. Research Questionnaire

According to Goulding (2005) there are three ways to design target question - to use questions already exist in other established questionnaires, adapt questions already used in other questionnaires or design new. Since this is the first research of its kind the questionnaire was newly designed and pilot testing was done before it was distributed among the participants. The questionnaire for this study consisted of total 30 questions that were developed based on main 5 independent variables and 1 dependent variable, each variable consists of 5 questions. The questionnaire has both classification and target questions. It had two sections in it, Section A consists of gender, age, job position, marital status, length of employment, salary range, department and qualification, Section B included the target questions. Since majority of the respondents preferred to remain anonymous identification question was kept voluntary not necessary. The questionnaire was formatted in English language and Amharic kept simple and easy to answer with a likert scale of 5 so that the response rate could be increased. Those are 1- strongly agree, 2- agree, 3- neither agree nor disagree, 4- disagree and 5- strongly disagree.

Table 3.1: Questionnaire Development

HR practices	Key variables	Sources
Occupational Health & Safety Practices	Occupational hazards Prevention (OHP)	Mearns & Reader (2008)
	Safety procedure & risk management (SPRM)	Gaceri (2015), Armstrong (2006)
	Organization safety supports (OSS)	Armstrong (2006)
	First aid supports and training (FAST_)	Health and Safety Executive (1997)
	Safety & health rules (SAHR)	Armstrong(2010)
Work force Retention	Employee satisfaction	Akter (2012)
	Talent retention	SHRM (2012)
	Supervisor Support	Osemeke (2012); Hong, et al. (2012); Okeudo & Cmilt (2012); Omolo, et al (2013)
	Employee Engagement	Tay, 2011
	Organisational Commitment	Baruch & Peiperl (2000)

Source: Adopted from various sources

3.8. Pilot Testing of Questionnaire

Pilot testing was conducted using structured questionnaire in order to make sure that the participants understand the question and understand it in the similar way. The importance of pilot testing is that it helps the researcher to find out if the questions make the respondents uncomfortable, helps to identify if changes are required in the language used in the questionnaire giving the researcher to be able to understand the time it take to complete the survey in real time (Jacob & Furgerson, 2012). Also pilot test allowed the researcher to ensure the scale is reliable and normal. Also reliability test (Cronbach's Alpha) was conducted to test internal consistency. The items that show less than 0.7 were modified or removed and then the new questionnaire was distributed.

3.9. Target Population, Sample Size and Sampling Method

The target population for the proposed research question consists of organizations were approached considering the time to complete the research, and among those responded with positive response in allowing employees to participate.

Table 3.2: Work Force Status of Akaki Basic Metal Industry

	Recruited Employee	Resigned Employee	Existing employee
2007 E.C	220	240	958
2008	266	264	1103
2009	174	216	1190
2010	110	149	761

Source; Akaki basic metal industry human resource

Table 3.3: Work Force Salary

Salary	Frequency	Percent
High Br. (6000----7000)	16	6.25
Medium (3000----5000)	55	21.8
Low (1000-----2000)	172	68.75
Very low (800-----1000)	8	3.2
Total	251	100

Source; Akaki basic metal industry human resource

The study is a cross – sectional research and therefore primary sample was used. This is a form of quantitative sampling, which is normally used, in descriptive research (Cho & Park 2013) where the researcher collects sample from a random group of people. A total 761 population of 500 questionnaires were distributed and a total of 280 questionnaires were returned. However, among these returned questionnaires some of the questionnaires were excluded because it was incomplete which means 251 completed questionnaires were used (sample size is 251). The respondents were employees currently working in the Akaki basic metal industry.

The sampling techniques used to select employee for this survey is convenient sampling method. It is difficult to use simple probability sampling as most of the staff are not based in the office. Therefore once the industry grant the permission, researcher approaches any employee who are available in the office. As researcher is not directly involve in data collection process, it minimize the biasness and influence on any employee. Once the procedure is explained and when respondent gave the consent, then the questionnaire was given and requested to complete it as truthfully as they can. The completed questionnaires were collected after 2 weeks followed questionnaire distribution to the respondents, following up and reminding the respondents on the dead line for collection.

3.10. Ethical Considerations

Before the questionnaire was being distributed to the respected industry, they are well-informed by the researcher as to conduct a questionnaire survey with the employees .After the permission was granted by the respected ABMI, a research letter by is delivered to the company as to further confirm with them the conduct of the survey and it is strictly for academic purpose. Attached with the questionnaire is the participant consent form where each participant was asked to sign as they are agreed to take part in this research voluntarily. The collected data are kept confidential that do not contained any specific information except some demographic questions such as name, age group and so on. The ABMI has given a permission letter allowing this research to be conducted at ABMI.

