The Effect Of Occupational Health And Safety Program On Organizational Productivity: In Case Of Bahirdar Tannery Factory

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Abstract: This study aimed to evaluate the effect of occupational health and safety program on organizational productivity in Bahir Dar tannery factory. To achieve the objectives of this study, data were collected through questionnaire from a sample of 112 employees of the factory. These respondents were selected using stratified sampling method from different departments. The data collected from the questionnaire were analyzed using descriptive statistics, for instance frequency, percentage, mean and standard deviation, and inferential statistics which are correlation and multiple regression analysis using SPSS version 20. The results of this study indicated that, except biological hazard control program the three occupational hazard control programs (chemical hazard control program, psychological hazard control program, and accidental hazard control program) have positive and significant effect on organizational productivity. The finding of this study also indicates that organizational productivity was mostly affected by chemical hazard control program. Based on the findings of the study, the researcher recommended different recommendations to the management of the factory to design different mechanisms and practice in a good manner in each occupational hazard control programs to increase the factory productivity. And also the researcher recommended that the management should concentrate more on chemical hazard control program because this hazard control program has the most significant effect on the factory productivity and should avoid or minimize the cost of biological hazard control program because this hazard control program had not significant effect on the factory productivity. And finally the researcher recommended that the management of the factory should follow up every activity related to occupational health and safety program and implement effectively occupational hazard control programs, especially on three occupational hazards namely chemical, accidental and psychological hazard control programs and continuously improve occupational safety and health programs to increase the factory productivity.

Key words: Tannery Factory, occupational hazards, organizational productivity

1. BACKGROUND OF THE STUDY

Occupational safety and health is concerned with preserving and protecting human and facility resources in the work place. Occupational safety and health involves helping people by preventing them from being injured or becoming ill due to hazards in their workplaces. Occupational safety and health is also a field where in professionals attempt to prevent catastrophic losses. In practice occupational safety and health includes moral and economic issues (Friend & P.kohn, 2007).

There is an increasing awareness in management failure to pay greater attention to the health and safety of employees. This awareness has translated into criminal charges and financial devastation for some companies. Safe requirements for health and safety program include systems for management commitment and responsibilities; hazard assessment and control and safety planning, rules, work procedures and training that are in place and operating effectively (Bernardin, 2003)

There is the prevalence of occupational health and safety issues in most of the African countries due to inadequate attention given to OHS by industry and the government. Many international and non- governmental organizations often ask why majority of the African

countries are struggling to foster an effective occupational health and safety workplace. One perspective to the above concern is that majority of African countries have poor health and safety culture (Regional Committee for Africa Report, 2004)

Occupational health remains neglected in developing countries because of competing social, economic, and political challenges. Occupational health research in developing countries should recognize the social and political context of work relations, especially the fact that the majority of developing countries lack the political mechanisms to translate scientific findings into effective policies. Researchers in the developing world can achieve tangible progress in promoting occupational health only if they end their professional isolation and examine occupational health in the broader context of social justice and national development in alliance with researchers from other disciplines. An occupational health research paradigm in developing countries should focus less on the workplace and more on the worker in his or her social context (Apartner for social justice, 2004).

The current rapid economic development has brought changes in workplaces in developing countries, including Ethiopia. The organization of occupational health and safety services is not yet resilient enough to handle the growing demands for workers' health in the context of industrialization. There is limited information on the gaps and needs of occupational health services in workplaces in Ethiopia (Areview of situational analysis and needs assessment, 2016)

Occupational safety and health act can affect only unsafe work conditions. There are no standards that govern potentially unsafe employee behaviors (F.cascio & Nambudiri, 2013). Unsafe and unhealthy work environment is a serious problem that affects the performance of developing countries like Ethiopia manufacturing companies greatly. Because in manufacturing companies there are many different activities that influence effective health and safety program management. The problem concerned with occupational safety and health program on manufacturing companies especially the effect of safety and health program on organization productivity in tannery factory was not still now solved by many researchers, so the researcher initiated to study the effect of occupational health and safety program in Bahir Dar tannery factory.

1.2 Statement of the problem

Occupational health and safety management system have many benefits of which the principle ones are; it is much easier to achieve and demonstrate legal compliance. Enforcement authorities have more confidence in organizations which have a health and safety management system in place. They insure that health and safety is given the same emphasis as other business objectives, such as quality and finance. They will also aid integration, where appropriate, with other management systems.

Close and continuous attention to health and safety is important because ill-health and injuries inflicted by the system of work or working conditions cause suffering and loss to individuals and their dependants. In addition, accidents and absences through ill-health or injuries result in losses and damage for the organization. This 'business' reason is very much less significant than the 'human' reasons given above but it is still a consideration, albeit a tangential one (Armstrong, 2006).

