



Assessing Safety and Quality Management Systems in Food Industries in Burayu Town: A Study of Kebron Food Complex and Booez Pasta and Macaroni Companies

By

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Dedication

This work is dedicated to my Father for his love, patience, wisdom and spirituality. I will always remain grateful for your kindness. May the Lord place your soul in heaven.

DECLARATION

I, the undersigned, declare that this MA thesis entitled: **Assessing Safety and Quality Management Systems in Food Industries in Burayu Town: A Study of Kebron Food Complex and Booez Pasta and Macaroni Companies**: is my original work, prepared under the guidance of **Terefe Feyera (PhD)**. All sources of materials used for the thesis have been duly acknowledged. I further confirm that the thesis proposal has not been submitted either in part or in full to any other higher learning institution for the purpose of earning any degree.

Name

St. Mary University, Addis Ababa

Signature

February, 2019

ENDORCEMENT

This MA thesis entitled: **“Assessing Safety and Quality Management Systems in Food Industries in Burayu Town: A Study of Kebron Food Complex and Booez Pasta and Macaroni Companies.”** conducted by **Meskerem Getachew** has been submitted to St. Mary’s University, School of Graduate Studies for examination with my approval as a university advisor.

Terefe Feyera (PhD)

Signature

Date

St. Mary’s University, Addis Ababa, Ethiopia

February, 2019

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Abstract

This thesis study was conducted in Burayu town aiming on assessing safety and quality management systems in food industries: a study of kebron food complex and booez pasta and macaroni companies. The study employed Descriptive design which has been used to describe the analysis of the collected data while correlation analysis is concerned to test the research hypothesis, since one of the aims of this research is finding the relationship of safety and quality management system factors with the performance of the company. In this study mixed approach was used with a larger extent of positivists (quantitative). The sampling population of this study was the staff of the two companies who are working directly on pasta, macaroni and flour production and supervision activities. To collect important information the investigator has distributed 166 questionnaires from this 162 were returned and analyzed with a response rate of 97%. Data was analyzed using SPSS software version 20. The descriptive analysis findings demonstrated that the practices level of determining factors such as: Top management leadership and commitment, process control, customer focus, work attitude and employee participation, process management, continuous improvement and safety management respectively have been moderately implemented in these companies. Based on these findings, all the quality and safety management system factors have significant positive relationship with the performance of the companies mentioned. However, it is not strengthened as it is needed to carry out all works properly so that to produce worldwide competitive, safe and quality food staffs. The researcher has recommended that quality influencing factors such as top management leadership and commitment, process control, customer focus, work attitude and employee participation, process management, continuous improvement and safety management activities must be continuously improved. The company's top management should give prime emphasis for Training and development schemes and also they have to focus on customer Satisfaction improvement activities.

Key words: *Safety and Quality Management, quality influencing factors, Food complex Companies, Burayu Town,*

CHAPTER ONE

INTRODUCTION

1.1. Background of the study

On the global market, there is a growing issue of food quality and safety, so the participants in the food production chain have the need to internationally align the norms which would enable a complete system for food safety management and producing market placement of completely safe and quality food.

The implementation of quality and safety practices can help food companies to remain competitive in the market. With this aim, food companies have been implementing the ISO 9001: 2008 QMS (Quality Management System) and the HACCPFSS (Hazard Analysis Critical Control Point Food Safety Systems) combined. The requirements of a QMS like ISO 9001, coupled with the development of an FSS (food safety system) like HACCP, contribute considerably to the effective implementation of food business processes (Kafetzopoulos, Gotzamani, & Fotopoulos, 2013). Cao, et al., 2004), point out that by adopting a food quality and an FSS(Food Safety System) and then being able to signal it to the consumers, a company gains marketing advantages and consequently competitive advantages. A quick and effective method for achieving this is by treating food safety specifications as an additional element of product and process quality (Chountalas, Tsarouchas, & Lagodimos, 2009).

Companies that are committed to producing safe food must be engaged in the effective implementation of quality management systems (QMS) and food safety management system (FSMS) which are aligned with existing national and international standards, given that quality is linked to security in consumers' minds, and when they seek a better quality product it is likely that they also want a safer product (Van Rijswijk and Frewer, 2008).

Hence for company to compete effectively leave alone in the global but also in the local market, its products must meet quality, safety and price expectations of its customers. Quality of a product has emerged as the best assurance of customer loyalty, the strongest defense against competition and the only path to sustain growth and earnings over long term. And also when organizations focus on quality and safety they benefit from enhanced workers motivation,

minimized failures and can minimize production cost. In order to be successful an organization must be able to prove that they are capable of producing the product to the customer's complete satisfaction so that it conforms exactly to the customer's specific requirements and that is always of the desired quality.

In developing countries like Ethiopia and others, there is no such an adoption of safety and quality management system in the manufacturing industries especially in the food manufacturing and processing industries. As literatures revealed in Ethiopia, the manufacturing system have not been implementing modern safety and quality management system. In such food manufacturing industries, there is a high food safety and quality related problems, such as lack of attention and poor handling or sabotage by employee which can easily result in defective products and further more serious risks to human life. Several new or emerging infectious diseases have begun to appear which harbor the threat of significantly increased mortality (Ezra, 2004).

As we understand, quality as well as safety issue is more necessary and mandatory in relation to the food we eat in every day of our life. There is now a growing concern in the population about food. According to literatures, food' is defined as: any substances whether processed, semi-processed or raw, which is intended for human consumption, and includes drinks, chewing gums and any substance which has been used in the manufacture, preparation or treatment of 'food' but does not include cosmetics or tobacco or substances used only as drugs (Ezra,2004).

The assessment of this thesis paper has been carried out in two model Ethiopian food manufacturing industries (Kebron Food Complex and Booez Pasta and Macaroni Company). Kebron Food Complex is well known in its quality wheat flour production. The quality control department of this company takes inspection starting from raw material up to final end product. Corrective action will be taken if the test results are out the company's standard. Even if the product is well known in its quality product but the company does not fully and properly implement quality and safety management system. This company has got trainings on food safety management system development and implementation, mycotoxin control and testing, wheat flour fortification, food safety management, milling science and technology and other related trainings and has got different certificates from different organization. Likewise, Booez Pasta and Bela-Nigea Macaroni are also well known in its quality Pasta and Macaroni product and have got a certification from Ethiopian conformity assessment agency on 23/03/2008 E.C for macaroni product and on 04/05/2008 E.C. for its pasta product. Today Booez is working towards

becoming a quality leader company. Booez has always been a quality conscious and customer oriented company. It built the reputation by providing customers something what they expected and wanted. And with increased competition and the new global market avenues, the company focuses to give more attention to building a quality culture. The company also aimed to diversify the market and increase its competitive advantage. But the company still doesn't formally implement a properly designed and developed safety and quality management system.

When we see the Ethiopian cases from the total manufacturing enterprises, 31.02% are food and beverage producing establishments (CSA, 2002). In the cottage/handicraft and small-scale manufacturing, agro-based establishment add up to be 87% of the total count and about 53% of the overall establishments are related to food and beverage production (CSA, 2003).As many literatures described, the quality and safety management system of Ethiopian made manufacturing products are mostly found to be poor. The aim of this study is to conduct an assessment practices on quality and safety management system of food manufacturing industries at Kebron Food Complex and Booez Pasta and Macaroni Companies found in the burayu town near to Addis Ababa to the west direction.

1.2. Statement of the problem

As it is known, Ethiopia's economy is heavily dependent on agriculture and agro based industries such as food, beverage and tobacco processing industries, leather industry, forest-related industry and textile industry. Agriculture contributes 45.1% of the nation's total Gross Domestic Product (GDP) (CSA, 2003). In the manufacturing industries, agro-based industries make up about 50% of large and medium-scale manufacturing establishments. And from the total manufacturing enterprises, 31.02% are food and beverage producing establishments (CSA, 2002). Agro-based establishment add up to be 87% of the total count and about 53% of the overall establishments are related to food and beverage production (CSA, 2003). Agro-based industries are also the largest employers of the workforce and value adders in the economy of Ethiopia.

Ethiopia's potential for manufacturing export standard processed food products is immense. As the country is endowed with natural conditions for agriculture, there is adequate supply of raw materials for these industries. The availability of ample labor force at cheaper prices adds to the competitive advantage of these industries. Since it requires less capital, both local and foreign entrepreneurs can invest in this business and become successful. But the only drawback may be

the lack of safety and quality concept and culture in the country and among its people. Developing and implementing such system will help the country exploit its resources and add valuable points to its image as a potential opportunity for investment. Companies that produce for domestic market may feel no need for any Quality and Safety Management System, as there is no pressure for quality and safety product. But pressures are recently building up from several fronts. The first source of the pressure is the free market policy of the government. The liberalization of trade and opening up of domestic markets to the international competition has made local industries no longer be protected from these foreign competitions. A good example for this is the reduction of tariffs for imported products from a maximum of 80% to 50%: the average rate being 24.5% (<http://www2.famille.ne.jp>). There is also a plan to reduce the average even further to 19.5%. With such trend in the economic strategy and the creation of free trade zones such as COMESA (Common Market for Eastern and Southern Africa) the local markets that have been considered to be a safe backyard may no longer continue to be so (www.addischamber.com)

The other basis of pressure is coming from the manufacturers themselves. The total number of industries is increasing, even though the rate of increases varies for different types of food processing industries. This growth has been observed for the past decades and may lead to overcrowding in a number of sub-sectors in the near future.

The majority food processing industries are operating under their attainable production capacity in Ethiopia, though the level may vary from one factory to another. This has resulted mainly from the combined effect of the quality and safety problems described above. Under utilization of capacity will lead to loss in profit and ultimately to bankruptcy and closure. The urgency of quality concept implementation to most of these industries is apparent processes (Kafetzopoulos, et al., 2013).

There are problems influencing the quality and safety of processing food in the companies. Some of them are lack of quality control systems, unsafe production system, poor hygiene practice, poor quality product, infected inputs, products with poor performance in the export market, lack of quality assurance systems, increased pressure from high quality and competitive products in the local market (Ezra, 2004). There are also problems that have entangled the manufacturing process in the industry that could be alleviated through the selection of the right quality concepts. Product and process development for manufactured food items and related

difficulties are some examples where quality can provide solutions. Continual up grading of skills of employees and smooth information flow with suppliers and consumers can be attained with such concepts. Appropriate facilities especially laboratories can also be established and maintained.

Several significant reasons for employing quality and safety in the food processing industries have been discussed above. To implement it effectively and efficiently, properly prepared Quality and Safety Management System is crucial. Even though, implementing safety and quality management system is the best solution in a food manufacturing industries especially in Ethiopian food companies, the gap is not studied in companies of this town. Thus, the best way to implement a Quality and safety Management System in Burayu town food processing industries is to build up one adapted just for its local conditions.

Since, no study has been made in the area, that manufacturers may face some difficulties even if they decide to implement some quality concept. Of course, there are international standards and approaches that can be directly copied down. But as the burayu town, manufacturing and marketing environments are quite different from those found elsewhere.

Therefore, this thesis research has been conducted on Kebron Food Complex and Booez Pasta and Macaroni Companies which is located in the burayu town near to west of Addis Ababa.

1.3. Research questions

To address the problem articulated above, the study entails to answer the following research questions:

1. How do Kebron Food Complex and Booez Pasta and Macaroni company practice safety and quality management system in their production process?
2. What is the level of safety and quality management practice in Kebron food complex Booez Pasta and Macaroni companies?
3. What challenges do the companies face to implement food safety and quality management system?
4. Do each quality and safety management system factors have a relationship with the quality performance of the manufacturing companies?

1.4. Objective of the study

1.4.1. General objective

To assess the level of quality and safety management systems practice in Kebron Food Complex and Booez Pasta and Macaroni Company and to provide feasible recommendations.

1.4.2. Specific objective

The specific objectives of the study are:

1. To describe food quality and safety management system practices in Kebron and Booez companies.
2. To determine safety and quality management practices in Kebron and Booez companies.
3. To identify the challenges that companies face to implement safety and quality management system.
4. To test the relationship of quality and safety management system factors with quality performance of the manufacturing companies.

1.5. Significance of the study

Each quality management system that has significant presence in businesses today has its own merits. In today's business world, where failure can happen suddenly and easily, there is little room for trial and error when it comes to implementing a whole new approach to running most companies. Because there are more and more variables emerging in modern definitions of the food industry, it is important for current and future managers of these organizations to understand what quality and safety management system have been most likely to lead their company toward excellence.