3.11. Data Analysis Plan

In order to analyze the data the descriptive statistics of the questionnaire were acquired from SPSS in order to find out the normality of the questionnaire based on the skewness and the kurtosis statistics. Next the researcher run the reliability test, validity test, correlation, regression and find out the sample adequacy using the SPSS in order to analyze the data collected for the findings of the study. This enabled the researcher to find out whether the respondents agree if or not Occupational safety and health practices influence employee retention in ABMI.

3.12. Research Limitations

This study has several limitations. First, the target population to collect data is limited. Second, the cost involved to cover the entire target population is a huge amount. Furthermore the researcher to personally visit ABMI and collect data was another challenge as the research is not a funded research. This is because according to the world fact book 1/3 of the population of ABMI that is approximately 251 out of 761 of ABMI population.

CHAPTER FOUR: RESULTS AND DISCUSSION

4.1. Demographic Analysis

The study engaged 251 employees from ABMI. Majority of the respondents were male 56.7%, female 43.3. Most of the employees are aged between 18 -29 years constituted 75 % followed by aged group 30-45 years with 30%. 11% of staffs were professional level staff while 89% represents operational level staff. The detailed table 4.1 illustrated the information about respondents

Table 4.1: Socio-Demographic Profile of the Participants

Variable		Frequency	Percent	Cumulative Percent
Age Group	18-23	105	41.7	41.7
	24-29	85	33.8	75.5
	30-35	46	18.5	94.0
	36 and above	15	6.0	100
Gender	Male	142	56.7	56.7
	Female	108	43.3	100
Marital Status	Single	132	52.8	52.8
	Married	107	42.5	95.3
	Divorce	12	4.7	100
Length of service	0-6months	43	17.3	17.3
	6months – 1 year	39	15.7	33
	1-2 years	54	21.7	54.7
	>2 years	114	45.3	100
Monthly Income	Mrf 800-1000	97	39.0	39.0
	Mrf 1000-2000	66	26.4	65.4
	Mrf 3000-5000	49	19.6	85.1
	>Mrf 6000	38	15.0	100
Job Position	Junior	119	47.6	47.6
	Senior	54	21.7	69.3

	Executive	24	9.4	78.7
	Others	53	21.3	100
Department	Administration	26	10.2	10.2
	Customer Service	119	47.6	57.8
	Human Resource	15	5.9	63.7
	Operational	82	32.7	
	Others	9	3.6	9.5
Education Level	Secondary	108	43	43
	High. Second	90	35.8	78.8
	Bachelors	22.5	9.0	87.8
	Masters	5	2	89.8
	Others	26	10.2	100

Source: Field survey

4.2. Normality of Data Distribution

In order to measure the data normality the statistical significance of skewness and kurtosis are two important indicators. Normality is most of the times referred to the shape of the data collection (Koizumi, 2013). The two key indicators for normality testing, skewness demonstrates if the shape is balanced while the other indicator kurtosis allows identifying if the curve is peaked or flat. Also it was suggest that too much variation from the normal distribution can cause negative impact during the data analysis (Zygmont & Smith, 2014). In multivariate analysis the data normality is ensured if the absolute value is with in (<0.1) or ($<.001$) (Khine, 2013).

The skewness of this data set is seen between 0.70 to - 0.80, indicating that the skewness of this data set is in acceptable range falling under the suggested value. However the kurtosis indicated three questions (Q8, Q16 and Q17) greater than -1.00, but suggesting the rest is on an acceptable range. Also it is important to note that these three questions were found to be normal during the pilot testing. Since the greater value for those three questions indicated in kurtosis is varying

with a very slight difference, the data set is suggested normal and further reliability testing was conducted.

Table 4.2: Normality of Data Distribution and Scale

	N	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Q1	251	2.41	1.137	.699	.153	-.208	.304
Q2	251	2.61	1.045	.700	.153	.017	.304
Q3	251	2.74	1.082	.222	.153	-.688	.304
Q4	251	2.81	1.140	.216	.153	-.757	.304
Q5	251	3.06	1.028	-.309	.153	-.490	.304
Q6	251	3.15	1.109	.026	.153	-.938	.304
Q7	251	2.51	1.165	.591	.153	-.382	.304
Q8	251	2.88	1.244	.084	.153	-1.052	.304
Q9	251	2.15	.993	.875	.153	.564	.304
Q10	251	3.00	1.254	.085	.153	-.952	.304
Q11	251	2.55	1.112	.653	.153	-.194	.304
Q12	251	2.50	1.106	.708	.153	-.086	.304
Q13	251	2.37	1.066	.668	.153	-.137	.304
Q14	251	2.50	1.257	.599	.153	-.587	.304
Q15	251	2.69	1.232	.360	.153	-.801	.304
Q16	251	2.92	1.327	.132	.153	-1.125	.304
Q17	251	2.68	1.365	.328	.153	-1.131	.304
Q18	251	2.27	1.048	.672	.153	-.043	.304
Q19	251	2.42	1.138	.593	.153	-.275	.304
Q20	251	2.60	1.072	.536	.153	-.094	.304
Q21	251	2.47	1.054	.593	.153	-.041	.304
Q22	251	3.07	1.120	.005	.153	-.611	.304
Q23	251	3.37	1.088	-.127	.153	-.709	.304
Q24	251	3.04	1.034	.302	.153	-.609	.304
Q25	251	3.30	1.091	-.083	.153	-.670	.304
Q26	251	2.35	1.113	.773	.153	.021	.304
Q27	251	2.33	1.133	.745	.153	-.094	.304
Q28	251	2.42	1.212	.595	.153	-.525	.304
Q29	251	2.54	1.201	.437	.153	-.576	.304
Q30	251	2.56	1.230	.463	.153	-.586	.304
Valid N (listwise)							