According to Students, (2016) inadequate occupational health and safety program has a greatest effect on the performance of the growing industrial business in Ethiopia such as tannery factory. Ethiopian tanneries still have strong difficulties producing finished leather which meets quality standards and that would allow either tannery directly or Ethiopian leather manufacturers to enter on the highly competitive international market. The problem is even more serious as the tanneries' profitability depends heavily on the share of output directly or indirectly exported, share that they have trouble increasing at levels that would make them financially stable. Tanneries are so poorly competitive because their business has evolved in a hazardous environment.

According to McCunney, (2001) to increase productivity, it is better to reduce absenteeism through good practice of occupational health and safety program. McCunney demonstrates that the health risks and failure of employees to participate in fitness and health promotion programmes are associated with higher rates of employee absenteeism. There is need for much emphasis on the employer's participation in ensuring that OHS programmes and policies are existent. If these OHS practices are set, it is more likely that the worker participates in order to preserve his/her life. However, absenteeism may be encountered but may be completely neither unjustified on medical grounds nor attributable to unsafe conditions or hazardous events in the workplace.

So to evaluate the effect of workplace hazard control programs and provide appropriate solution on tannery factory to improve productivity the researcher was started to study on Bahir Dar tannery factory, in this factory there is a problem of health and safety program management as the researcher review from 2017 G.C annual report of Bahir Dar tannery factory, this in turn employees of

the factory affected by this problem and because of this problem employees are absent from work for continuously such as because of inadequate biological hazard control program 7% of employees of the factory absent from work per month and because of inadequate chemical hazard control program 10% of employees are absent from work per month and from the total number of employees 8% of them are absent from work area per month because of inadequate psychological hazards control in addition to these 12% of the total employees of the factory also absent from work per month because of inadequate accidental hazard control program. From this report the researcher understands that absence of employees from workplace because of in adequate occupational hazard control programs may have effect on the factory productivity. Based on different literature and from the factory report including the researcher understanding from the factory report, the researcher started to study the effect of occupational hazard control program on Bahir Dar tannery factory productivity.

There are several studies that have been done in relation to occupational health and safety program such as, (Ahmad, Sattar, & Nawaz, 2016) conducted qualitative research through literature search on occupational health and safety in industries in developing world in Dera Ismail, khan, Pakistan concluded that occupational diseases and injuries are very common due to lack of adopting simple preventive measures.

And also Singh z. , (2015) conducted survey study on the prevalence and socioeconomic correlates of different health problems at textile industry in ludhinana city, Punjab, India concluded that the textile industry workers exposed to dyes, solvents and fibre dusts are more prone to different health related problems.

In addition to the above studies, Sembe & Ayuo,(2017) conducted a survey on effects of selected occupational health and safety management practices on job satisfaction of employees in university campuses in Nakuru town, in Kenya concluded that the practice of occupational health and safety management practices leads to improved job satisfaction among employees.

Furthermore, Solomon, (2014) conducted descriptive survey design on the practice and challenges of occupational health and safety in Akaka and garment textile factory in Addis Ababa concluded that work in the factory severely affected worker's health, as most activities are insecure, hazardous and take place in unhealthy and unsafe environment.

However none of the studies conducted on the effect of occupational safety and health program on organization productivity especially on increase of employee absenteeism in work area in Bahir Dar tannery factory because as the researcher described in the above absence of employees in the work area leads to loss or damage for the organization . The reduction of absenteeism has great importance concerning skilled labor, especially in countries where there is a shortage of skilled labor like Ethiopia.

So the researcher was initiated to study the effect of occupational safety and health program on organization productivity in Bahir Dar tannery factory which is the most important industry in the city.

The results of this study have significant effect for various aspects.

Policy makers

It will give important development and implementation of occupational health and safety program through reflecting the most difficulties observed in occupational health and safety program and provide appropriate ways of occupational health and safety management program to minimize the effect of this program on organization productivity especially, in Bahir Dar tannery factory.

For managers

The research will also use as a guideline for manager of the factory to apply good safety and health management system in Bahir Dar tannery factory in order to improve the factory productivity through providing necessary information about the effect of occupational health and safety program on the factory productivity .

Academicians and researchers

The result of this study will also use as a reference for the researcher successors who will study related research topic to the effect of occupational safety and health on organization productivity.

1.6 Scope of the study

The study was conducted on occupational health and safety program as independent variable and organizational productivity as dependent variable but from this general variables to have manageable and measurable study the researcher specified the variables in the following way; on the side of independent variable the researcher based the study on the effect of only four occupational hazard control programs these were accidental, chemical, biological and psychological hazard control programs among different occupational hazard control programs on the dependent variable side the researcher mainly based the study on only organizational productivity from among other organizational performance measurements and its specific study area was only Bahir Dar tannery factory. So in general the study was delimited to the effect of four occupational hazard control programs on organizational productivity in Bahir Dar tannery factory only.