So organizations, which are taken up as a case study, will get additional information on the development and implementation of a total quality management system and safety management system for their respective company and would motivate them to improve their quality and safety perception and activities. And for some of the food manufacturing companies who don't have that much awareness about quality management system and safety management system, the outcome of this study would serve as starting point to implement it.

As a research thesis, the primary merits of the study goes to the university academics. Since there are few and shallow studies in the area, it will give a comprehensive starting point for more specific quality researches for Ethiopian Food Processing Industries. Since there are few studies in the area, it will give a comprehensive starting point for more specific quality and safety researches for Ethiopian food manufacturing industries. Finally, anybody who is interested in

total quality and safety management system especially in manufactured food products can get better and additional information from this thesis paper.

1.6. Scope of the study

This study has focused on safety and quality management system of food in the selected manufacturing industries. The reason behind is that, it is well known that the safety and quality management is the heart for the existence of the organizations in order to be competitive worldwide and to have customer satisfaction and the researcher would like to study how the food company's safety and quality management system goes on. In addition to this, in order to implement other management systems, like total quality management, six sigma, etc. the first and easy step is implementing food safety and quality management system.

So, the study has addressed on the analysis of safety and quality management system of Kebron Food Complex and Booez Pasta and Macaroni Company which are located around Burayu town in Oromia Regional State in near the west side of Addis Ababa.

The researcher has conducted the study on the Production Department and Quality Control Department of the safety and quality management system of the selected food industries.

1.7 Limitation of the study

Among the limitations lack of experience of the researcher in the food manufacturing industries will have some negative impacts on the overall work. Through consultation with experts from different fields of study, attempts have been made to minimize these problems. The main problem in this thesis preparation has been the lack of information specific to the food manufacturing industries in Ethiopia. Even though, mixed approach is used in this study and can reduce the weakness effects of the Quantitative approach, the following limitations are expected: unwillingness of the respondent to fill the questionnaire, the delay in returning back the questionnaire, unavailability of well-organized secondary data that can be easily accessed for the purpose, shortage of time and budget to undertake the study. To minimize the effects of these problems the researcher used maximum effort through spending more time and giving more-attention.

1.8. Definition of Terms Used

Assessment: Means to evaluate or estimate the nature, value or quality of something (oxford dictionary).

Food Safety: Safety is the freedom from environmental and other contaminants and sources of toxicity (physical, Food chemical and/or biological) injurious to health. (Will, et.al, 2007,). Food safety is a result of several factors including the respect of mandatory requirements, the implementation of food safety programmes established and operated by food business operators and the implementation of the HACCP system (CEC, 2003).

Food Quality: Despite its common use, the term "quality" is not easy to define. Unless it makes reference to particular criteria or standards, the general term "quality" is subjective. In the most generic sense, quality refers to the combination of characteristics that establish a product's acceptability. In the food industry, this is usually an integrated measure of purity, flavor, texture, color, appearance and workmanship. In a highly competitive market, another criterion of quality can be 'value' or perception of the products worth (Daniele Giovannucci, 2000)

1.9. Research Hypothesis

H₁: Top management leadership and commitment has positive relationship with quality performance of the food manufacturing companies.

H₂: Work attitude and Employee participation has positive relationship with quality performance of the food manufacturing companies.

H₃: Process control has positive relationship with quality performance of the food manufacturing companies.

H₄: Continuous Improvement has positive relationship with quality performance of the food manufacturing companies.

H₅: Customer Focus has positive relationship with quality performance of the food manufacturing companies.

H₆: Equipment and maintenance has positive relationship with quality performance of the food manufacturing companies.

1.10. Organization of the Study

This study has consisted of five chapters. The first chapter deals with the problem and its questions to be answered (i.e. Introduction part including background of the study, statements of the problem, research questions, objectives and hypothesis) .The second chapter treats the related literature review containing theoretical, empirical literatures and conceptual frame work. The

third chapter focuses on methodology of the research and the fourth chapter deals about the data presentation, analysis and interpretation. The fifth chapter is devoted to the summary, conclusion and recommendation of the study.

CHAPTER TWO

REVIEW OF RELATED LITERATURES

2.1. Introduction

The present economic situation and global market conditions have led companies to look for ways to increase competitiveness by improving production processes, reducing production costs, and improving product quality. In terms of the food industry, two other factors should also be included: the need to ensure food safety and the need to protect consumers' health.

Food safety has become a common concern worldwide, making public health agencies and governments of several countries look for more efficient ways to monitor production chains (Makiya and Rotondaro, 2002). Therefore, the existence of a system that ensures food safety is crucial to preserve a company's image and reputation and to increase local and international market shares.

In most African countries, resources made available for food safety activities are scarce and scattered, and coordination systems are weak at all levels. There are no risk-based food safety policies applying the principles of prevention throughout the food chain (farm to table approach). Responsibilities may be shared between several agencies/institutions with little coordination, resulting in a lack of accountability, duplication of effort, waste of scarce public funds, and conflicting interests and confusion between stakeholders. The present structure also causes problems in relation to who is the Competent Authority (CA), an essential component of the administrative structure.

In Ethiopia, food processing industries are increasing alarmingly. However control of standardization is not as such strong. No more studies are conducted in the area. Therefore, conducting a research is essential so as to provide up to date descriptive information.

2.2. REVIEW OF THEORETICAL LITERATURE

2.2.1. Definitions of Related Concepts

Quality is the totality of characteristics of an entity (product, service, process, activity, system, organization, and person) that bear on its ability to satisfy stated and implied needs.

Quality therefore is: defined by the customers, a measure of achievement of customer satisfaction, fulfilling the customer's needs /requirements, value for money, keeping one's word, ensuring no defects and ensuring fitness for use.

From the view point of TQM, quality is everything that an organization does, in the eyes of its customers, which will encourage them to regard that organization as one of the best in its particular field of operation. Quality is measured in terms of customer satisfaction. The degree of satisfaction depends on the manufacturer's ability to meet customer's needs and keep on meeting. In a competitive market repeated purchase can be taken as a good indicator of the satisfaction level. With time customers will gain confidence on the product & its manufacturer and attach quality to the brand name (Ezra, 2004). The main purpose of quality in any manufacturing process is to enable manufacturers produce items that meet their customer's requirements the first time and all the time.

2.2.2. Overview of safety management

2.2.2.1. Food safety management system and HACCP

Food Safety Management System (FSMS): The production of safe, nutritious food with assured quality requires effective management of the entire system especially when this production is large scale. The safety management of food or "Food Safety Management" is a coordinated activity to direct and control an organization with regard to the production of safe food of high quality. This definition does use the word "control" and it is impossible to separate the behavior of food handler from the management system (Griffith, 2010). The safety of the food guarantee for consumers purchasing a quality food with attributes that are of interest, stand out among the attributes related to their health and safety (Spers, 2000).

The Codex Alimentary defines food security as a guarantee that the food will not cause harm to the consumer when it is prepared and/or eaten according to its intended use. These health hazards

are usually caused by food-safety hazards, which are characterized as biological, chemical or physical, or condition of the food, with the potential to cause an adverse health effect of one or more individuals (CSA, 2003).

The safety management system of food brings a set of processes and procedures designed to control food-safety hazards (Manning and Baines, 2004). The actions provided for in this type of system are determined through a risk assessment, and initial analysis of the probability of an adverse health effect and the severity of the consequence of a hazard or hazards that can be found in foods.

The HACCP system has gradually gained popularity and acceptance and is currently considered as a prerequisite for food manufacturers who want to export their products (Arvanitoyannis and Markopoulos, 2000), because if the HACCP is applied correctly it will prevent outbreaks of food-borne illness (Wallace and Powell, 2005) and possible financial and non-financial losses related to these events, which can damage the image of the organization in the market. Systems based on HACCP are considered the most effective way to manage food safety (Griffith, 2010) and above all, to ensure that food produced does not cause poisoning or food poisoning toxicity.

However, with the increasing importance of issues related to food safety and reports of illness and accidents caused by unintentional ingestion of contaminated food, large companies and stakeholders involved in the food chain are already demanding the application of the concepts and practices focusing on safety in food production, through the implementation of ISO-22000 and other internationally recognized standards of food safety as a way to ensure that the processes of food production have the ability to manufacture safe products, thus preventing diseases caused by food and losses related to accidents caused by unsafe food.

We noted also that the adoption of ISO 22000 makes possible the development of the functions of control and quality assurance, coupled with food safety, establishing continuous quality monitoring procedures and corrective action, also acting as support policies and strategies for the organizations that adopt it, since it requires suppliers and customers to meet the demands of quality and food safety and assures consumers that they are met (Biedrzycki and Révillion, 2011), making it possible for this culture to permeate the entire food supply chain.

In addition to ISO 22000, there are other international quality and food safety standards recognized by the Global Food Safety Initiative (GFSI). These standards are studied and applied by several food chain organizations in the world, because food safety is an important attribute of quality and its suitability requires an effective system and a proper organizational culture focused on food safety.

Food safety is a scientific discipline describing handling, preparation, and storage of food in ways that prevent food borne illness. This includes a number of routines that should be followed to avoid potentially severe health hazards. The tracks within this line of thought are safety between industry and the market and then between the market and the consumer. Food safety considerations include the origins of food including the practices relating to food labeling, food hygiene, food additives and pesticide residues, as well as policies on biotechnology and food and guidelines for the management of governmental import and export inspection and certification systems for foods. In considering market to consumer practices, the usual thought is that food ought to be safe in the market and the concern is safe delivery and preparation of the food for the consumer.

The present economic situation and global market conditions have led companies to look for ways to increase competitiveness by improving production processes, reducing production costs, and improving product quality. In terms of the food industry, two other factors should also be included: the need to ensure food safety and the need to protect consumers' health. Therefore, the existence of a system that ensures food safety is crucial to preserve a company's image and reputation and to increase local and international market shares. Food safety has become a common concern worldwide, making public health agencies and governments of several countries look for more efficient ways to monitor production chains (Makiya and Rotondaro 2002).

Food safety and HACCP: HACCP(hazard analysis critical control point) is part of a food safety management system(FSMS)(Al-Kandari & Jukes, 2011), which is widely acknowledged as the best method of assuring product safety while becoming internationally recognized as a tool for controlling food borne safety hazards (Khandke & Mayes, 1998; Wallace, et. al, 2005). The HACCP system, which is science based and systematic, identifies specific hazards and measures for their control to ensure the safety of food. HACCP was developed in the late 1950s by a team of food scientists and engineers from the Pillsbury Company, the Natick

Research Laboratories, and the National Aeronautics and Space Administration. HACCP (Hazard Analysis and Critical Control Points) is a risk management system that identifies, evaluates, and controls hazards related to food safety throughout the food supply chain. It is a point, step or procedure at which controls can be applied and a food safety hazard can be prevented, eliminated or reduced to acceptable (critical) levels. A CCP is a step at which control can be applied. This specifies that all food businesses are required to produce a written food safety management system based on the principles of HACCP to demonstrate how they manage food safely. HACCP is a system that puts in place procedures to control hazards.

Before the application of HACCP principles, some “prerequisite programs,” such as good manufacturing practices and cleaning procedures, should be established in order to ensure basic hygiene conditions in the processing plant. These prerequisite programs, if correctly implemented, will determine the principles for correct handling of foodstuffs, making HACCP more efficient and easy to manage (Wallace and Williams 2001). The main prerequisite programs are good manufacturing practices and sanitation standard operating procedures. These programs involve the following aspects: physical structure and maintenance of the premises, water supply, handler health and personal hygiene, pest control, sanitization of premises and equipment, calibration of instruments, quality control of raw material and ingredients, recall procedures, and measures related to consumer complaints. The lack or inadequate implementation of prerequisite programs may lead to more complex HACCP plans, with a greater number of CCPs to be monitored, once hygienic aspects have also been included (Byrne and Bishop 2001). More CCPs means increased difficulty in managing the plan, and affects efficacy in terms of food safety (Roberto et al. 2006).

2.2.3. Overview of quality management

Quality has long been a factor in the success of food trade transactions; however, recent food safety issues have propelled quality control to the forefront of international trade concerns. Now with the increasing globalization of trade, food quality is also becoming a factor in domestic markets as quality and variety compete for a buyer's attention and regulatory bodies seek to better control potential threats.