Source : Field survey , 2018

4.3. Scale Reliability

For this research reliability is measured using Cronbach's Alpha and inter-item correlation. Cronbach's alpha measures the internal consistency, while the inter-item correlation addresses the correlation between individual items that should exceed or be greater than 0.3 (Hassan & Diallo, 2013). Cronbach's alpha coefficient is widely used to measure reliability, if the Cronbach's alpha value is 0.70 it ensures the reliability of the internal consistency of the questionnaire (Ringim, et al., 2012).

Table 4.3: Reliability Statistics for the Whole Scale

	Pilot Test (sample of 20)	Actual Sample of 251
Cronbach's Alpha	0.933	0.956
Cronbach's Alpha Based on Standardized Items	0.933	0.956

Source: Field survey

Table 4. 4 : Reliability Statistics for Each Variable

Variables	Number of Items	Cronbach's Alpha (N=251)	Cronbach's Alpha (Pilot Test) (N=20)
OHP	5	0.886	0.883
SPRM	5	0.769	0.530
OSS	5	0.854	0.620
FAST	5	0.809	0.551
SAHR	5	0.858	0.822
WFR	5	0.931	0.911

Source :Field survey, 2018

4.4. Factor Analysis

Table 4.5: Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	13.276	44.254	44.254	13.276	44.254	44.254
2	2.083	6.942	51.196	2.083	6.942	51.196
3	1.813	6.043	57.239	1.813	6.043	57.239
4	1.213	4.044	61.283	1.213	4.044	61.283

Extraction Method: Principal Component Analysis.

Source: Field survey

As shown in Table 4.5, from the initial Eigen values, % of variance for the first component is 44.254%, the second component is 6.9%, and the third component is with 6.04%. The fourth component is 4.044%. Therefore, total of 4 components possess an Eigen value >1 rule (Williams, Onsmann and Brown, 2010). Also this indicates that scale is more one-dimensional. Further to this component matrix (Vari-max) is analyzed.

Table 4.6: Rotated Component Matrix

Q. No	Component			
	OSS and FAST	work force Retention	OHP and SPRM	Occupational Health and Safety ruler
Q11	0.716			
Q12	0.699			
Q14	0.682			
Q17	0.611			
Q29		0.813		
Q30		0.796		
Q26		0.786		
Q27		0.78		
Q28		0.77		
Q6			0.759	
Q3			0.671	
Q5			0.651	
Q25				0.786
Q23				0.769
Q22				0.76
Q24				0.753
Eigen Value	6.997	2.684	12.296	6.911
Cumul. Var %	18.53	33.97	48.977	61.283

Source: Field survey

The analysis of Eigen values and the scree plot for OHS practices suggested four factors among the five components used in the instrument. The total variances obtained by the 4 factors for the dependent factor (work force Retention) were 61.3%. In order to retain the dimensions, Eigen value should be 1.0 or must exceed 1.0 (Hassan, 2014). Therefore all the components used in the construct are more than 1.0 and cumulative variance for all the items included in the construct exceeded 61 %. Therefore all the items are retained under each variable.

Component 1 – (Q-11, Q-12, Q-14, Q-17): For the first component with the listed 4 questions, in the factor analysis grouped Organization safety supports (OSS) and, First aid supports and

training (FAST) as one factor. The Eigen value obtained for this component is 6.997 with a cumulative variance of 18.53%.

Component 2 – (Q-29, Q-30, Q-26, Q-27, Q-28): For the second component with the listed 5 questions, in the factor analysis obtained is Employee Retention (ER) with an Eigen value of 2.6846 with a cumulative variance of 33.97%.

Component 3 – (Q-6, Q-3, Q-5): For the third component with the listed 3 questions, in the factor analysis grouped Occupational hazards Prevention (OHP) and, Safety procedure & risk management (SPRM) as one factor. The Eigen value obtained for this component is 12.296 with a cumulative variance of 48.977%.

Component 4 – (Q-25, Q-23, Q-22, Q-24): For the fourth component with the listed 4 questions, in the factor analysis obtained is Occupational Health and Safety (OHS) with an Eigen value of 6.911 with a cumulative variance of 61.283%.