2. Literature review

2.1 Introduction

Occupational health is a multidisciplinary activity aimed at: the protection and promotion of the health of workers by preventing and controlling occupational diseases and accidents and by eliminating occupational factors and conditions hazardous to health and safety at work; the development and promotion of healthy and safe work, work environments and work organizations; the enhancement of the physical, mental and social well-being of workers and support for the development and maintenance of their working capacity, as well as professional and social development at work; Enabling workers to conduct socially and economically productive lives and to contribute positively to sustainable development.

2.2 Theoretical review

Nature of health and safety

The first emphasis in risk management in most organizations is health, safety and security, which is discussed next. The terms health, safety, and security are closely related. The broader and somewhat more nebulous term is health, which refers to a general state of physical, mental, and emotional well-being. A healthy person is free from illness, injury, or mental and emotional problems that impair normal human activity. Health management practices in organizations strive to maintain the overall well-being of individuals. Typically; safety refers to a condition in which the physical well-being of people is protected. The main purpose of effective safety programs in organizations is to prevent work-related injuries and accidents (Mathis & H.jackson, 2008).

The system for managing safety and health should be integrated within the company's business culture and processes and total commitment on the part of management to making health and safety a priority is essential to a successful occupational health and safety programme in the workplace. It is only when management plays a positive role that workers view such programmes as a worthwhile and sustainable exercise (ALLI, 2001).

2.1.3 Health and safety Programmes

Occupational health programmes deal with the prevention of ill-health arising from working conditions. They consist of two elements: 1) occupational medicine, which is a specialized branch of preventive medicine concerned with the diagnosis and prevention of health hazards at work and dealing with any ill health or stress which has occurred in spite of preventive actions, and 2) occupational hygiene, which is the province of the chemist and the engineer or ergonomist engaged in the measurement and control of environmental hazards. Safety programmes deal with the prevention of accidents and with minimizing the resulting loss and damage to people and property. They relate more to systems of work than the working environment, but both health and safety programmes are concerned with protection against hazards, and their aims and methods are clearly interlinked (Armstrong, 2009)

Given the complexity and the extent of occupational health and safety problems, and the many causes of occupational hazards and work-related diseases, no single intervention would be sufficient in itself to constitute an effective occupational health programme. In order to have an impact, action has to proceed at various levels. The practical measures may vary, depending on the degree of technological, economic and social development of the country concerned, the type and extent of the resources available(ALLI, 2001).

2.1.4 Occupational Health Impacts

The great variety of occupational health hazards makes quantification of their associated health risks and impacts at the global level very difficult. Some estimates have been based on the occupational injuries and diseases reported in official statistics notably ILO and World Bank documents. But a large number of injuries and diseases caused by workplace hazards are not reported (Joubert, 2002).

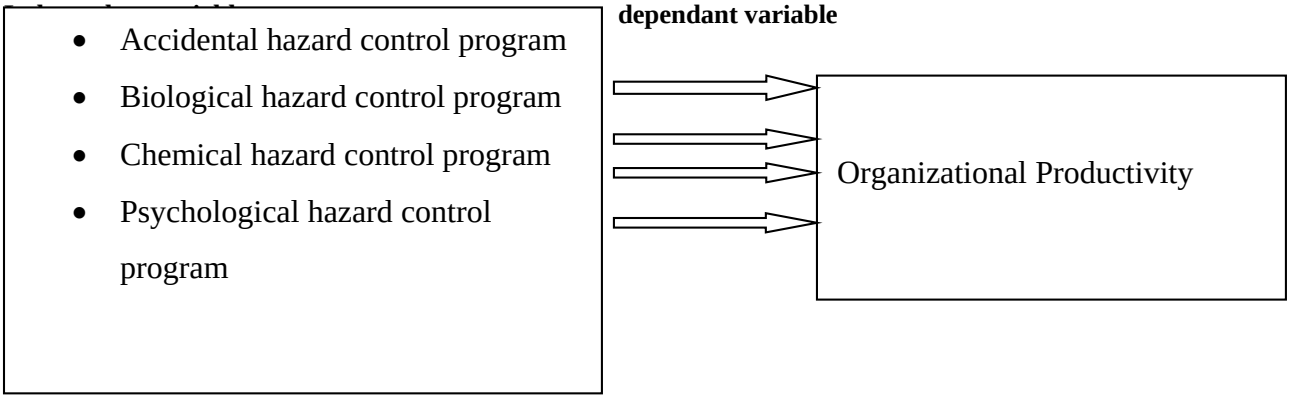
There are several different types of occupational health and safety losses safety professionals attempt to eliminate or control. Typical worker-related health and safety losses include injuries, illnesses, and fatalities. Workplace losses can include damaged equipment, damaged raw materials or finished products, damaged or destroyed facilities, downtime, service/production interruption, or loss of reputation (Friend & P.kohn, 2007).