Today the concept of Quality Management has been widely accepted all over the world. This concept is led by several philosophers/researchers and Gurus. Contributors in the quality management have realized need of modern industry in its true spirits and dimensions. Pioneers or contributors of quality have either originated new ideas or modified, expanded old ideas and propounded significance for the benefits of industry and society at large. It is important to take note of renowned pioneers in the quality management, with their philosophy and concepts. Contributions of some of the pioneers in quality management are given below:

1. Dr. Walter Andrew Shewhart (18th March, 1891 – 11thMarch, 1967)

Dr. Shewhart had given a diagram, in 1924, which paved new way in manufacturing and quality control. He framed the problem in terms of assignable-cause and chance-cause variation and introduced the control chart as a tool for distinguishing between the two. Workers or technicians have to collect samples from production process at regular intervals and plot the results on a chart. Dr. Shewhart introduced mathematical formula and established boundaries of variation of process within control. Samples out of boundaries of control chart signal a problem or variation. Dr. Shewhart became the first to understand, use and apply the principles of probability and statistics. He gave birth to quality movement with theoretical approach. Therefore, he is known as the father of statistical quality control.

2. Dr. William Edwards Deming (14th October, 1900- 20th December 1993)

Dr. Deming graduated in 1921 in Engineering; post graduated in Mathematics and Physics and got Ph.D. in 1924. In 1940, he developed sampling techniques, which were used for conducting census in USA. He was also head mathematician and adviser in sampling at the US Bureau of Census. His methods were accepted for better quality products, a higher volume of production, reduction in scrap and rework.

Dr. Deming's philosophy is based on improving products and services by reducing uncertainty and variability in the decision of manufacturing processes. He says variation is the chief culprit of poor quality, further he states that 94% of all quality problems are down to management. Therefore, he requires change in managers. He considers quality as a job of management. He advocates that higher quality leads to higher productivity, which in turn leads to long term competitive strength.

From the view point of TQM, quality is everything that an organization does, in the eyes of its customers, which will encourage them to regard that organization as one of the best in its particular field of operation. Quality is measured in terms of customer satisfaction. The degree of satisfaction depends on the manufacturer's ability to meet customer's needs and keep on meeting. In a competitive market repeated purchase can be taken as a good indicator of the satisfaction level. With time customers will gain confidence on the product & its manufacturer and attach quality to the brand name (Ezra, 2004).

3. Dr. Joseph Moses Juran (24th December, 1904 –28th February, 2008)

Dr. JM Juran born in Balkan, USA. He graduated in both Engineering and Law. From the year 1924, he worked as engineer, industrial executive, government administrator, university professor, impartial labor arbitrator, corporate director and management consultant. He is the founder and Chairman of his quality consultancy business, the Juran Institute. He is considered to be one of the early leaders in the field of 'quality'. Principles provoked by him towards quality are in a specified way and accepted at global level. Dr. Juran written books on quality namely: Quality Control Handbook, Quality Planning and Analysis, Managerial Break through, Juran on Quality Planning, Juran on Leadership for quality, Juran on Quality Improvement, Upper Management and Quality and the Corporate Director. Dr. Juran specifies a detailed program for quality improvement process which involves proving the need for improvement, identifying specific projects, organizing to guide the projects, diagnosing the causes, providing remedies, proving that remedies are effective and providing control to hold improvements.

Over view of Total Quality Management: An increasing number of food companies all over the world have been implementing quality and Food Safety Systems (FSS) in order to improve the quality and safety of their products and to witness the related benefits. Nowadays, the main Quality Management Systems (QMS) that are implemented by food companies are those in the International Organization for Standardization (ISO) 9000series, such as ISO 9001: 2008. The ISO 9000 series of quality management standards provides the framework for organizations to install a QMS following certain guidelines and leads to continually improved processes that satisfy customers' requirements.

However, the effectiveness of the ISO 9001 standard in enhancing a firm's competitive performance is highly controversial (Yeung, et al, 2003) and studies evaluating the impact of ISO 9001.

Uses of Quality Management Systems: Quality Management Systems is management system to direct and control an organization with regard to quality.'(ISO 9000:2000).It is the organizational structure of responsibilities, activities, resources and events that together provide procedures and methods of implementation to ensure the capability of an organization to meet quality requirements.

Quality management means what the organization does to ensure its products or services satisfy the customer's quality management and comply with any regulations applicable to those products or services. Quality management also means what the organization does to enhance customer satisfaction and achieve continual improvement of its performance. To lead and operate an organization successfully, it is necessary to manage it in a systematic and visible manner. These principles have been developed for use by top management in order to lead the organization towards improved performance (Ezra, 2004).

- Customer focus:-Organizations depend on their customers and therefore should understand current and future customer needs, should meet customer requirements and strive to exceed customer expectations.
- Leadership:-Leaders establish unit of purpose and direction of the organization. They should create and maintain the internal environment in which people can become fully involved in achieving the organization's objectives.
- Involvement of people:-People at all levels are the essence of an organization and their full involvement enables their abilities to be used for the organization's benefit.
- Process approach:-A desired result is achieved more efficiently when activities and related resources are managed as a process.
- System approach to management:-Identifying, understanding and managing interrelated processes as a system contributes to the organization's effectiveness and efficiency in achieving its objectives.
- Continual improvement:-Continual improvement of the organization's overall performance should be a permanent objective of the organization.

- Factual approach to decision making:-Effective decisions are based on the analysis of data and information.
- Mutually beneficial supplier relationships:-An organization and its suppliers are interdependent and a mutually beneficial relationship enhances the ability of both to create value. Successful use of the eight management principles by an organization will result in benefits to interested parties, such as improved monetary returns, the creation of value and increased stability.

2.3. Empirical Literature Review

2.3.1. Empirical Analysis of Quality Management Practices

Numerous studies have demonstrated that ISO 9001 certification has a positive and significant effect on product quality improvement (Aggelogiannopoulos, Drossinos, & Athanasopoulos, 2007). In the same line, HACCP implementation improves the food product quality Trienekens & Zuurbier, 2008). Furthermore, some studies demonstrate that companies that effectively implement ISO 9001 and HACCP systems improve their quality and also have a positive and significant effect on operational performance (Feng et al., 2008). Many researchers have empirically investigated the relationship between ISO 9001 certification and HACCP implementation and business performance. For example, in their study Naser, Karbhari, and Mokhta (2004) found a positive relationship between ISO 9001 certification and financial performance. The results of the study of Sampaio, Saraiva, and Rodrigues (2011) show that companies with higher financial performance do present a greater propensity to implement and certify their QMS. Cao et al. (2004) point out that by adopting a food quality and safety management system and being able to signal it to the consumers, a company can gain marketing advantages and consequently financial advantages. There is also evidence that the companies that implement the HACCP and ISO9001 systems improve their business performance and gain competitive advantage (Feng et al., 2008).

Their study offers empirical evidence regarding the contribution of critical factors to the combined effective implementation of the ISO 9001 and HACCP systems. More specifically, their study investigates the theory of CFEI and identifies 26 critical measures. From these initial measurement variables, data analysis leads to a model consisting of five unobserved factors that

represent the CFEI of quality management and food safety systems, which are: “employee attributes”, “organizations’ attributes”, “systems’ attributes”, “internal business motives”, and “external environment”. Hypotheses testing their study revealed that only three of them, “employee attributes” (adequacy, education, commitment, etc.), “organizations’ attributes” (documentation, quality audits, equipment, production technology, infrastructure, etc.) and “internal business motives” (quality improvement, cost reduction, process improvement, etc.) make a significant contribution to the effective implementation of the systems. The “external environment” for the systems’ implementation (technical consultants, pressure from consumers, etc.) and “systems’ attributes” (required time of implementation, volume of paperwork required, etc.) made no significant contribution.

It is apparent that the CFEI of the ISO 9001 and HACCP systems examined in that study are quite similar to the critical factors identified by Fotopoulos et al. (2009). However, similarly to (Psomas et al., 2010), the present study identifies additional latent constructs as being important in the effective implementation of the two systems. The above mentioned results give a clear managerial message to those who want to implement a solid and effective quality and food safety system.

Additionally, their study investigated the theory of the effectiveness of the quality and food safety systems’ implementation and describes it as the achievement of their most important goals. More importantly; this paper introduces and tests the combined effective implementation of a quality and an FSS in food companies.

Psomas, et al. (2013) point out that a food company’s survival and competitiveness in the long run are not assured. Increasing HACCP and ISO 9001 effectiveness is the parameter that can make the difference, helping a food manufacturing company move a step forward rather than simply conforming to HACCP and ISO 9001 requirements. Data analysis has revealed six factors that represent the main systems’ goals that describe their effective implementation and these are: continuous improvement, prevention of non-conformities, customer satisfaction focus, hazard identification, hazard assessment and hazard control.

A main conclusion to be drawn from that study was that there are five critical areas that should be considered by food companies that seek to implement both the ISO 9001 and HACCP systems effectively. These areas constitute the underlying structure of the critical factors that

require attention. Furthermore, the empirical research presented in their paper has revealed the positive impact of the effective implementation of both systems (ISO 9001 and HACCP) on food product quality and operational performance, as well as the positive impact of operational performance on food product quality. The study offers a theoretically developed and empirically proven reliable and valid model to measure the effectiveness and contribution of the ISO 9001 and HACCP systems to performance for self-evaluation and comparison. Systems 'effectiveness is described as a second-order factor in terms of six underlying dimensions. Knowledge of these dimensions can help managers in developing and measuring the effectiveness of the implementation of their systems (Psomas et al., 2010).

Their research findings has suggested that effective implementation of the ISO 9001 and HACCP systems can significantly contribute to realization of improvements in food manufacturing performance, in order to increase companies 'competitiveness in the highly dynamic global marketplace. Also, the study offers managers direction regarding the critical factors on which they should focus in order to increase the effectiveness of their systems, providing the necessary resources and support and developing the necessary policies, practices and procedures. Finally, the evidence provided by Psomas, et al. (2013), study realized the importance of the effective combined implementation of the systems since it is proved that it contributes significantly to both food product quality and operational performance.

2.3.2. Factors of Quality management

2.3.2.1. Manager's Leadership commitment

Leadership is the capability to establish vision and direction, to influence and align others towards a common purpose and to empower and inspire people to achieve organizational success. It enables the manufacturing industry to continue in an environment of change and uncertainty. In their study, SaifR Khan, Sang L. and Syed J. (2014), concluded that, leadership competency has positive impact on the company success which was previously neglected due to some unknown reasons. Leadership is a universal topic and has been an effective source for organizational success yet in project management it is evolving. As per earlier studies, they concluded that project leadership competencies are alike to competencies of leadership in general management.

2.3.2.2. Building Committed and Result driven Team

Successful business performance depends increasingly on a committed and results driven workforce at all levels. In order to achieve this, command and control must give way to a style of influencing which is focused on empowering and motivating individuals and helping to unleash their individual and collective energies. Line managers must be able to empower the staff whose activities nevertheless must be focused, aligned, and co-ordinate. When people share common beliefs and values, they are able to build mutual trust, communicate effectively; decisions are understood easily and therefore quickly enacted.

Evidence suggested that teams typically do better than individuals when tasks require multiple skills, judgment and experience. As organizations have restructured themselves to complete more effectively and efficiently, they have turned to teams as a way to better utilize employee talents. Management observed that teams are more flexible and responsive to changing events than traditional departments or other forms of permanent groupings. Teams have the capacity to quickly assemble, deploy, refocus and disband. Furthermore, teams facilitate employee participation to decision-making, stimulating employee motivation (Psomas et al.,2010).

A team is a small group of people with complementary skills, who work together to achieve a shared purpose and goal, themselves mutually accountable for its accomplishment.

Team Effectiveness is defined as the manager or leader's perception on team members' performance in task completion, goal achievement, empowerment, information sharing and team's ability to create and sustain good working environment (Bourgault et al., 2008) .Team effectiveness refers to the extent to which a team has been successful in meeting the objectives of their company.

The quality of food at the manufacturing industry depends to a large extent on the skills and experience of team leaders; managerial system (decision-making, choosing the correct strategy, setting-up specific objectives, selecting people, delegating responsibilities, and evaluating results); and the procedures adopted during the manufacturing process. Azmy (2012) stated that, team effectiveness is important in organizational performance. The team effectiveness factors identified (team goals and objectives, team leadership, team relationship, team roles and responsibilities, team communication, and trust and values) have an impact on the performance of the company to improve the quality of products.

Teamwork enables them to accomplish tasks faster and more efficiently than tackling projects individually. Cooperating together on various tasks reduces workloads for all employees by enabling them to share responsibilities or ideas. Teamwork also reduces the work pressure on every worker, which allows him to be thorough in the completion of the assigned roles. In sharing ideas or responsibilities, every employee should have a role that suits his specialization. You should also consider employees' levels of interest in the project at hand, which positively influences the efficiency or speed of their output in accomplishing the task (Psomas, et al.,2013).