Therefore based on the results extracted from the factor analysis using component matrix (varimax) the data set is explained by 4 factors, which this study will be analyzing further. The combined two factor is well justified in the literature review as Safety procedure & risk management linked with Occupational hazards Prevention has a better chances in motivating staff to stay longer with the organization. Similarly organizational safety support linked First aid supports and training has much more significant impact on work force retention than stand alone. Thus this study has conducted further analysis to test the component matrix and the proposed original conceptual framework to test the hypotheses.

4.5. Descriptive Statistics

The mean and standard deviation from descriptive statistics are used to analyse the data. The average or mean is the most popular measure of central tendency (Thompson, 2009). The usage of means to explain a dataset must be bounded to ratio and interval level data (Thompson, 2009). The mean is more affected by the allocation of the values than is the median and it is more responsive to outliers (Thompson, 2009). Among the five OHS practices to retain work force, the

mean statistics of Occupation health and safety (OHS) is the highest (M=3.08, Std=0.899) indicating that most work forces perceived that this is the most often practice OSH activities in the organization. The second highest mean value is scored by t.

Table 4.7: Descriptive Statistics

	N Sta.	Minimu. Statistic	Maxim um Statis.	Mean Statistic	Std.dev. statistic	Skewness		Kurtosis	
						Statis.	Std.error	Statisti c	Std.err or
OHP	251	1	5	2.74	.960	.442	.153	-.218	.304
SPRM	251	1	5	2.74	.874	.219	.153	.040	.304
OSS	251	1	5	2.52	.969	.626	.153	-.014	.304
FAST	251	1	5	2.54	.960	.376	.153	-.212	.304
SARH	251	1	5	3.08	.899	.140	.153	-.443	.304
WFR Valid N Listwise	251	1	5	2.45	1.101	.514	.153	-.312	.304

Source: Field survey ,2018

Safety procedure & risk management (SPRM) Occupational hazards Prevention and (OHP), both scored a mean value of 2.74 indicating that both SPRM and OHP are commonly practice in their organization to retain work force. OSS and First aid supports and training (FAST) scored a lower mean value of 2.52 and 251 respectively indicating that Organization safety supports (OSS) is the least Occupational safety and health practices in the organization out of five practices. Also overall all the data distribution are normal and valid.

4.6. Correlation Analysis

The below table 4.8, shows the correlation analysis generated on all constructs to determine Pearson's Correlation coefficients with a two – tailed significance test. Human Occupational safety and health practices such as Occupational hazards Prevention(OHP), Safety procedure & risk management (SPRM), Organization safety supports (OSS), Occupational Health and Safety (OHS), First aid supports and training (FAST), are considered as independent variables and work force Retention (WFR) is considered as the dependent variable. Correlation is measured the relationship between two or more variables. The correlation coefficients range from -1 to +1 representing perfect negative and positive correlation (Landau & Everitt, 2004). As a general rule of thumb the value should not exceed 0.75, similarly correlations of 0.8 or higher are suggested problematic (Ringim, et al., 2012). With reference to the above figure, the results show that all the dimensions of Occupational safety and health Practices have strong relation with work force retention. Overall OSH Practices has positive and significant relationship with work force retention with a Pearson correlation coefficient of R= 0.573, 0.515, 0.495 and 0.515 respectively.

This finding is similar to the previous similar research done in other contexts. For example in terms of career development we found a positive and significant relationship with work force retention. This is confirmed by previous studies such as Day (2007), SHRM (2012) and Merchant (2013). Also in terms of training and development the result is confirmed by previous researches such as Kaymaz (2010), Ameerq-ul-Ameerq & Hanif, (2013), and Tangthong (2014). Similarly the positive relationship between Organization safety supports and work force retention are also similar to previous studies such as Tay (2011), Yi, Natarajan & Gong (2011), Bhattacharyya (2011), Fulk, Bell & Bodie, (2011). Previous studies also confirms the relationship between First aid supports and training and work force retention (Fogleman & McCorkle, 2013; Saeed, et al., 2013; Edirisooriya, 2014). Lastly, Occupational health and safety relations with work force relation is also confirmed by previous studies such as Armstrong (2010).