2.3 Conceptual framework

A conceptual framework is used to understand the place of and inform the direction of a research project. A complete conceptual framework will help you assess the goals for your own research and develop appropriate research questions and methodology.

A conceptual framework can be either graphic or narrative, or a combination of the two or in diagram form. In this research the researcher developed conceptual framework in the diagram form.

Fig 2.1. Conceptual framework



Source: from the above literature

The nature of Productivity

According to Misikir, (2004) Productivity is a summary measure of the quantity and quality of work performance with resource utilization considered. Regardless of the type of production, economic or political system, the definition of productivity remains the same. Thus, though productivity may mean different things to different people, the basic concept is always the relationship between the quality and quantity of goods or service produced and the quantity of resource used to produce them. It can be measured at the level of the individual, group, or organization. From a manager's perspective, productivity in all cases reflect success or failure in

producing goods and services in quantity, of quality, and with a good use of resources. In short it is the ratio of output value to input value. The output may be raised without an increase in productivity. That means the rate of the increment of input cost may be higher or the quality of the output may be decrease. The concept of productivity is also increasingly linked with quality of output, input, and process itself. Taking the definition of quality as conformance to requirements of the customer, productivity decreases as the quality of the output decrease. For example, in15 leather products, quality means leather without any defect on it. According to the number of this defect per square feet the grade of leather decreases from first grade to second grade, third grade …The value of the leather produced dramatically decreases as the grade of it decreases from 1, 2, 3…. This quality problem may come from skin disease during the animal life, improper slaughtering and skinning, bad preservation and improper processing in the factory. Therefore, the quality of the input and the process itself also affect productivity. Productivity is also linked with how the resources are utilized in the company. It is the function of achieving the maximum possible with minimum resource. The resources are manpower, material, equipment, spares and building, capital and time. The responsibility of achieving higher productivity rests on managing these resources efficiently. By definition productivity doesn't come from working harder. This may increase output, but it also increases labor input. Similarly, using more capital or other production factors do not necessarily increase productivity. Productivity growth comes from working smarter. This means adopting new technologies or new techniques for production. Productivity can also be defined as the relationship between result and the time it takes to accomplish them. Time is often a good demonstrator since it is a universal measure, and it is beyond the human control. The less time taken to achieve the desired result, the more productive the system is. Generally, productivity should be considered as a comprehensive measure of how organizations satisfy the following criteria. Objective: the degree to which they are achieved.

Efficiency: how efficient resources are used to generate useful output.

Effectiveness: what is achieved compared with what is possible.

Comparability: how productivity performance is recorded over time.

Empirical Review

2.4 Accident report and investigation

Accidents are not reported or recorded, therefore, they are not known to the management. The result is that accidents go unnoticed and no measures are taken to prevent occurrence of the same accidents in the future. Supervisors revealed that their duties do not include accident recording and reporting. They have not been furnished with an adequate job description. The result is that accidents are not prevented at all, thus putting the health of workers at risk. Workers are aware that they are not safe during work and their morale is low. This reduces productivity of workers (P.Katsuro, 2010). From this literature the researcher developed the following hypothesis;

2.5 The impact of chemical exposures on workers' health

The significant impact on an individual who has developed a disease as a result of chemical exposures may be incalculable. Certainly, the victims of such diseases often lose the ability to work, and support themselves and their families. The effects of the disease also impact the day-to-day quality of life, and the ability to maintain normal activities. In some cases, the victims die, and their families must deal with the loss of their loved one, as well as a loss of economic well being and stability. Enterprises also pay the price of such diseases through lost productivity, absenteeism, and workers' compensation programmes (ILO, 2014). From this literature the researcher developed the following hypothesis;

2.6 Biological hazard

Biohazards include infective agents such as viruses, bacteria, protozoa and other microorganisms as well as animals and animal products, and plants and plant products that can cause infections, allergy, and toxicity or otherwise create a hazard to human health. While potential risk is highly variable, biohazards should be considered in the hazard profile for workplaces. Outdoor workers, those who work with animals, healthcare workers and others exposed to human body fluids are likely to be at higher risk of exposure to biohazards than workers in other occupations. Control of biohazards requires systematic, analytical application of a hierarchy of control that takes account of the nature of biohazard agent, the workplace, the nature of the work and the workers. The generalist OHS professional has an important role in the management of biohazards by working with healthcare and occupational health personnel to ensure that biohazards are systematically addressed in OHS management processes (Pryor, 2012). From the above literature the researcher developed the following hypothesis;