2.3.2.3. Process Control

All operations in the receiving, inspecting, transportation, segregating, preparing, manufacturing, packaging, and storing of food shall be conducted in accordance with adequate sanitation principles. Appropriate quality control operations shall be employed to ensure that food is suitable for human consumption and that food-Packaging materials are safe and suitable. Overall sanitation shall be under the supervision of one or more competent individuals assigned responsibility for this function. All reasonable precautions shall be taken to ensure that production procedures do not contribute contamination from any source

The most rudimentary processes that historically have been used to preserve foods have also been used to keep foods safe. The general principles of heating, cooking, drying, cooling and salting that were relevant thousands of years ago are still the methods by which food safety can be managed in the most basic of settings. As food businesses and their customer base grew larger, distanced by both space and time the needs for food manufacturers to consider preservation as a means of maintaining quality products has led to the evolution of modern food safety systems and their accompanying programs. In today's international marketplace acceptable standards for food safety that use a common language and achieve quality standards of practice are the goals that food safety practitioners focus their attention upon (Wallace et al., 2012).

Environmental Control Program - The integrity of the environment that surrounds the food processing operation, plant and critical areas are maintained by an environmental control program. In many cases, segregating processes by dividing into compartments or rooms, the use of screens, air locks, positive airflow or segregating raw from cooked or separating processing areas or workers are all parts of the environmental control program.

Chemical Controls Program - Food processing environments include a variety of specialized equipment; silos and storage areas, packaging areas that include chemicals for maintenance, gluing, printing, sealing, solvents, lubricants, laboratory supplies, chemicals for sanitation as well as chemicals in the form of ingredients. A control program to manage these chemicals by restricting their use, ensuring personnel use appropriate methods and correct amounts within the appropriate plant is important to ensuring the product is not contaminated with hazardous chemicals. Standard use guidelines, storage methods conditions and locations as well as poison control information, safety precautions and vendor information should be clearly documented, marked on the containers and clearly posted where appropriate (Psomas, et al., 2013).

2.3.2.4. Work attitude and Employee participation

Work Attitude: is a predisposition or a tendency to respond positively or negatively towards a certain idea, object, person or situation. Attitude influences individuals choice of action and response to challenges, incentives and rewards (together called stimuli). Work attitude is the factor which the organization should work on to attain more regarding to increasing employees positive attitude by facilitating things like; Competition, creativity, retention and others were some of them. In a work place with positive attitude competition is seen as a motivator that stimulates employees to perform at their best to improve productivity. The other thing which is contributing for positive attitude at work place is creativity, ethics, and cognition; because employees feel that their ideas will contribute to the success of the organization. Perception, personality, and retention are also some of the more direct effects of individual behavior in organizational behavior. A positive work environment encourages employees to become involved in company success (Ahmad, et al. 2012).

2.3.2.5. Customer Focus

Key customer focus According to Shelth et al., (2000); Vandermerwe,(2004), involves an overall customer-centric focus and continuously delivering superior and added value through customized offers to the key customers.

According to Armstrong and Kotler, (2004), in today's business environments the ultimate goal of any key customer focus is to achieve a deep customer relationship that makes an organization a necessary partner to its most profitable customers. The overall company understanding and support for key customer focus encourage sales force to foster long-term customer relationships

by offering more personalized services. Firms are engaged in enough amounts of transactions with significantly diverse customers in terms of their needs, preferences and expectations. Also they consider customer relationship management to some extent as challenging.

Furthermore, customer's needs-driven customer relationship management programs are common with firms that adopt business- to-business marketing strategies because, customers-needs-driven customer relationship management programs improves inter-firm relationships.

In summary, key customer focus can be considered as a function of customer relationship management of a retailer's integrity as well as firms 'ability to perform their services, to keep its promises and commitment and in general to do the right things 'consistently.

2.3.2.6. Continuous Improvement

Quality improvement is all about 'not being satisfied' at the existing state no matter how good it is. There is always a gap for improvement though it may appear to have reached the limit. Quality improvement must have long-term goals and should be embodied into the business strategies. Small improvements made here and there, in time, will lead to a big gain (Sarkar, 2000).

Quality improvement starts by paving the way for active participation of customers, suppliers (vendors) and employees. Customer satisfaction is the base for any quality improvement activity. Customer's needs must be integrated into the business mission and the overall quality objectives. As these needs are dynamic, there must be a feedback mechanism for coping up with the changes to drive the mission of the business further. Vendor-producer relationship is one component for quality improvement since vendors provide the raw material. A solid relation with suppliers ensures quality material at the right time and amount. Employees make quality improvement a reality. Once the employees are convinced, properly trained and equipped with the right tools, they must be encouraged to be involved in the improvement process. One way of encouraging employee's participation is motivating them. Motivation also enhances the quality of work in an organization.

Assigning workers responsibility for design and performance of a task helps quality improvement process in an organization. It will make workers feel more like part of the team rather than an automaton. Obviously, there must be proper controlling mechanism to prevent any abuse. Cutting corners must also be discouraged when it comes to quality.

Benchmarking is a continuous search and application of better practices of organizations with superior competitive advantages (Sarkar, 2000). It involves identifying, understanding and adopting outstanding processes and practices. Benchmarking reveals the existing gaps in numerical specification including dimensions, weight, and extent of defects and portion of reject for products. It also gives the difference in method and workflow for processes.

Instigating quality concepts like that of Total Quality Management, which advocates a continuous improvement for both the product and process, can also be used to identify gaps.

Continuous Process Improvement (CPI) is a steady and uninterrupted process of improvement for different aspects of the organization (Sarkar, 2000). This approach is applicable to any goal-oriented process including business, management, or technical processes. Unlike CPI approach, Traditional improvement approaches have a number of rises and falls before the target point is achieved. This has many disadvantages including high cost, process disruptions, negative effect on employees and loss of customer trust. But in continuous improvement, although the rate varies, there is always improvement.

2.3.2.7. Training and development

As one of the major functions within HRM, training has for long been recognized and thus concerned great research attention by academic writers. Training as the planned and organized modification of behavior through learning events, activities and programs which result in the participants attaining the levels of knowledge, skills, competencies and capacities to carry out their work successfully. It is worth nothing that, as researchers continue with their mission into the training research area, they also continue their opinions into its importance. Some of these researchers argue that the acknowledgment of the importance of training in recent years has been profoundly influenced by the strengthening of competition and the relative success of organizations where investment in employee development is considerably emphasized (Beardwell et al. 2004). They add that technological developments and organizational change have gradually led some employers to the realization that success relies on the skills and abilities of their employees, thus a need for considerable and continuous investment in training and development. Within the marketing literature, satisfaction is a key post-consumption construct. Customer satisfaction is based on the balance between customers' expectations and customers' experiences with the products and services. They also indicated when a company was able to lift

a customer's experience to a level that exceeds the customer's expectations, then, the customer would be satisfied.

Kotler (2000) defined customer satisfaction as a customer's feelings of pleasure or disappointment resulting from comparing the product's perceived performance in relation to customers' expectations. While different conceptualizations of satisfaction have been advanced, there is some agreement that: it is a consumer response, either emotional or cognitive the response occurs at a particular time, during consumption as a process or after consumption, based on accumulated experience as an outcome and the response pertains to a specific consumption experience that includes expectation, importance, and performance (Chang &Polonsky, 2012).

2.3.3. Challenges Facing the African Food Industry

Food safety policy in most African countries, resources made available for food safety activities are scarce and scattered, and coordination systems are weak at all levels. There are no risk-based food safety policies applying the principles of prevention throughout the food chain (farm to table approach). Responsibilities may be shared between several agencies/institutions with little coordination, resulting in a lack of accountability, duplication of effort, waste of scarce public funds, and conflicting interests and confusion between stakeholders. The present structure also causes problems in relation to who is the Competent Authority, an essential component of the administrative structure. Unclear lines of authority are unacceptable to trade partners. The splitting and overlapping of responsibilities continues to be the main constraint hampering progress in developing food safety systems (Sarkar, 2000).

1. Food safety management

Food safety management is generally weak in most African countries like Ethiopia. Unclear responsibility means no accountability. This contrasts with a centrally coordinated system where there is clear leadership responsible for; the development of policies, for operating control and monitoring programs, for staff training, for establishing scientific and laboratory support, and for securing public funds to the sector. Another weak point is the influence of politics on technical competencies, where food safety is directly administered by ministries and elected local authorities. Most African countries have established national Codex Committees. These play a

role in finalizing standards related to Codex functions, but have little or no influence in questions related to a general food policy. Government representatives dominate the committees, and there is little or no representation from the private sector and consumers (Orris, et al., 2000).

2. Public awareness, information and education

The capability and/or capacity to perform risk analysis, including science-based risk assessment in food safety, are scattered or non-existent in institutions reporting to government agencies. Food safety agencies pay little or no attention to the dissemination of information and advice to the relevant stakeholders along the food chain. As a consequence, the population's awareness of food safety issues is very low. Better understanding of the need and the mechanisms for change is needed. This applies to all stakeholders, whether politicians, consumers or the private sector (farmers, industry and traders and their representative organizations) (Sampaio et al., 2011).

3. Laws, regulations and standards

Regulatory frameworks and enforcement manuals are outdated and do not have the holistic/food chain ('farm to table') approach being introduced internationally. In most cases legislation is not flexible enough to keep pace with new technological developments, emerging hazards, changing consumer demands and new food safety requirements. Harmonization of laws and regulations, including implementation of international standards are an essential prerequisite for regional and international trade liberalization in agriculture and food products (Ronald, et al., 2005).

4. Inspection and auditing

Through their regular contacts with food producers, traders, and consumers, food inspectors or food safety auditors play a key role in the food safety system. In most African countries there are only a few trained inspectors and/or food auditors who are familiar with risk based food safety systems. The level of food safety awareness in the private sector also depends on the competence of, and information disseminated by these inspectors or food safety auditors. In some countries locally elected governments are in principle responsible for inspection and auditing, including the licensing of premises and establishments for the transportation, slaughtering and storage of food. These local governments instruct inspectors in the absence of a corresponding central authority (Ronald, et al., 2005).

However, they have little or no technical competence to advise local inspectors, and limited resources to introduce food safety mechanisms. In addition, information or communication hardware like telephones, computers and transportation facilities are scarce, which makes internal communications difficult. Properly trained inspectors or food safety auditors are a prerequisite for an efficient food safety control system. The reputation and integrity of the control system depends to a very large extent on the skills of the inspectors or auditors. However, systems for training staff in the food safety area are weak or nonexistent in most African countries (Sikora, et al., 2003).

2.3.4. Food Safety and Quality Management Practices in Ethiopia

In the Ethiopian case, the manufacturing industries, agro-based industries makeup about 50% of large and medium-scale manufacturing establishments. And from the total manufacturing enterprises, 31.02% are food and beverage producing establishments (CSA, 2002). In the cottage/handicraft and small-scale manufacturing, agro-based establishment add up to be 87% of the total count and about 53% of the overall establishments are related to food and beverage production (CSA, 2003). Agro-based industries are also the largest employers of the workforce and value adders in the economy. Thus, one can easily observe that agro-based industries, more specifically, the food & beverage industries, play significant role in the economy of Ethiopia.

There are major efforts that are being made by different government bodies to set up local standards. Almost all of these standards are adopted from international standard and safety management systems. International standards are mainly based on quality concepts. Therefore, to meet local standards manufacturers has to implement quality in their production processes. Local standards are mandatory in order to manufacture in any country.

There are also problems that have entangled the manufacturing process in the industry that could be alleviated through the selection of the right quality concepts. Product and process development for manufactured food items and related difficulties are some examples where 12 qualities can provide solutions. Continual up grading of skills of employees and smooth information flow with suppliers and consumers can be attained with such concepts. Appropriate facilities especially laboratories can also be established and maintained. In general, most of the problems faced by the industry can directly be solved or at least significantly minimized (CSA, 2003).

2.4. Conceptual Framework

Based on literature review, empirical studies, and personal observation, the conceptual framework for the study is formulated below figure 2.1. In the conceptual framework of this research is presented below at Figure 2.1, the arrow indicates the direction of quality management factors towards the influence on the manufactured food quality management systems.