Table 4.8: Pearson’s Correlation Coefficient of Occupational safety & health practices and Employee Retention

	OHP	SPRM	OSS	FAST	OHS	WFR
OHP (Occupational Hazard Prevention)	1	.670	.657	.598	.574	.573
		.000	.000	.000	.000	.000
		251	251	251	251	251
SPRM (Safety proce. & risk mgt)		1	0.633**	0.596**	0.519**	.515**
			.000	.000	.000	.000
			251	251	251	251
OSS (Organization Safety support)			1	0.611**	0.484**	.495**
				.000	.000	.000
				251	251	251
FAST (First aid Support & Training)				1	0.450**	.615**
					.000	.000
					251	251
SARH (Safety & Health Rule)					1	.515**
						.000
						251
WFR (Work force Retention)						1

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

Source: Field survey, 2018

4.7. Regression Analysis

For this study, regression was performed to predict the effects of occupational safety and health Practices on work force retention based on five independent factors. The dependent factor for this study is work force Retention

Table 4.9: Occupational safety and health Practices and work force Retention

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.690	.476	.465	.805	.476	45.014	5	248	.000	1.828

a. Predictors: (Constant), SARH, FAST, OSS, SPRM, OHP

b. Dependent Variable: WFR

As refer to Table 4.9, the dependent variable is WFR, and independent variables are SARH, FAST, OSS, SPRM and OHP. The summary predicting the work force retention shows R as 0.690, R square as 0.476 and adjusted R square as 0.465, implicating that 46.5% of the variance of work force retention can be predicted by independent variables of safety and health rules, first aid support and training, organizational safety support, safety procedure and risk management and organizational hazard prevention. However as a general rule of thumb a good fit is considered to predict minimum of 60% variation of the dependent variable (Zygmunt & Smith , 2014). Therefore this model is considered to be a poor fit or not a ‘good fit’. However the autocorrelation of this regression is potentially high. Similarly the F test conducted for this study gives a value of 45.014, proposing the F value for this study shows that the regression model is significant.

Table 4.10 : Beta Coefficients for Work force Retention

Model 1	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	-.217	.200		1.084	.279		
OHP	.220	.083	.192	2.659	.008	.407	2.459
SPRM	.065	.087	.052	.753	.452	.448	2.230
OSS	.011	.077	.010	.146	.884	.459	2.180
FAST	.426	.073	.371	5.850	.000	.526	1.902
SARH	.253	.071	.206	3.556	.000	.627	1.594

Dependent Variable: WFR

The following assumptions were made before the analysis of this table:

Dependent factor: Work force Employee Retention

Y= WFR (Work force Retention)

Independent factor: Occupational safety and health Practices

X1=OHP (Occupational hazards Prevention)

X2=SPRM (Safety procedure & risk management)

X3=OSS (Organization safety supports)

X4=FAST (First aid supports and training)

X5=SAHR (Safety & health rules)

C=Constant

Therefore the model should be

$$Y= B1X1+B2X2+B3X3+B4X4+B5X5 +C$$

The result shows that only three OSH practices are significantly and positively influence employee retention where OHP (0.192, p=0.008), FAST (0.371, p=0.000) and SAHR (0.206 , p=0.000) as refer to Table 4.10. The Constant is not significant and negative. None of the tolerance statistic from Table 4.10 shows that it is less than 0.20 (Menard, 2010), so it signifies that the variable is not greatly collinear with the rest of the predictor variables (Ualberta, n.d.). Therefore the empirical model (original) can be illustrated as follows

$$Y=0.192(X1)+0.371(X4)+0.206(X5)-----(1)$$

This empirical model (original) indicated that changing 1 unit of X1(OHP), X4 (FAST) and X5(SAHR) while other things remain same, Y (WFR) will change by 0.769 units. The other two factors including constant is excluded as these factors are not significant. Therefore based on the rotated component matrix results, only the factors grouped together and the questions under those components were tested again using the same data set for regression and to test further hypotheses set in previous sections.

Table 4.11: Model Summary (Rotated Matrix)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson	F Change	Sig. F Change
2	.636a	0.404	0.397	0.80999	1.841	56.570	0.000

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

b. Dependent Variable: WFR

The above table 4.11 shows that R is 0.636, R square is 0.404 and adjusted R is 0.397, meaning that 39.7% of the variance of employee retention can be predicted by the independent variables (Safety & health rules , Organization safety supports combined with First aid supports and training , Occupational hazards Prevention with Safety procedure & risk management) suggesting that the model is not a good fit. Also Durbin – Watson analysis, the acceptable range suggested is between 1.5 and 2.5 (Bakon & Hassan, 2013), for this study with reference to table 4.11 the Durbin – Watson value is 1.841, which is a acceptable. Therefore the autocorrelation of this regression is potentially high. Similarly the F test conducted for this study gives a value of 56.570, proposing the F value for this study shows that the regression model is significant.

Table 4.12: Beta Coefficient for Work force Retention (Rotated component Matrix)

Model 3	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta	Tolerance	VIF	B	Std. Error
(Constant)	.030	.202		.150	.881		
OHP SPRM	.231	.080	.197	2.893	.004	.515	1.940
OSS FAST	.347	.066	.329	5.241	.000	.606	1.651
SAHR	.260	.068	.233	3.833	.000	.646	1.548

a. Dependent Variable: WFR

Multicollinearity is defined as the degree of correlation between the independent variables (Ringim, et al., 2012). Therefore, for this study Multicollinearity was examined between the independent variables for Tolerance test and Variance inflation. According to Hair et al; (2010), it is suggested that if Variance inflation factor exceeds 10 and the Tolerance value is lower than 0.10, it indicates the Multicollinearity has potential problem (Ringim, et al., 2012). With reference to above Table 4.12, shows that Multicollinearity does not exist between the independent variables, because VIF values are less than 10, similarly the Tolerance values are more than 0.10. These results indicate that this study does not have any Multicollinearity problem. Furthermore all the independent variables are strongly significant.