2.7 Psychological health in the workplace

Psychological health is a continuum that everyone experiences and is affected by. Having good psychological health is crucial to achieving overall health and well-being. The work environment is one of many settings that have an impact on psychological health. Some causes of poor psychological health are directly attributable to factors in the workplace, including, for instance, harassment or excessive workload. A wide body of evidence suggests that poor workplace psychological health negatively affects performance at both the individual and organizational

level. Among other outcomes, improving workplace psychological health can boost employee satisfaction, engagement, and productivity; it can also reduce health costs, employee turnover, and lost work time (Sarah Z. Wang & Eva A. Karpinski, 2016). The researcher developed this hypothesis from the above literature;

Research Gaps

A lot of studies were conducted related to occupational health and safety program on organizational productivity, however, none of the studies conducted on the effect of occupational safety and health program on organization productivity especially on increase of employee absenteeism in work area in Bahir Dar tannery factory, because as the researcher described in the above absence of employees in the work area leads to loss or damage for the organization. The reduction of absenteeism has great importance concerning skilled labor, especially in countries where there is a shortage of skilled labor like Ethiopia, so the researcher was initiated to study the effect of occupational safety and health program on organization productivity in Bahir Dar tannery factory.

Summary

The independent variables were accidental, biological, psychological and chemical hazards. The dependent variable was organizational productivity in Bahir dar tannery factory in Bahirdar city, Ethiopia

3. RESEARCH METHODOLOGY

3.1 Research design

For this study the researcher employed descriptive and explanatory types of research designs. Descriptive research attempted to describes the extent of occupational hazard control programs and what happened in occupational hazard control program of the factory, while explanatory research design attempted to clarify and connect ideas to understand cause and effect relationship between dependent and independent variables that is occupational hazard control programs and organizational productivity. So in this study the researcher had used both descriptive and explanatory research designs.

3.2 Research approach

To generate necessary information and come up with more rich and comprehensive data, the researcher was employed quantitative research approach for this study.

Target population

Generally Bahir Dar tannery factory had 181 employees from this employees 25 of them were temporary and 156 of them were permanent employees ,so the researcher was concentrated the study on only permanent employees of the factory ,because permanent employees had accurate knowledge about the health and safety program because they are primarily exposed to the problem but temporary employees had not much more affected by the problem and they have not enough knowledge about the program ,because they move time to time and place to place ,so they had not accumulated knowledge about the effect of health and safety program on productivity of the factory; they come to the factory only to satisfy their need to get payment; they had not much attention about the factory productivity. So to get accurate and reliable information the researcher based the study only on 156 permanent employees the factory.

Table 3.2 Summary of target population

NO	Department	Total number of population in each department
1	Repairing	13
2	Beam house	15
3	Retaning	16
4	Finishing	23
5	Raw leather	12
6	Pickle	9
7	Glove	35
8	Administration	33
	Total population	156

Source: from HRM of the factory (2018)

3.8 Sample size determination

The population was large according to the researcher budget and time, so the researcher determined sample size to know what number of population the researcher would take to get accurate information for the study from a given population. Then the researcher was determined the sample size based on the formula of Yamane, (1967) which is a simplified formula for calculating the sample size for not very large enough and known population size. The formula is as follows;

$n = \frac{N}{1+N(e)2}$ Where n= required sample size

N= total target population

E= level of precision or error

The determination also assumed 95% confidence level and 5% level of precision.

After using the above calculation the researcher determined the sample size, therefore the sample size for this study was 112.

Table 3.2 Summary of sample size

NO	Department	Total number of population in each department	Sample from each department
1	Repairing	13	9
2	Beam house	15	11
3	Retaning	16	11
4	Finishing	23	17
5	Raw leather	12	9
6	Pickle	9	6
7	Glove	35	25
8	Administration	33	24
	Total population	156	112

Source: from HRM of the factory (2018)

3.9 Sampling technique

The sampling technique that the researcher used was that stratified random sampling. Stratified random sampling is a technique which attempts to restrict the possible samples to those which are ``less extreme'' by ensuring that all parts of the population are represented in the sample in order to increase the efficiency (that is to decrease the error in the estimation) The reason to use stratified sampling technique for this study was the population had different heterogeneous departments. Thus, the factory had 8 departments that departments were: repairing, beam house, retaning, finishing, raw leather, pickle, glove and administration.

3.3 Type and source of data

To accomplish this study the researcher used only primary type of data and from this primary data the source of data were employees of the factory, which enabled the researcher to meet the objective of the study outlined at the beginning or to meet ultimate objective of the study.