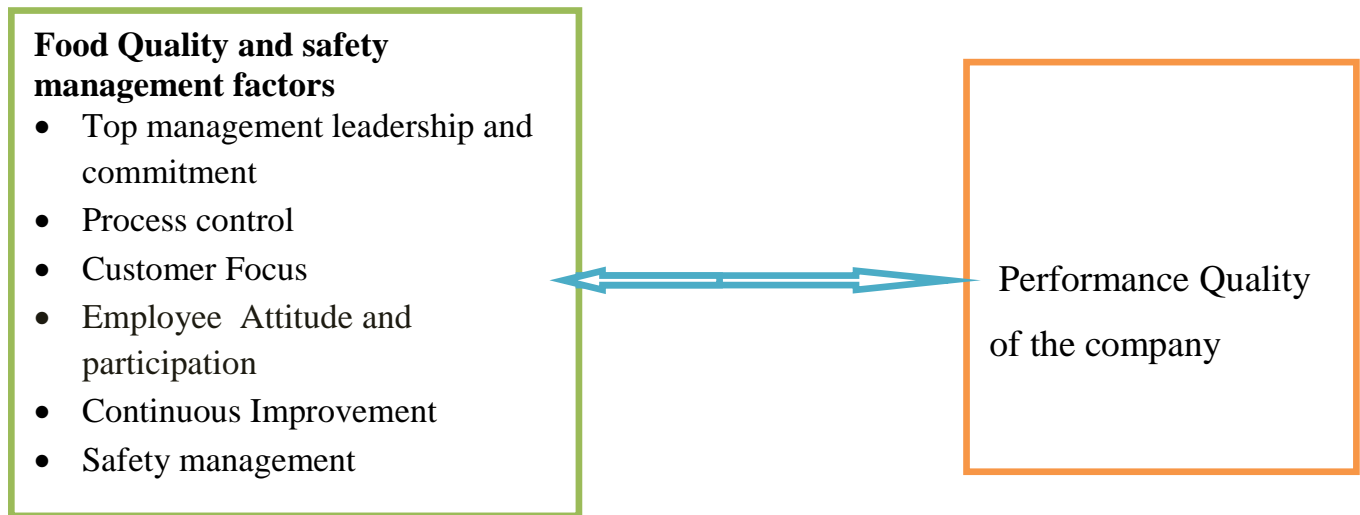


Figure. 2.1. Conceptual Framework of the study

Source: Adapted from: Ardikhani, (2012);Palvia, (2009);Chaudhuri and Holbrook,(2002)

The arrow on the conceptual figure in the above shows the influencing direction of the independent variables (factors of quality management system) on the dependent variable (industrial manufactured food quality).

This figure 1, demonstrates that when the top management of the company along with their staff improves factors such as: process control, equipment and maintenance, customer focus, employee attitude and participation, top management leadership and commitment and continuous improvement with the guidelines of total quality management would in turn improve the whole quality performance of the company.

CHAPTER THREE

RESEARCH DESIGN AND METHODOLOGY

This part of the thesis has described the methods and the instruments that have been employed by the researcher in conducting the research. It includes the research approach, research design, and population and sampling, data collecting instruments, data collection procedures and data analysis.

3.1. Research Design

Research design refers to the overall strategy that the researcher chooses to integrate the different components of the study in a coherent and logical way. The researcher used descriptive type of research design and correlation to test relationship of variables. Descriptive research design helps provide answers to the questions of who, what, when, where, and how associated with a particular research problem.

3.2. Research Approach

Research approaches are plans and procedures ranging in step from broad philosophical assumptions to detailed methods of data collection, analysis, and interpretation. Creswell and Borrego described three research approaches: such as qualitative, quantitative and mixed methods (Creswell, 2013). Based on the character of the research questions, here, in this study, mixed approach used with a larger extent of positivists (quantitative). Within this general positivist framework, elements of the phenomenological (qualitative) approach also have been incorporated to provide alternative insight and to identify major factors of employee motivation that are affecting organizational performance. Qualitative data has been collected by interview of management members of the two companies.

3.3. Sample and Sampling Techniques

Sampling involves selecting individual units from a larger population for the study. Population refers to the set of individual units about which the research question seeks to find out. In order to answer the formulated research questions, this research carried out within the two Ethiopian food industries, using a structured questionnaire as the data collection method.

3.3.1. Sampling Population

The population of the research has been comprised the staff of Kebron Food Complex and Booez Pasta and Macaroni Company. The sample size has constituted personnel from Kebron Food Complex production department and quality control department and the same is true for Booez Pasta and Macaroni Company at burayu town. As listed below in table 3.1 that have the more responsibility on food safety and quality issue. They are 166 in number.

3.3.2. Sample Size and Sampling Techniques

The proposed sampling technique for this population is census sampling because of the fact that the total population is not large and taking all population as a sample size will increase the accuracy of the study.

Table 3.1. Sample size of the study

S.No.	Name The study Company	Total Population	Sample Size of The Study
1	Kebron Food Complex	111	111
2	Booez Pasta and Macaroni Company	55	55
Total		166	166

3.4. Data Collection Instrument

For this thesis research, survey method has been chosen as the appropriate method to collect data. The researcher has made use of questionnaires and interviews as an instrument for collecting data for the study. A structured questionnaire has been used, consisting of three parts; demographic data which includes (age, sex, profession and experience), knowledge of quality and safety management system , and about the practice of food safety and quality management system in the companies which has accompanied with a cover letter that contains a brief summary of the study purpose and confidential considerations.

Questionnaires: The quantitative questionnaires has been prepared by means of structured Likert scale questions ranging 1-5, and the questionnaires has been administered to the staff of Kebron and Booez companies consisting of Production Department and Quality Control Department (Burns and Burns, 2008)..

Interviews; According to Dessler (2004), interviews are procedures designed to solicit information from a person's oral responses to oral inquiries. For this study, in order to get a true representation of data, structured interviews have been conducted. The interviews has been conducted face-to-face and responses immediately written down to avoid distortions. The interview has been administered to the line managers of Production Department and Quality Control Department.

3.5. Data Collection Procedures

The questionnaires have been personally delivered to the **staff of Kebron Food Complex and Booez Pasta and Macaroni Company** and collected personally by the researcher. An interview conducted by the researcher at the office of the firm and the responses from the interview has been recorded in a notebook by the researcher. The style of interviewing is structured interview and is dependent on the implementation practice and challenges, if any, of implementing food Safety and Quality Management. There searcher has conducted the interviews with selected line managers who had more responsibility regarding food safety and quality management system. The personal interviews have been briefed and straight forward, avoiding the wasting of the respondents' time.

3.6. Data Analysis Method

The relevant information has been collected from the targeted respondents and analyzed using SPSS version 20 software by descriptive analysis method. Descriptive analysis has conducted and presented in frequency percentage, mean and standard deviation method. Correlation analysis has also been done to test the relationship of dependent and independent variables (to test the association of factors of safety and quality management with quality performance of the companies mentioned in the above scope of the study in chapter one.

3.7. Validity test

The data analysis procedures adopted were: statistical analysis of descriptive frequencies, means and correlations to test the association of factors, and the effect of employee motivation on the organizational performance of the selected food sectors. Analysis has done using SPSS for Windows, Version 20). Qualitative data has been analyzed using content analysis based on the research questions. Cronbachs alpha is a coefficient of reliability. It is commonly used as a

measure of the internal Consistency or reliability of a psychometric test scores for a sample of examinees. Coefficients of .70 or greater are nearly always acceptable. By tracing this literature the researcher has tasted the reliability of the items which is developed for respondents.

3.8. Ethical Considerations

Obeying ethical rules is vital in conducting research. The researcher has received a letter of introduction form the St. Mary's university. Letter of permission enabled the researcher to carry out the research and approach the informants. Participant of the study has been informed about the objectives of the study emphasizing that the data has been used only for the intended academic purpose only. Careful attention was given, regarding respecting the rights, needs and values of the study subjects, and maintaining confidentiality of the data and acknowledging sources of information.

CHAPTER FOUR

RESULTS AND DISCUSSION

4.1. Introduction

In this section, the collected data were discussed, analyzed and presented. To collect important information, the researcher has distributed 166 questionnaires for selected respondents from this 162 were returned and analyzed with a response rate of 97.6 %. This chapter presents the main body of the paper. To achieve each specific objective of the study, the data obtained from the survey was analyzed using different methods of analysis. Descriptive statistics is used mainly to test the first, second and third objectives. The qualitative data gathered by interview is analyzed to the last objective. In addition, correlation analysis was conducted to test the hypothesis.

4.2. Data Analysis

4.2.1. Descriptive statistics of the Assessment of the study

4.2.1.1. Mean Value and Frequency Distribution of the Assessment

As it is stated in chapter three of this study paper, this thesis researcher has chosen descriptive method for the study. Then frequency of the assessment survey data was analyzed and presented below along with mean and standard deviations. Because to include all the data values, the most frequently used measure of central tendency is the mean or average, which includes all data values in its calculation. Because the mean is the building block for many of the statistical tests used to explore relationships. The detail analysis of the different factors of food processing quality and safety management system in the food manufacturing companies in the town of Burayu in Oromia Regional State, near the Addis Ababa city practices have been indicated in tables below presented in two categories. The first category is based on the two food processing companies named as Kebron Food Complex and Booez Pasta and Macaroni Companies. The second category is analyzed based on implementation practices and relationship of safety and quality management systems determining factors (variables).

4.2.1.1.1 Descriptive Analysis of the food quality and safety system in Kebron Food Complex

As table 4.1 illustrates seven items which is regarded top management leadership and commitment factors which are one of the determining factors of food quality and safety management on the dependent variable (quality performances) mentioned. Table 4.1 summarizes

the perception of respondents about the food quality management system factors of manufactured food performances of kebron food complex in Bureau town. Regarding the first item which is top management leadership and commitment from 107 respondents, 77.6% (73) of respondents have agreed that there is significant attention on working for development of top management leadership and commitment practices in kebron food complex in Burayu town which is also supported by a mean score of 4.2500 and standard deviation 0.67566. In this aspect, 3.7% (4) of respondents were disagreed while 29.9% (32) of the respondents were not decided (they were neutral). This demonstrates that, there is top management leadership and commitment practices in the food complex company. This result has demonstrated that working by focusing on top management leadership ability and building commitment has been practiced moderately to in the food complex company. One can understand that high level of leadership will result in built up of moderate food quality management system in the food manufacturing industries. In this aspect there are 3.7% (4) respondents who disagreed on the availability of the practices of leadership and commitment development in food companies. We can see that this result revealed that top management has not much made adequate managerial/supervisory staffs that have undergone quality improvement techniques. The company's profit has been Increased showing that the organization is a good place to work this company has a quality policy (vision, mission, long & short-term strategies, objective & goal) and also has addressed company's position with regards to customers, suppliers, employees, community environment& the business itself. The company also has quality improvement plan with the full support of top management and it revealed that Food safety is properly managed in the food companies studied.

In response to the second item, when agree and strongly agreed are summed up 79% (83) of respondents are agreed that there is good process of the kebron food complex with a mean score of 4.1250 and standard Deviation of 0.67967. While only 2.8% (3) of the respondents have been disagreed and 19.6% (21) respondents were neutral. This result has shown that process control has well practiced in the Kebron Food Complex. This reveals high implementing of process control practices will result in good food quality of the food complex company. According to these respondents, the processing time of every activity is measured and recorded properly. There is also a HACCP team in this company and the HACCP team re-evaluates the company HACCP plan whenever a new product is being developed for production. In addition to this, this company,

there are excellent Equipment and maintenance management practices. All monitoring equipment has been frequently calibrated and kept in good working condition in the companies.

The third item displayed in the below table 4.1 explains about the Customer Focus management system in the kebron food complex in Burayu town to acquire positive food quality production. As it is indicated, 77.9% (83) of respondents have agreed that, the workers have knowledge about Satisfying internal customers (within the organization) and the workers have knowledge about Satisfying external customers (outside the organization). So, Consumers give a positive response to safe food production and also there is excellent Partnership between organization and supplier in this company and also the company has a system for gathering client's suggestions/comments to strengthen quality food in processing in the company which has also been supported by a mean score 3.7500 and standard deviation 0.73721, While 24.3% (21) of the respondents have been neutral but no respondents were disagreed in this sub variable. This result implies there is a highly significant attention provided to build a customer focus food processing practices that has implementing customer focus management system so as to gain in kebron food processing company better processing performance.

Concerning the fourth and fifth items, 86.1% (91), and 77.6% (83) of the respondents respectively have agreed and the result were supported by mean score of 3.8750 and 3.7083 with standard deviation of 0.79741 and 0.80645 respectively. In these variables for the fifth item 27.1 % (28) of the respondents were neutral with 1.9% (2) disagreed respondents. The descriptive analysis result for the sixth and seventh items, 77.6% (83) and 69.3% (74) of the respondents respectively have agreed and which have supported by the mean scores of 3.8500 and with standard deviation of .85741 and 27.1 % (28) of respondents are neutral.