Referring to the Table 4.12 above, it is evident that three OSH practices components identified in Vari-Max component analysis has a significant and positive influence on employee retention. This also shows that the assumptions made in literature review, that combined effects of First aid supports and training and Organization safety supports has a significant and positive impact on work force retention. This is confirmed by the findings of Lawler III (2003) and Daoanis (2012). Similarly the combined effect of Safety procedure & risk management along with Occupational hazards Prevention also has a significant and positive influence on employee retention as p value is less than 0.05. This is similar to previous studies such as Ramlall (2003). Therefore the following assumptions were made:

Y= WFR (Work force Retention)

X5=SAHR (Safety & health rules)

X6=OHP SPRM (Occupational hazards Prevention and Safety procedure & risk management)

X7= OSS FAST (Organization safety supports and First aid supports and training)

C= constant

Therefore the model derived from vari-max (rotated component) analysis is illustrated as follows

$$Y=0.233(X5) +0.197(X6) +0.329(X7) \text{ ----- (2)}$$

The model again shows that changing 1 unit of SAHR(X5), OHP SPRM(X6), and OSS FAST(X7), positively to upwards will increase WFR(Y) by 0.759 units. Therefore the following hypotheses are accepted and rejected.

Table 4.13: Analysis of Hypotheses

Hypotheses	Beta Coefficient	Significant (P<0.05)	Decision
H1: Improved Occupational hazards Prevention practices have a significant and positive influence towards work force retention	0.192	0.008 Significant	Accepted
H2: Increasing Safety procedure & risk management opportunities has a significant and positive influence on work force retention	0.052	0.452 Not Significant	Rejected
H3: The combined effects of Safety procedure & risk management along with Occupational hazards Prevention opportunities have a significant and positive impact on work force retention	0.197	0.004 Significant	Accepted
H4: Organization safety supports has a significant and positive influence on work force retention.	0.010	.884 Not Significant	Rejected
H5: If Organization safety supports and First aid supports and training are combined, there is a significant and positive impact on work force retention	0.329	0.000 Significant	Accepted
H6: There is significant and positive impact of First aid supports and training on work force retention.	0.371	0.000 Significant	Accepted
H7: Improved occupational safety and health rule practices in the workplace have a positive and significant influence on work force retention	0.206	0.000 Significant	Accepted

CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATION

5.1. Summary

The study looked at the effects of occupational health and safety practices on work force retention of Akaki Basic Metal Industry. The study adopted causal research design .In all 251 respondents were used .Regression was performed to predict the effects of occupational safety and health practices on work force retention.Based on Independent factor (OHP,OSS,FAS and T,SHR) and Dependent factor (WFR).In summary ,the Independent factor have relation and effect on dependent factor. The finding can serve as bases for future similar research work in other not much researched.

5.2. Conclusion

The main purpose of this research is to examine the effects of occupational safety and health practices on work force retention in Akaki Basic metal industry. The following conclusions are derived from the findings there is a positive and significant influence of Occupational hazards Prevention on work force retention. Even though Occupational hazards Prevention is not often practices among the organizations where samples were taken, it was perceived as one of the key factor that plays an important role in retaining work force in the organization.

There is no significant influence of First aid supports and training on work force retention. This is evident in past research as well. Many research shows that if Safety procedure & risk management only takes place without linking it to other practices, especially First aid supports and training, employees don't see the value of training even though it increases productivity and overall performance. This research concluded that First aid supports and training combined or link with Occupational hazards Prevention opportunities will retain work force in the organization.

Similarly there is no significant influence of Organization safety supports on employee retention. Again, this conclusion is contrary to many previous researches. However this conclusion is also similar to much previous research as cited earlier. In past many research shows that if Organization safety supports is done without linking to First aid supports and training, it is not perceived as positive practice to stay in the organization rather it creates more conflicts and rifts between managers and employees. Therefore this research concludes that Organization safety supports conducted by linking with First aid supports and training have a significant and positive influence on work force retention.

the ABMI can achieve the set goals being competitive and successful. It is important to note that First aid supports and training practices has significant and positive influence on work force retention. This is evident in many organizations. First aid supports and training are paid much more to those who are important or key players in the organization in order to keep them in the organization. However it is also important to note that this method alone may not be a sustainable method to retain staff. Therefore non-monetary and First aid supports and training methods should be employed to retain staff rather than focusing on monetary methods alone. A safety & health rule has a positive and significant influence on work force retention. This is the Occupational safety and health practices that most often practices in the Akaki basic metal industry. This could be due to the legal factor or due to the employee pressure. Therefore it is important to provide Safety procedure & risk management with further Occupational hazards Prevention plan, similarly practice Organization safety supports by providing proper feedback on a timely manner so the employees could benefit with the First aid supports and training packages that comes when performed well. This will help the organization to save cost in recruitment. This study concludes, by adapting these effects of Occupational safety and health practices in the ABMI talent can be retained and at the same time.