3.4 Methods of data collection

The type of data collection method that the researcher used was only questionnaire method. In this instrument the researcher was used only close ended questionnaires. That close ended questionnaires was developed using an instrument called Likert scale from strongly disagree (1) to strongly agree (5) which were distributed to employees of the factory. This instrument was preferred, to get more flexible ideas from respondents and offered greater accuracy in judging their view.

Method of data analysis

The data was analyzed through both descriptive and inferential statistics by using computerized system that is SPSS version 20. From descriptive statistics frequency, percentage, mean and standard deviation were used. The reason for using descriptive statistics was the researcher wanted to summarize the data collected in tables for better understanding for the reader to easily examine the results. And

from inferential statistics by using correlation and multiple regression model. Also the reason to use inferential statistics was the researcher wanted to generalize and make predictions from the results of the data.

3.10 Methods of data presentation

After collecting the data, the researcher presented quantitative data through tabular method of presentation, frequency and percentage. Qualitative data was presented descriptively.

4. Finding and discussion

4. 1 Introduction

This chapter presents background information of respondents, the analysis, discussion and inferences made on the basis of the responses obtained. Statistical methods of analysis were discussed, which included a descriptive, correlation and multiple regression analysis using SPSS version 20 and inferences were made based on the result. The study was basically made to know the effect of four occupational hazards as independent variables and organizational productivity as dependent variable.

4.6.1 Reliability test

To establish reliability of the instruments, the researcher tested the reliability of the items which were developed for respondents in Bahir Dar tannery factory. As shown in the table 4.12 below, reliability of data was checked by applying Cronbach's Alpha which measures internal consistency by dispatching questionnaires to 112 respondents, from these 97 questionnaires were returned back. Cronbach's alpha reliability test was run on the data collected to determine the reliability of the data. According to Mekdes, (2015) test of reliability on her research, reliability of the items developed for respondents were tested and proved by using all the items Cronbach's alpha value. Nunally, (1978) suggested that the minimum of 0.70 would be an acceptable level. Results showed that the Cronbach's Alpha coefficient obtained from the whole item for this study was 0.856 which indicate the instruments were reliable.

Table 4.12 Reliability test

Reliability Statistics

Cronbach's Alpha	N of Items
.856	28

Source: from field survey SPSS output (2018)

4.2 Response rate

One hundred twelve questionnaires were distributed to Bahir Dar tannery factory employees. From these questionnaires 97 questionnaires were returned but 15 questionnaires were not returned. The percentage of the useable questionnaire was 86.6 percent. This response rate is acceptable and representative and conforms to Mugenda, (1999) stipulation that a response rate of 50% is adequate for analysis and reporting; a rate of 60% is good and a response rate of 70% and over is excellent. Therefore, the response rate of this study is excellent.

4.3 Demographic Profile of Respondents (N=97)

The demographic characteristics or profile for this study include sex, age, educational qualification, experience and marital status. This aspect of the analysis deals with the personal data on 97 respondents of the questionnaires given to them. The table below shows the details of background information of the respondents.

Table 4.1 Sex distribution of respondents

		Frequency	Percent
Valid	Male	68	70.1
	Female	29	29.9
	Total	97	100.0

Source: from field survey SPSS output (2018)

Table 4.1 shows that 68(70.1%) of respondents were males the remaining 29(29.9%) of respondents were females this indicates that the organization has more male employees than females.

Table 4.2 Age distribution of respondents

		Frequency	Percent
Valid	below 25	30	30.9
	25-30 years	32	33.0
	30-35 years	22	22.7
	35-40 years	6	6.2
	40-50 years	6	6.2
	above 50	1	1.0
	Total	97	100.0

Source: from field survey SPSS output (2018)

Table 4.2 shows that 30(30.9%) of respondents age was below 25 years and 32(33%) of the respondents age was found between 25-30 years and 22(22.7%) of the respondents age was found between 30-35 years and 6(6.2%) of respondents age was found between 35-

40 years and 6(6.2%) of respondents age was found between 40-50 years and also 1(1%) of the respondent age is above 50 year. This indicates that the organization has more young and productive manpower.

		Frequency	Percent
Valid	Diploma	73	75.3
	Degree	24	24.7
	Total	97	100.0

Source: from field survey SPSS output (2018)

Table 4.3 indicates that 73(75.3%) of respondents were diploma graduated and 24(24.7%) of respondents were first degree graduated. This indicates that the organization has low educated manpower.

Table 4.4 Work experience distribution of respondents

		Frequency	Percent
Valid	less than 5	32	33.0
	5-10 years	41	42.3
	10-15 years	15	15.5
	greater than 15 years	9	9.3
	Total	97	100.0

Source: from field survey SPSS output (2018)

Table 4.4 shows that 32 (33%) of respondents have less than 5 year experience and 41(42.3%) respondents have between 5-10 year experience and 15(15.5%) of respondents have between 10-15 year experience and also 9(9.3%) of respondents have greater than 15 years experience. This indicates that the organization has moderate experienced employees.