These results demonstrated that the kebron food complex has developed good work attitude and employee participation and process management practices on food safety and quality management system. This shows that workers involved in production line pay enough attention to personal hygiene (clean clothes, hand washing, fingernails and hair and their organization can get success without FSMS in the market same as with FSMS that they feel comfortable with rules and policy of the food processing company of kebron food complex found in Burayu town. On the process management aspect, there is good safety and quality management process in this company and they regularly identify problems and solve quality related problems. According to these

respondents, during operation practices, the company regularly collects data to measure the performance of operations or process.

Table.4.1. Descriptive Analysis of the food quality and safety system in the Kebron Food Complex

No	Descriptions	N	Strongly Disagree N (%)	Disagree N (%)	Neutral N (%)	Agree N (%)	Strongly Agree N (%)	Mean	Std. Deviation
1	Top management leadership and commitment	107	-	4(3.7)	32(29.9)	53(49.5)	18(18.8)	4.1250	.67967
2	Process control	107	-	3(2.8)	21(19.6)	68(63.6)	15(14)	4.2500	.67566
3	Customer Focus	107	1(0.9)	2(1.9)	26(24.3)	69(64.8)	14(13.1)	3.7500	.73721
4	Work attitude and Employee participation	107	-	1(0.9)	15(14)	89(83.2)	2(1.9)	3.8750	.79741
5	Process management	107	-	2(1.9)	10(9.3)	81(75.7)	14(13.1)	3.7083	.80645
6	Continuous Improvement	107	-	2(1.9)	22(20.6)	72(67.3)	11(10.3)	3.8500	.83741
7	Safety management	107	-	4(3.7)	28(27.1)	65(60.7)	9(8.4)	3.9350	.85741
Grand Mean			0.9 %	2.4 %	20.7 %	66.4%	9.5 %	3.92 76	0.7701

Source: Own Survey, (2018)

To summarize the information obtained from table 4.1, item no. four and the fifth items are better practiced relatively while other are also practiced very well. Therefore, it is possible to conclude that the food processing complex has implemented better safety and quality management schemes that can strengthen the quality of food products in the kebron food complex. The result has been positively supported the grand mean score of the study (3.8333) in addition to thesis, this has shown the company has perceived implemented with satisfactory level that would be strengthening the organizational performance of the food processing industries in Burayu town.

4.2.1.1.2 Descriptive Analysis of the Quality management system in Booez Pasta and Macaroni Company

Table 4.2 describes seven sub-factors of safety and quality management systems in food processing industries of Booez Pasta and Macaroni Company in Burayu town. In response to the first item, when agree and strongly agreed are summed up among 55 respondents, 65.4%(36) of them were agreed that there is better top management leadership and commitment practices which strongly influenced the safety and quality of processed food staffs to create good customer satisfaction and market access which has been supported strongly by mean score of 4.1250 and

standard deviation of 0.67967, where 29.9% (32) of respondents have been neutral to decide about the fact. This result has shown that the safety and quality management system has well practiced in Booez pasta and Macaroni Company. This reveals that, good commitment has resulted in good organizational performance of the food manufacturing industry. The document review of this study ensured that this company has a quality policy (vision, mission, long & short-term strategies, objective & goal) and also has addressed company's position with regards to customers, suppliers, employees, community environment and the business itself. The company also has quality improvement plan with the better support of top management respondents approved that food safety is properly managed in their company.

Regarding the second item which is Process control has been practiced that 83.6% (42) of respondents have agreed that this is practiced very well and performed positively which has been supported by a mean score of 4.2500 and standard deviation 0.67566 while 9.2%(16) of the respondents were neutral and 7.3%(4) respondents have been disagreed. This illustrates there is significant influence on creating positive food quality of the company.

The third item, Customer Focus, as it is indicated 66.6% (41) respondents have agreed that there is good customer focused management practice in the company which is also supported by a mean score 3.7500 and standard deviation 0.73721. While 20% (11) have not decided about the questions requested to answer (neutral).This result demonstrated that there is large number of respondents who are not clear or have not enough information to decide about it and also it has moderate customer focus management practice in the Booez Pasta and Macaroni Company.

Concerning the fourth and fifth items, 60.9% (38), and 76.4% (42) of respondents respectively have agreed and which have supported by the mean scores of 3.8750, and 3.7083 with standard deviation of 0.79741 and 0.80645 respectively. In this aspect 27.3% (15) respondents were neutral to decide and for the fifth item 21.8% (12) of the 55 respondents were neutral in decision. Here, the result of the fifth item demonstrated that the practice of Work attitude and Employee participation were no much clear as the implementation of the other factors. In addition to this the results have been supported by mean score in less level with compared to others listed in the table below. The work attitude and employee participation sub factors such as: Workers involved in production line pay enough attention to personal hygiene (clean clothes, hand washing, fingernails and hair .their company can get success without FSMS in the market same as with FSMS. employees feel comfortable with rules and policy of the company. The descriptive

analysis result for the sixth and seventh items, 74.1% (41) and 69.1% (38) of the of respondents respectively have agreed and which have supported by the mean scores of 3.8750 and standard deviation of 0.84761 and 27.3 % (15) of respondents are neutral.

These results demonstrated that the food processing organization regularly identify problems and solve quality related problems .The company regularly collect data to measure the performance of operations or process of food production in this company. In this company, there is good safety management process in this food processing industry and also there is good quality management process in this company.

Table.4.2. Descriptive Analysis of the Quality management system in Booez Pasta and Macaroni Company

No	Descriptions	N	Strongly Disagree N (%)	Disagree N (%)	Neutral N (%)	Agree N (%)	Strongly Agree N (%)	Mean	Std. Deviation
1	Top management leadership and commitment	55	2(3.6)	5(9.1)	12(21.8)	24(43.6)	12(21.8)	4.1250	.67967
2	Process control	55	-	4(7.3)	9(16.4)	30(54.5)	12(21.8)	4.2500	.67566
3	Customer Focus	55	1(1.8)	2(3.6)	11(20)	25(45.5)	16(29.1)	3.7500	.73721
4	Work attitude and Employee participation	55	-	2(3.6)	15(27.3)	28(50.9)	10(18.2)	3.8750	.79741
5	Process management	55	-	1(1.8)	12(21.8)	33(60)	9(16.4)	3.7083	.80645
6	Continuous Improvement	55	-	1(1.8)	11(20)	27(49.1)	16(29.1)	3.9500	.79621
7	Safety management	55	-	2(3.6)	15(27.3)	30(54.5)	8(14.5)	3.8750	.84761
Grand Mean			1.8 %	4.4 %	22.1 %	51.2 %	21.6 %	3.933 33	0.762 88

Source: Own Survey, (2019)

To summarize the information obtained from table 4.2 above, the food safety and quality management systems has been moderately implemented and has influencing on the quality performances of Booez Pasta and Macaroni Company.

Therefore, it is possible to conclude that the Booez Pasta and Macaroni Company has implemented better implementing program/ scheme that can strengthen the Quality management system and capacity of the company so that to improve its services which is being provided to

customers. The mean of the quality performances has positively supported the study result (3.8261). This has shown the factors were perceived satisfactorily that would be strengthening the organizational performance of the Booez Pasta and Macaroni Company very well.

According to interview data analysis, they said that” *we clean all our premises daily and 24 hours. We have assigned janitors in each place. But we do not keep a record of what is done or not done. Usually the janitor’s supervisors/heads are the one who are responsible to control the sanitation. In each rest room adequate water is available and is accessible 24 hours. The company provides working cloth every one year. So the employees are obliged to wear working cloths/uniforms prior to commencement of the daily work activities. As they said”we have no harmful wastage but all the wastes are properly managed. For the dry wastes small scale cooperative association members come regularly and disposed the collected wastes.*

4.2.1.2. Assessment data analysis for the two food manufacturing companies

4.2.1.2.1. Analysis of top management leadership and commitment factors

Table 4.3 summarizes the perception of respondents about the food safety and quality factors on food processing performance of the food companies in combined manner. As table 4.3 illustrates seven items which is regarded under the theme of top management leadership and commitment which influences quality factors that are affecting the organizational performance of the food manufacturing Companies. In response to the first item, when agree and strongly agreed are summed up from 164 respondents, 60.3% (89) of the respondents have agreed that there is adequate managerial supervisory of staff in the two companies which has been supported by a mean score of 3.5487 and standard deviation of .86593. This demonstrates moderate influence on food production quality and safety of the company.

Regarding the second item named as improving the quality of food manufactured by processing **industries of Booez Pasta and Macaroni Company and Kebron Food Complex in Burayu** town of Oromia regional state near to Addis Ababa at the west corner. In this aspect 64.2 % (89) of respondents are agreed that there is good safety and quality management system in the company with mean score of 3.3451 and standard Deviation of .95216, where 22.3 % (35) of respondents have disagreed. In this regard, 24.4 % (40) of respondents were neutral to decide. The processing procedure that this company revealed the HACCP team re-evaluates the company HACCP plan whenever a new product is being developed for production. Scheme has well satisfied to the

employees. This reveals low process control will result in poor organizational performance of the food processing companies.

The third item displayed in the below table 4.3 explains about the increasing profit for the products of the food producing industries. As it is indicated 62.8% (103) of respondents have agreed that there is good customer focuses management system in the two companies. But it is not much supported by a mean score (3.4870) and standard deviation 1.0274, While 17.6% (29) of the respondents have not agreed and 19.5% (32) of them were neutral. This result implies there is less food quality management system in the companies based on combined data analysis.

Concerning the fourth,fifth,sixth and seven the items 62.2% (102), 57.3% (94), 53.4% (96) and 60.6(83) of the respondents respectively have agreed and have the mean scores of 3.6195 and 3.4425 with standard deviation of 1.10452 and 0.92522 respectively. Where for item fifth 29.9% (49), item sixth 35.4% (58), and item seven31.1% (51) of respondents have disagreed. In this regard, 22 % (36) of respondents were neutral to decide here, the result of the fourth item was supported by mean score where the fifth item was not supported by its mean score.

These results demonstrated that there is excellent Partnership between the companies and supplier in this company. The workers have knowledge about Satisfying external customers (outside the organization).The workers have knowledge about Satisfying internal customers (within the organization). The company has a system for gathering client's suggestions/comments and the company regularly measures client's satisfaction Consumers give a positive response to safe food production.

Table. 4.3. Frequency Distribution of top management leadership and commitment factors

No	Descriptions	N	Strongly Disagree N (%)	Disagree N (%)	Neutral N (%)	Agree N (%)	Strongly Agree N (%)	Mean	Std. Deviation
1	Top management has made adequate managerial/supervisory staff who have undergone quality improvement technique	162	12(7.3)	20(12.2)	43(26.2)	72(43.9)	17(10.4)	3.3451	.95216
2	There is High cost in manufacturing process this company	162	2(1.2)	33(20.1)	40(24.4)	75(45.7)	14(8.5)	3.5487	.86593
3	The company's profit has been Increased	162	4(2.4)	25(15.2)	32(19.5)	74(45.1)	29(17.7)	3.4870	1.0274
4	you feel that the organization is a good place to work	162	9(5.5)	17(10.4)	36(22)	63(38.4)	39(23.8)	3.6195	1.10452
5	The company has quality improvement plan with the full support of top management	162	5(3)	18(11)	49(29.9)	63(38.4)	31(18.9)	3.4425	.92522
6	Food safety is properly managed in your organization	162	3(1.8)	27(16.5)	58(35.4)	55(33.5)	31(18.9)	3.6423	.89521
7	Your company has a quality policy (vision, mission, strategies, objective & goal) and also has addressed company's position with regards to customers, suppliers, employees, ...	162	10(6.1)	19(11.6)	51(31.1)	60(36.6)	23(14)	3.48856	0.975046

Source: Own Survey, (2019)

To summarize the information obtained from table 4.3 item no. third and the fourth item are better practiced relatively while other are poorly practiced. Therefore, it is possible to conclude that the companies have not implemented better safety and quality management system. The grand mean score of the items has poorly supported the study result (3.48856).

4.2.1.2.2. Mean Value and Frequency Distribution of Process control Factors

As displayed in Table 4.4 below, there are five sub factors under the theme of process control in relation to food safety and quality management systems which were listed and respondent asked their opinion concerning the influence of stated factors on the performance of the food processing companies of the **Booez Pasta and Macaroni Company and in the Kebron Food Complex** in burayu town of Oromia regional state at the west skirt of Addis Ababa city administration.