5.3. Recommendations

The findings of this study revealed that the practice of occupational health safety leads to improved work force retention levels in ABMI. The study therefore recommends the following:

1. The creation and implementation of a policy that sensitizes and allows for provision of sufficient welfare services such as occupational safety and health practices (Occupational hazards Prevention, Safety procedure & risk management, Organization safety supports, First aid supports and training, safety & health rule) in the work environment so as to improve work force retention levels of the employees in their work places. invest in designing or updating work force retention factors positively associated with decreased turn over intention. Develop and implement a targeted retention management policy and offer the opportunity to participate in work force retention strategies as part of an over all work force retention framework.
2. Management should be more responsible for the needs and concern of their Work forces“ safety and health by being more sensitive to the problems of the workforce retention. This can be carried out by the provision of a suggestion box or other avenues for employees to give their suggestions on how occupational safety and health practices and work force retention can be improved.
3. ABMI should put in place active health and safety committees which should be given full mandate to implement their recommendations. Moreover, copies of occupational health and safety procedures should be given to workforce in order to make them aware of the laid down policies, rules and safety precautions to reduce accidents in the industry.
4. ABMI should organize competitions among departments on practicing good health and safety practices so that employees will be more motivated and improve employee retention. Certificate should be awarded and recognition given to the department that excels.
5. The management and ABMI leadership are advised to take a proactive approach in so far as management of occupational safety and health practices are concerned. The adoption of such a recommendation would imply a concerted effort in preventive measures such as provision of spacious enough, maintenance of furniture and equipment, prompt repairs on the broken infrastructure and putting in place measures to control and minimize risks in their work

environment, regular cleaning and sufficient lighting will improve on the work force retention levels.

6. The study further recommends to ABMI to emphasize and to invest on the implementation of elaborate OSH practices. The provision of written safety and health rule, First aid supports and training practices in their work places, Occupational hazards Prevention, and Organization safety supports, in work places will positively influence work force retention levels and will in turn improve industry's image.

Further Research Direction: Since this study was conducted only in ABMI further studies across the country is recommended. These future studies could also be focused on other industries and additionally explore work force Retention based on the Effects of occupational safety and health practices on work force retention.

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Appendix

Questionnaires

Questionnaires guide for supervisor, human resource, managers, and health and safety officer and operational employees.

Dear respondent

My name is Ashenafi Seifu. I am currently carrying out a study for the purpose of writing a thesis as a requirement for the award of masters of Industrial management in Addis Ababa science and Technology University. The study is on the effects of improper safety and health practice on work force retention. You have been selected to participate in this study due to the importance of your information in the study. The information you provide will be used only for the purpose of this study and you will be treated with confidentiality. Please feel free and answer all your questions truthfully.

If you have any queries, please do not hesitate to contact me and I am available as per your convenience at (TEL. 0911318087)

(E.MAIL ashenafiseifu8@gmail.com)

Thank you for your valuable time.

Part I

A. Profile of the Respondent

You are required to provide X signs where required and give specific answer on space provided

1) What is your gender?

M F

2) What is your age?

18-28yr 29-39yrs 40-49yrs >50yrs

3) What is your marital status?

Married Single Divorced widowed separated

4) Educational back ground of workers: - Elementary school high school

Certificate Diploma B Sc/BA degree above B Sc/BA

5) Nature of employment.

Full- time part -time

6) Your position in the office?

Junior senior Executive Other

7) How long did you serve in this industry?

0-6month 6month-1year 1year-2 >2year

Part II

Occupational hazards prevention (OHP)

1) Workers assigned to serious and likely hazardous tasks use safety glasses, helmets, boots, gloves, masks, jumpsuits and shoes in my organization.

1- strongly agree, 2- agree, 3- neither agree nor disagree, 4- disagree and 5- strongly disagree

2) Only those with necessary equipment and specifically assigned workers have access to serious and likely hazardous places serious and likely hazardous places in organization.

1- strongly agree, 2- agree, 3- neither agree nor disagree, 4- disagree and 5- strongly disagree

3) Workers assigned to serious or likely hazardous tasks are regularly controlled via internal audits to see whether They follow instructions and procedures set for workers' health and safety in my organization.

1- strongly agree, 2- agree, 3- neither agree nor disagree, 4- disagree and 5- strongly disagree

4) Deficiencies and mistakes revealed during internal audits for safety and health are monitored and removed.