Table 4.5 Marital status distribution of respondents

		Frequency	Percent
Valid	Married	53	54.6

Single	40	41.2
Divorced	4	4.1
Total	97	100.0

Source: from field survey SPSS output (2018)

Table 4.5 indicated that 53(54.6%) of respondents were married and 40(41.2%) of respondents were single and also 4(4.1%) of respondents were divorced. so in general this indicates that the organization has more married employees.

Table 4.6 Accidental hazard control program

Descriptive Statistics

Accidental hazard control program	Mean	Std. Deviation
• Primary measures are taken before any accident occurred.	2.68	1.255
• Equipments are assigned at the right time and place for the right person.	2.71	1.407
• I am not work on dangerous or moving equipment.	3.09	1.200
• Machines (equipments) are adequately guarded.	2.94	1.273
• There is proper housekeeping.	2.82	1.275
• I work my task with appropriate skill for that task.	3.15	1.064
Grand mean	**2.9**	**1.245**

Source: from field survey SPSS output (2018)

As table 4.6 indicated that regarding to accidental hazard control program the respondents gave their disagreement about primary measures before any accident occurred, equipments are assigned at the right time and place for the right person, I am not work on dangerous or moving equipment, machines are adequately guarded, there is proper housekeeping and I work in activities that are operated with appropriate skill with a mean and standard deviation of 2.68, 1.255; 2.71, 1.407; 3.09,1.200; 2.94, 1.273; 2.82, 1.275; 3.15,1.064 respectively. And the grand mean 2.9 indicated that there is no good performance of accidental hazard control program in the factory.

Table 4.7 Chemical hazard control program
Descriptive Statistics

Chemical hazard control program	Mean	Std. Deviation
• Chemicals in the factory are labeled and classified properly.	3.14	1.331
• Workers that are dealing with chemicals trained or certified in handling those specific chemicals.	3.10	1.279

• Provisions are supplied for possible chemical accidents.	3.10	1.403
• There are adequate skilled chemists that work around the factory chemicals.	3.27	1.212
• There is safe disposal of dangerous chemicals and containers.	3.49	1.339
• There is right safety equipment for each chemical.	3.07	1.244
Grand mean	**3.195**	**1.30133**

Source: from field survey SPSS output (2018)

Table 4.7 indicated that regarding to chemical hazard control program respondents gave their disagreement about chemicals in the factory are labeled and classified properly, workers that are dealing with chemicals trained or certified in handling those specific chemicals, provisions are supplied for possible chemical accidents, there are adequate skilled chemists that work around the factory chemicals, There is safe disposal of dangerous chemicals and containers and there is right safety equipment for each chemical with a mean and standard deviation of 3.14, 1.331;3.10, 1.279; 3.10, 1.403; 3.27, 1.212; 3.49, 1.339; 3.07, 1.244 respectively. This individual mean and grand mean 3.195 showed that there is no good performance of chemical hazard control program in the factory because the individual as well as the average mean of respondents response were below 3.5.

Table 4.8 Biological hazard control program
Descriptive Statistics

Biological hazard control program	Mean	Std. Deviation
• I am not exposed to waste materials effect that can cause illness trough inhalation.	2.68	1.497
• There is proper disposal of available biological hazards.	3.57	.912
• Employees who work around biological hazards have the right protective equipment to be safe.	3.37	1.158
• There is regular training of workers about risks posed by biological agents and how they can be handled safely.	3.36	1.091
Grand mean	**3.245**	**1.1645**

Source: from field survey SPSS output (2018)

Table 4.8 showed that regarding with biological hazard control program respondents gave their disagreement about I am not exposed to waste materials effect that can cause illness trough inhalation, there is proper disposal of available biological hazards, employees who work around biological hazards have the right protective equipment to be safe and there is regular training of workers about risks posed by biological agents and how they can be handled safely with a mean and standard deviation of 2.68, 1.497; 3.57, 0.912; 3.37,

1.158; 3.36, 1.091 respectively. This individual mean and the grand mean 3.245 indicated that there is no good performance of biological hazard control program in the factory because the individual as well as the grand mean of respondents response were below

Table 4.9 Psychological hazard control program
Descriptive Statistics

Psychological hazard control program	Mean	Std. Deviation
• I am not work alone in the factory.	3.36	1.091
• Assistance is readily available in the factory if you are injured or ill.	2.97	1.357
• I take adequate training before a new technology applied in the factory to avoid stress.	2.77	1.262
• I work in flexibly arranged work area.	3.02	1.275
• I have freedom to modify work to accommodate physical aspects of aging.	2.56	1.299
• I have appropriate break for my work.	2.93	1.166
• There is identification of work alone situations and control strategy development.	2.82	1.307
• There is regular review of hazard assessment of related to psychological hazards.	2.78	1.285
• There is recognition of hazards by considering there is variance for each worker and situation and develop action plan accordingly.	3.04	1.181
Grand mean	**2.916**	**1.247**