Regarding the first item such as: measuring and recording properly the processing time of every activity in this companies results that, 56.7% (93), for item two, 52.5%(%),for item three

62%(101), for items four 66%(108) and for the fifth item 65% (108%) of the respondents have agreed respectively with the facts listed in the table. These factors have a mean score of item one 3.3628, item two 3.5664, item three 3.5752, item four 3.5310 and the fifth item was 3.6696, with a standard deviation of 0.96420, 0.82241, 0.98928, 1.01832 and 0.92404 respectively. While 12.8%, 23.8%, 15.9%, 10.9% and 9.1% of the respondents respectively, from item one to five, are disagreed that there is no good process control in these companies.

But large number of respondents decided neutral such as for item one ,26.2% (43),for item two 23.8%(39), for item three 22.1%(36),for item four 23.2%(38 and for the fifth item 25(41) of the respondents have not decided(they are neutral). , Here, we can see that second, third, fourth and the fifth item are supported by the mean score where the first item was not supported positively. From this, we understood that, sub factors of process control have been practiced moderately. The majority of the respondents have an opinion of better practices of process control in the food safety and quality management structures. The result has also been supported by the grand mean score (3.541) of the study.

Table.4.4. Mean Value and Frequency Distribution of the process control Factors

No	Descriptions	N	Strongly Disagree N (%)	Disagree N (%)	Neutral N (%)	Agree N (%)	Strongly Agree N (%)	Mean	Std. Deviation
1	The processing time of every activity is measured and recorded properly	162	2(1.2)	19(11.6)	43(26.2)	70(42.7)	23(14)	3.3628	.96420
2	There is a HACCP team and the HACCP team re-evaluates the company HACCP plan whenever a new product is being developed for production.	162	11(6.7)	28(17.1)	39(23.8)	58(35.4)	28(17.1)	3.5664	.82241
3	FSMS help to increase your product shelf life	162	3(1.8)	23(14.1)	36(22.1)	65(39.9)	36(22.1)	3.5752	.98928
4	All monitoring equipment must be frequently calibrated and kept in good working condition.	162	3(1.8)	15(9.1)	38(23.2)	72(43.9)	36(22.1)	3.5310	1.01832
5	In this company, there is excellent Equipment and maintenance management practices	162	5(3)	10(6.1)	41(25)	79(48.2)	29(17.7)	3.6696	.92404

Source: Own Survey, (2019)

4.2.1.2.3. Mean Value and Frequency Distribution of the Customer Focus Factors

As it is illustrated in table 4.5 which comprises Six-Sub factors (items) displaying information concerning customer focus for strengthening of the producing quality products for the sake of organizational performance development. In these sub factors questions, in the first item 71.3% (117) respondents, in the second item 60.2%(118) the third item 75.1%(106), for the fourth item 64% (105), for the fifth item 59.5% (97) and the last item 67.7%(111) respondents have agreed that there is customer focus management practices which influences the buildup of organizational performance of the macaroni and Pasta processing companies. However, in this survey for item one 19.5% (32), for item two 29.4%, for item three 25.5 % (41), for item four 23.8% (39), for item five 27% (44) and for the sixth 24.4% (40) of the respondents respectively are neutral and the rest are disagreed. These sub factors have also supported with mean score of the first item 3.7434, the second item 3.7965, the third item 3.6549, the fourth item 3.4602, the fifth item 3.5398 and the sixth item 3.5221 respectively with standard deviation of the .91397, .96510, .96149, .95464, 1.06934 and the sixth item .96453 respectively. Table 4.5 has demonstrated that the result has been supported by all items except the second and fourth item which is close to neutral decisions. Besides that the grand mean has scored (3.61948) close to agree that revealed there was a positive influence on the performance of the companies.

In this aspect the respondents agreed that the workers have knowledge about Satisfying internal and external customers .There is also excellent partnership between organization and supplier in this company. This analysis demonstrated that the companies have a system for gathering client's suggestions/comments and the company regularly measures client's satisfaction. Consumers give a positive response to produce food safely. To generalize what is obtained from table 4.5 below, the work environment of focusing on customer satisfaction is practiced moderately.

This shows the companies have been improving their capacity of fulfilling the quality production criteria and to be accepted by the public, participation of food processing staffs, and also strengthening the internal capacity of safety and quality management activities. However, still a significant number of respondents have disagreed about the availability of customer focus practices of the companies.

When it is summarized, this result revealed that the majority of the factors listed have significant influence on the performance these companies at burayu town.

Table.4.5. Mean Value and Frequency Distribution of the customer focus Factors

No.	Descriptions	N	Strongly Disagree N (%)	Disagree N (%)	Neutral N (%)	Agree N (%)	Strongly Agree N (%)	Mean	Std. Deviation
1	The workers have knowledge about Satisfying internal customers	162	6(3.7)	9(5.5)	32(19.5)	74(45.1)	43(26.2)	3.7434	.91397
2	The workers have knowledge about Satisfying external customers	162	4(2.5)	13(8)	48(29.4)	69(42.3)	29(17.8)	3.7965	.96510
3	There is excellent Partnership between organization and suppliers	162	4(2.4)	12(7.4)	41(25.2)	80(49.1)	26(16)	3.6549	.96149
4	has a system for gathering client's suggestions/comments	162	7(4.3)	13(7.9)	39(23.8)	75(45.7)	30(18.3)	3.4602	.95464
5	The company regularly measures client's satisfaction	162	5(3.1)	17(10.4)	44(27)	73(44.8)	24(14.7)	3.5398	1.06934
6	Consumers give a positive response to safe food	162	1(0.6)	12(7.3)	40(24.4)	71(43.3)	40(24.4)	3.5221	.96453

Source: Own Survey, (2019)

4.2.1.2.4 Frequency Distribution of the Work attitude and Employee participation Factors

In response to the first item, half of the total respondents agreed that all workers have good technical and practical knowledge about how to operate machines and manufacturing process moderately influence the performance of the food processing improvements. Regarding the second item which is applying quality and /or safety management system in organization has acquire the knowledge and skills necessary for the macaroni and pasta producing industry at Burayu town. Majority of the respondents agreed on its moderate impact on performance building improvement of success.

The effectiveness and success of any organization depends on the people who form and work within the organization. It follows therefore that the employees in an organization to be able to perform their duties and make meaningful contributions to the success of the organizational goals need to acquire the relevant skills and knowledge as clearly described in chapter two of this thesis. If the organization wants to be competent; it should give enough training for its employees. The below table depicts the view of employees in their respective organization about the

participation in decision making process and attitudes they developed /perceive also staff training they got. Table 4.6 below, portrayed information obtained from respondents (employees) engaged in the food safety and quality management activities concerning their perception on training and development activity focusing on strengthening the knowledge and capacity of the work force on food processing industries.

In this regard, for the item one, 63.2 % (103) respondents, for the second item 66.5%(109), for the third item 63.5%(104), and for the fourth item 61.6%(101) respondents have agreed on the availability of employee participation and training for human resource development schemes for the improvement of organizational performance of the companies. However, for the first item 27% (44), for the second item 21.3(35), for the third item 23.8(39), and for the fourth item 29.9(49) of the respondents are neutral while for 9.8% (16), 12.2(20), 12.8(14), and 8. 5% (14) of the respondents from first item to four respectively have disagreed about the implementation of Work attitude and Employee participation Factors in these pasta and macaroni manufacturing companies. These factors have also a mean score of the first item 3.8407, the second item 3.6283, the third item 3.7232, the fourth item 3.4690 and the fifth item was 3.5575with a standard deviation of .93127, .92770, .92229, .95498 and the fifth item has a standard deviation of .97228 respectively.

Here, large percentage of the respondents agreed that the training offered by the companies often, always and sometimes enough. But much respondents believe rarely and never enough. In these aspects, the food processing industries at different levels haven not often offered training for their all employees. The grand mean score was 3.64374 which are close to the agreement decision that shows most of the respondents have agreed the availability of employee participation in decision process and provided of training and development for building up of the capacity of the companies to make it producing good quality food staffs. The table shows the perception of the employees about the amount of training expenditure by the organization in which they have been working.

Table.4.6. Mean Value and Frequency Distribution of the Work attitude and Employee participation Factors

S.n	Descriptions	N	Strongly Disagree N (%)	Disagree N (%)	Neutral N (%)	Agree N (%)	Strongly Agree N (%)	Mean	Std. Deviation
1	Workers involved in production line pay enough attention to personal hygiene (clean clothes, hand washing, fingernails and hair	162	3(1.8)	13(8)	44(27)	77(47.2)	26(16)	3.8407	.93127
2	Your organization can get success without FSMS in the market same as with FSMS	162	1(0.6)	19(11.6)	35(21.3)	78(47.6)	31(18.9)	3.6283	.92770
3	you feel comfortable with rules and policy of the organization	162	5(3)	16(9.8)	39(23.8)	77(47)	27(16.5)	3.7232	.92229
4	you feel comfortable with rules and policy of the organization	162	5(3)	9(5.5)	49(29.9)	78(47.6)	23(14)	3.4690	.95498

Source: Own Survey, (2019)

4.2.1.2.5. Mean Value and Frequency Distribution of the Process management Factors

As item no.1 in table 4.7 below showed, out of 164 respondents that have responded the questionnaires, when agree and strongly agree are summed up, 63.8% (108) of them have agreed that performance operation have strong effect on organizational performance of process management activities where, 9.1 % (15) respondents did not agree. However, 34.1% (56) of respondents for this factor were neutral. This factor has mean scores of 3.6814 with standard deviation of .92838. For the second factor, 66.5 % (109) of respondents have agreed there were relatively effective practices in the identification of problems and solving them. Soon in any operation processes, these factors have mean score of 3.7168 with standard deviation of .98624. In this study, out of 164 respondents, in table 4.7 below, on the third factor 62.45 % (109) of them have decided there is good safety management process when this factors were effective to build the organizational performance of process management successfully where only 18.3% (30) of them were disagreed and 23.9 % (39) of respondents have not decided (neutral). This factor has a mean score of 3.8230 with standard deviation of 1.05416.

The result from table 4.7 item no. 4 has also revealed that the respondents have agreed by 66.5% (109) of the total respondents that there were good safety practices of safety and quality management systems in the food processing companies. However, in this success factor 20.1 % (33) were neutral and 13.4 % (22) were disagreed. This factor has a mean score of 3.6814 with standard deviation of 1.01124.

The frequency distribution demonstrated from table 4.7 on item no.5 has revealed that 64.3 % (72), employees have equipped with technical knowledge's with standard deviation of 3.7788 and with standard deviation of 1.05842. It is evident that, respondents have agreed most of the third and the fifth factors were well practiced in the organizational performance growing process. But item one is less practiced than others. This result shown; most of the factors have mean value of greater than 3.5 which is nearly 4.

Table 4.7. Mean Value and Frequency Distribution of the Process management Factors

No	Descriptions	N	Strongly Disagree N (%)	Disagree N (%)	Neutral N (%)	Agree N (%)	Strongly Agree N (%)	Mean	Std. Deviation
1	The company regularly collect data to measure the performance of operations or process	162	5(3)	10(6.1)	46(28)	74(45.1)	29(17.7)	3.6814	.92838
2	your organization regularly identify problems and solve quality related problems	162	4(2.4)	15(9.1)	36(22)	73(44.5)	36(22)	3.7168	.98624
3	There is good safety management process in this company	162	5(3)	25(15.3)	39(23.9)	66(40.5)	36(22)	3.8230	1.05416
4	There is good quality management process in this company	162	3(1.8)	19(11.6)	33(20.1)	71(43.3)	38(23.2)	3.6814	1.01124

Source: Own Survey, (2019)

4.2.1.2.6. Mean Value and Frequency Distribution of the Continuous Improvement Factors

Table 4.8 illustrates five items which is regarded as significant factor that is doing on quality improvement of products which affect organizational performance of the Continuous improvement activities. The first item such as: for the first item 58.5% (99) of the respondents, for the second item 56.1% (95), for the third item 57.9% (95), for the fourth item 50(83), and for the fifth item 66.4%(109) of the respondents are agreed that there is continuous improvement practices in the companies. However, as it is seen in the below table 4.8, large number of

respondents are neutral and disagreed about implementation of continuous improvement schemes for the production of pasta and macaroni. The first item result has also been supported by the value of the mean score of 3.4159 with standard deviation of .93279. Besides, the mean scores of 3.8761 ,for the second item , which represent the average response rate, implies that majority of the respondent believed that providing food processing continuous improvement in the company’s performance success moderately. The value of the mean score of the third item is 3.5221 which coincide with the above result. However, the result of the mean score of 3.4425 the forth item implied it’s moderately influence on success of companies. So, providing timely feedback and support to the quality circle team highly influence the performance of the companies.