1- strongly agree, 2- agree, 3- neither agree nor disagree, 4- disagree and 5- strongly disagree

5) Here is appropriate lay-out and lighting in the factory, where I work.

1- strongly agree, 2- agree, 3- neither agree nor disagree, 4- disagree and 5- strongly disagree

6) Appropriate and effective waste disposal is underway in the factory, where I work.

1- strongly agree, 2- agree, 3- neither agree nor disagree, 4- disagree and 5- strongly disagree

7) There are health and safety devices in my workplace.

1- strongly agree, 2- agree, 3- neither agree nor disagree, 4- disagree and 5- strongly disagree

Safety procedures and risk management (SPRM)

8) Workers are informed about changes in division of labor in organization.

1- strongly agree, 2- agree, 3- neither agree nor disagree, 4- disagree and 5- strongly disagree

9) Probable risks and results are defined in my organization.

1- strongly agree, 2- agree, 3- neither agree nor disagree, 4- disagree and 5- strongly disagree

10) Written work procedures are compliant with practice in my organization.

1- strongly agree, 2- agree, 3- neither agree nor disagree, 4- disagree and 5- strongly disagree

11) Workers can easily recognize the relevant procedure of each task in my organization.

1- strongly agree, 2- agree, 3- neither agree nor disagree, 4- disagree and 5- strongly disagree

12) There is adequate number of employees in my organization to do the necessary work (dropped).

1- strongly agree, 2- agree, 3- neither agree nor disagree, 4- disagree and 5- strongly disagree

13) Workload is reasonably balanced in my organization.

Organizational Safety Supports (OSS)

1- strongly agree, 2- agree, 3- neither agree nor disagree, 4- disagree and 5- strongly disagree

14) Adequate and timely medical treatment provided in my workplace (dropped).

Sufficient time is granted for a worker can be recovered.

1- strongly agree, 2- agree, 3- neither agree nor disagree, 4- disagree and 5- strongly disagree

15) Adequate damages are paid in case of injury.

1- strongly agree, 2- agree, 3- neither agree nor disagree, 4- disagree and 5- strongly disagree

16) Occupational safety regulation is followed in my organization.

1- strongly agree, 2- agree, 3- neither agree nor disagree, 4- disagree and 5- strongly disagree

17) Due care is shown in my organization in order for the privacy of workers (medical records) are not disclosed.

1- strongly agree, 2- agree, 3- neither agree nor disagree, 4- disagree and 5- strongly disagree

First-aid supports and trainings (FAST)

18) Emergency treatment is available in case of accident in my organization.

1- strongly agree, 2- agree, 3- neither agree nor disagree, 4- disagree and 5- strongly disagree

19) Workers are trained against health hazards in my organization.

1- strongly agree, 2- agree, 3- neither agree nor disagree, 4- disagree and 5- strongly disagree

20) Workers are provided with health and hygiene training in my organization.

1- strongly agree, 2- agree, 3- neither agree nor disagree, 4- disagree and 5- strongly disagree

21) Workers are provided with first aid training in my organization.

1- strongly agree, 2- agree, 3- neither agree nor disagree, 4- disagree and 5- strongly disagree

Safety and health rules (SAHR)

22) Timing for sufficient rest and appropriate working is underway in my organization.

1- strongly agree, 2- agree, 3- neither agree nor disagree, 4- disagree and 5- strongly disagree

23) Safety rules are always practical in my organization.

1- strongly agree, 2- agree, 3- neither agree nor disagree, 4- disagree and 5- strongly disagree

24) Safety rules are followed in my organization even under tight schedule.

1- strongly agree, 2- agree, 3- neither agree nor disagree, 4- disagree and 5- strongly disagree

25) Health examination is made in my organization prior to the employment. Periodical health examinations are undertaken in my organization after selection (employment, hiring).

1- strongly agree, 2- agree, 3- neither agree nor disagree, 4- disagree and 5- strongly disagree

26) Conditions threatening health and safety are removed as much as it is possible in my organization.

1- strongly agree, 2- agree, 3- neither agree nor disagree, 4- disagree and 5- strongly disagree

27) My organization specifically takes into consideration the situation of groups that require special policies (elderly, disabled etc.) during risk assessment (dropped).

1- strongly agree, 2- agree, 3- neither agree nor disagree, 4- disagree and 5- strongly disagree

Employee retention

28) Improved health and safety practices in the workplace have a positive and significant influence on employee retention.

1- strongly agree, 2- agree, 3- neither agree nor disagree, 4- disagree and 5- strongly disagree

29) occupational safety and health practices determine employee retention.

1- strongly agree, 2- agree, 3- neither agree nor disagree, 4- disagree and 5- strongly disagree

30) Turnover negatively affecting the industry.

1- strongly agree, 2- agree, 3- neither agree nor disagree, 4- disagree and 5- strongly disagree