Source: from field survey SPSS output (2018)

Table 4.9 showed that respondents gave their disagreement about I am not work alone in the factory, assistance is readily available in the factory if you are injured or ill, I take adequate training before a new technology applied in the factory to avoid stress, I work in flexibly arranged work area, I have freedom to modify work to accommodate physical aspects of aging, I have appropriate break for my work, there is identification of work alone situations and control strategy development, there is regular review of hazard assessment of related to psychological hazards and there is recognition of hazards by considering there is variance for each worker and situation and develop action plan accordingly with a mean and standard deviation of 3.36, 1.091; 2.97, 1.357; 2.77, 1.262; 3.02, 1.275; 2.56, 1.299; 2.93, 1.166; ; 2.82, 1.307; 2.78, 1.285; 3.04, 1.181 respectively. This individual mean and a grand a mean 2.916 indicated that there is no good performance of psychological hazard control program in the factory because in this variable also the individual as well as the grand mean of respondents response were below 3.5.

Table 4.10 Organizational productivity

Descriptive Statistics

Organizational productivity	Mean	Std. Deviation
• Defects/errors in the finished products have decreased.	3.04	1.216
• Problems in the technical processes have decreased.		
• The quality of raw materials has improved.	2.97	1.357
	2.73	1.246
Grand mean	**2.913**	**1.273**

Source: from field survey SPSS output (2018)

Table 4.10 indicated that respondents gave their disagreement related to defects/errors in the finished products have decrease; problems in the technical processes have decreased and the quality of raw materials has improved with a mean and standard deviation of 3.04, 1.216; 2.97, 1.357; 2.73, 1.246 respectively. Therefore, this individual and the grand mean 2.913 indicated that there is low productivity in Bahir Dar tannery factory because the individual as well as the grand mean of respondents' response were below 3.5.

5. SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter provides a summary of major findings, discussions and conclusions drawn thereof. The researcher then presents the recommendations for both the research and for the policy change and practice.

5.2 Summary of Major Findings

The study aimed at examining the effect of occupational health and safety program on organizational productivity in Bahir Dar tannery factory based on the questionnaire consisting of 112 employees of the factory by using stratified sampling technique.

5.2.1 Chemical hazard

The finding showed that there is substantial positive relation between chemical hazard control program and organizational productivity, and

5.2.2 Accidental hazard

There is medium positive relationship between accidental hazard control program and organizational productivity,

5.2.3 Psychological hazard

There is medium positive relationship between psychological hazard control program and organizational productivity,

5.2.4 Biological hazard

There is no positive relationship between biological hazard control and organizational productivity.

5.3 Conclusion

In terms of the stated research hypotheses the following specific empirical findings emerged from the investigation.

The finding of the study indicates that organizational productivity was affected by only three occupational hazard control programs namely; psychological hazard control program, chemical hazard control program and accidental hazard control program from the four occupational hazard control programs.

The finding of the study also indicates that, organizational productivity mostly affected by chemical hazard control program from the four occupational hazard control programs.

The study also revealed that, organizational productivity was not significantly affected by biological hazard control program from the four occupational hazard control programs or biological hazard have no significant effect on organizational productivity.

5.4 Recommendation

Based on the findings and conclusions of the study, the researcher forwards the following recommendations to the management of the factory to alleviate occupational hazards and improve the factory productivity. The management of the factory should follow up every activity related to occupational health and safety program and implement effectively occupational hazard control programs, especially on three occupational hazards namely chemical, accidental and psychological hazard control programs and continuously improve occupational safety and health programs to increase the factory productivity.

Limitation and Suggestions for Further Research

This study focused on the effect of occupational health and safety program on organizational productivity in Bahir Dar tannery factory. Even if the study examined the effect of occupational health and safety program on organizational productivity the study did not consider all occupational health and safety program and its effect on other organizational performance and other manufacturing organizations rather the study concentrate only the effect of four occupational hazard control programs on organizational productivity by omitting other organizational performances in Bahir Dar tannery factory because of basically shortage of time and cost. For further study the researcher proposes that it is better to extend time frame and cost to include other occupational health and safety program such as the effect of psycho social hazard control program, mechanical hazard control program including this research variables these were chemical hazard control program, accidental hazard prevention program, biological hazard control program and psychological hazard control program on the general performance of the organization and on other manufacturing organization.

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