Table.4.8. Mean Value and Frequency Distribution of the Continuous Improvement Factors

No	Descriptions	N	Strongly Disagree N (%)	Disagree N (%)	Neutral N (%)	Agree N (%)	Strongly Agree N (%)	Mean	Std. Deviation
1	All workers have good technical and practical knowledge about how to operate machines and manufacturing process	162	7(4.3)	29(17.7)	45(27.4)	63(38.4)	33(20.1)	3.4159	.93279
2	your organization has applied quality and /or safety management system	162	4(2.4)	22(13.4)	42(25.6)	72(43.9)	20(12.2)	3.8761	.81430
3	All workers have good technical and practical knowledge about how to manage safety and quality in the manufacturing process	162	3(1.8)	17(10.4)	49(29.9)	65(39.6)	30(18.3)	3.5221	1.0530
4	The company has been practicing s a quality circle team for quality improvement	162	3(1.8)	20(12.2)	58(35.4)	64(39)	19(11.6)	3.4425	.99047
5	In this company, purchasing documents contain clear description Improvement	162	4(2.4)	14(8.5)	37(22.6)	75(45.7)	34(20.7)	3.9381	.87916

Source: Own Survey, (2019)

To summarize the information obtained from Table 4.8, the grand mean score was 3.63894 which supports that, there is collaborative problem-solving and decision-making practices, providing timely feedback and support to the quality circle. Future team building cultures is the most

significant team building skills that highly affect the Continuous Improvement success of the companies.

4.2.1.2.7 Mean Value and Frequency Distribution of the Safety management Factors

Table 4.9 describes five sub-factors of Safety management factors which can influence on food production organizational performance which is affecting the safety management standard of the management practices of Burayu town. In response to the first item, when agree and strongly agreed are summed up among 164 respondents, 59.8%(98) respondents were agreed the supervisors have provided respective staffs, the necessary tools and information on how to perform their job safely **in the Kebron Food Complex and Booez Pasta and Macaroni Companies.** It is supported with mean score of 3.9381 which has influenced strongly and standard Deviation of .87916, where 7.3% (12) respondents have disagreed. In this regard, 32.9% (54) respondents did not decide. This result has shown that safety improvement scheme has well satisfied to the respondents.

Regarding the second item 57.6% (94) respondents have agreed that these is proper implementation of safety system which has not been supported by a mean score of 3.4513 and standard deviation of 0.85556. This illustrates moderate influence on creating organizational performance of the companies. This means when improper environmental and/or safety conditions are reported, they are prioritized and addressed moderately in a timely manner.

The third item demonstrates in the below table 4.9 explains about food safety observation by supervisors and employees assigned to that purpose for the work done by the individual employees. As it is indicated 53.2% (80) respondents have agreed the employees usually report food safety concerns regularly, that the incentive sub factor is proportional to the work which is not much supported by a mean score (3.3805) and standard deviation .90946. While 5.9% (9) have not agreed and 39.6% (65) were neutral to decide about the questions requested to answer. This result implies there is less proportional attention provided by employees for work done in safety management practices which has less contribution on building the performance of the organization.

Concerning the fourth and fifth items 70.1% (115) and 68.3% (112) respectively have agreed and which have not supported the mean scores of 3.4690 and 3.4602 with standard deviation of 0.96428 and .75635 respectively. But 23.2 % are neutral and 4.3 % are not disagreed. Here, the

result of the fourth item was supported by mean score where the fifth item was not supported by its mean score. These results demonstrated that safety management system is moderately practiced in the two company's food processing scheme. Bearing this concept in mind, it is possible to say that safety management factors discussed have been practiced unsatisfactory in the **Kebron Food Complex and Booez Pasta and Macaroni Companies**.

To summarize the information obtained from table 4.9 below item no. one and fourth are better practiced relatively while other are poorly practiced to strengthen the performance of the organization of the safety management process of the manufacturing companies mention in the above.

Therefore, it is possible to conclude that the macaroni and pasta processing companies have not implemented better safety management program/ scheme that can strengthen the employee motivation and capacity of the work force so that to improve the organizational performance of producing quality and safe food staffs. However, the grand mean of the items has poorly supported the study result (3.50). This has shown the incentive and reward schemes of the agency were perceived unsatisfactory that would not be strengthening the organizational performance of the **Kebron Food Complex and Booez Pasta and Macaroni Companies**.

In the interview data they said that " *they dispose such collected wastes every two weeks regularly. We also have well maintained ventilated and clean rest rooms*".

They said " *our company, some of the equipment's/ instruments are calibrated here in the factory, but we usually outsource the calibration to Ethiopian metrology institute (EMI). EMI is the one which make technically possible the calibration process of the factory's instruments. We also have a scheduled of maintenance and cleaning of the machineries*".

The participants in the interview said that " *the company does not have a written hazard analysis critical control point (HACCP) but as they said: we usually focus on the most critical points. In this company at the production moisture plays the major role. So they always work within the standard to ensure food safety. The Ethiopian standard is maximum 12.5%*".

Table 4.9 Mean Value and Frequency Distribution of the Safety management Factors

No	Descriptions		Strongly Disagree N (%)	Disagree N (%)	Neutral N (%)	Agree N (%)	Strongly Agree N (%)	Mean	Std. Deviation
1	My supervisor has provided me the necessary tools and information on how to perform my job safely.	162	2(1.2)	10(6.1)	54(32.9)	77(47)	21(12.8)	3.4513	.85556
2	When-improper environmental and/or safety conditions are reported; they are prioritized and addressed in a timely manner.	162	1(1)	4(3.8)	40(38.8)	57(44.8)	40(12.8)	3.3805	.90946
3	When I observe a food safety concern, I report it.	162	1(1)	8(4.9)	65(39.6)	67(40.9)	13(12.4)	3.4690	.96428
4	I am satisfied with my contribution to food safety at my organization.	162		7(4.3)	38(23.2)	92(56.1)	23(14)	3.4602	.75635
5	I spend additional time preparing paper work or my work area for a food safety inspections or audits.	162	1(1)	17(1.4)	34(20.7)	91(55.5)	21(12.8)	3.5487	.79047

Source: Own Survey, (2019)

4.2.1.3. Relationship of food safety and quality factors and quality performance of the company

A correlation test was conducted to verify the association between those seven safety and quality management systems factors with the success and performance of food manufacturing companies. Correlation analysis was conducted to test the relationship between the variables. Here, relationship of sub-factors was tested and found that all variables have relationship to each other. Let us see them one by one at table 4.10 below.

H1: Top management leadership and commitment has positive relationship with quality performance of the food manufacturing company

The correlation coefficient(r) of the top management leadership and commitment and the quality performance is $r = .244^{**}$, $p < 0.001$) has strong relationship between these variables. This result demonstrates which is within the acceptable range of r where the rule of thumb is $-1 < r < +1$ Table 4.10 below. This reveals that safety and quality factors (variable) such as marked by as tricks (*) has significant relationship with the dependent variable.

H2: *Work attitude and Employee participation has positive relationship with quality performance of the food manufacturing company*

The correlation coefficient(r) of the Work attitude and Employee participation and the independent variable is .357** which shows there is strong relationship between sub factors of the quality factors and the organizational performance of the **Kebron Food Complex and Booez Pasta and Macaroni Companies**.

H3: *Process control has positive relationship with quality performance of the food manufacturing company*

The correlation coefficient of the dependent variable that is Process control and the independent variable is .473** which shows there is strong relationship between these variables.

H4: *Customer Focus has positive relationship with quality performance of the food manufacturing company.*

The correlation coefficient(r) of the *Customer Focus* and the independent variable is .314** which shows there is strong relationship between customer focus factors and the organizational performance of the companies.

H5: *Continuous improvement has positive relationship with quality performance of the food manufacturing company.*

The correlation coefficient(r) of the Continuous improvement and the independent variable is .699** which shows there is strong relationship between food quality factors and the organizational performance of the food processing companies of the **Kebron Food Complex and Booez Pasta and Macaroni Companies**.

H6: *Safety management has positive relationship with quality performance of the food manufacturing company.*

The correlation analysis result as shown in table 4.10, for safety management was 0.337**which is within the acceptable range of r where the rule of thumb is $-1 < r < +1$. Table 4.10 below, illustrated that safety and quality factors (variable) such as marked by as tricks (*) has significant relationship with the dependent variable (companies food processing performance of the Companies).

Table 4.10. Statistics of Correlation tests

variables		Top Management Leadership And Commitment	Process Control	Customer Focus	Work Attitude and Employee Participation	Process Management	Continuous Improvement	Safety Management
Top Management Leadership And Commitment	Pearson Correlation	1	.444**	.379**	.192*	.161*	.031	.187*
	Sig. (2-tailed)		.000	.000	.014	.040	.698	.016
Process Control	Pearson Correlation	.444**	1	.537**	.352**	.359**	.129	.308**
	Sig. (2-tailed)	.000		.000	.000	.000	.100	.000
Customer Focus	Pearson Correlation	.379**	.537**	1	.230**	.228**	.016	.197*
	Sig. (2-tailed)	.000	.000		.003	.003	.836	.012
Work Attitude and Employee Participation	Pearson Correlation	.192*	.352**	.230**	1	.733**	.520**	.460**
	Sig. (2-tailed)	.014	.000	.003		.000	.000	.000
Process Management	Pearson Correlation	.161*	.359**	.228**	.733**	1	.461**	.321**
	Sig. (2-tailed)	.040	.000	.003	.000		.000	.000
Continuous Improvement	Pearson Correlation	.031	.129	.016	.520**	.461**	1	.209**
	Sig. (2-tailed)	.698	.100	.836	.000	.000		.007
	Sig. (2-tailed)	.036	.010	.013	.000	.000	.058	.000
Safety Management	Pearson Correlation	.187*	.308**	.197*	.460**	.321**	.209**	1
	Sig. (2-tailed)	.016	.000	.012	.000	.000	.007	
N		164	164	164	164	164	164	164

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

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

4.3. Challenges or Obstacles in the implementation of safety and/or quality management program

4.3.1. Challenges in Kebron Food Complex

According to the qualitative data collected analysis the Major challenges observed in Kebron Food Complex are as follows:

1. In general the company focuses on the quality of the product that fulfills the given standards based on local market. So, they think that implementation of international standardized safety and quality management system is not that much focused.
2. Lack of skilled manpower in most departments in the company

4.3.2. Challenges in Booez Pasta and Macaroni Company

According to the analysis of collected qualitative data, major challenges observed in Booez Pasta and Macaroni Companies are as follows:

1. Lack of skilled manpower in some positions in the company
2. Lack of awareness among employees about use of safety and quality procedure carefulness
3. There is high cost of inputs of production.
4. The company provided prime attention only on production capacity amount but not on motivation of employees by any aspects.
5. Poor implementation of safety and modern quality issues /instruments.
6. Some management staff members are not committed.

CHAPTER FIVE: CONCLUSION AND RECOMMENDATIONS

This chapter focuses on conclusions and possible solutions forwarded to improve quality and safety management system of the implementation food processing companies in Burayu town

5.1. Conclusion

Based on the results it can be concluded that:

The level of the quality and safety management system factors on the quality and safety food manufacturing activities of the Kebron Food Complex and in Booez Pasta and Macaroni Company performance of the food industries can be ranked as: Top management leadership and commitment, process control, customer focus, work attitude and employee participation, process management, continuous improvement and safety management respectively.

All the quality and safety management system factors have significant positive relationship with the company quality food processing performance of the companies mentioned.

The descriptive statistics illustrated that quality and safety management systems in these two companies have been started improvements. However, it is not strengthened as it is needed to carry out all works properly so that to produce worldwide competitive and quality food staffs. For instance; the food safely and quality management systems has been moderately implemented and has influencing on the quality performances of macaroni and pasta production in Booez Pasta and macaroni Company. Similarly the company has implemented better implementing program/scheme that can strengthen the Quality management system and capacity of the company so that to improve its services which is being provided to customers. The mean of the quality performances has positively supported the study result (3.8261).

5.2. RECOMMENDATIONS

Based on the study result, the following recommendations:

- To strengthen top management leadership and commitment in food processing industries, monitoring and training opportunities have to be provided for the team to acquire the knowledge and skills of the team. In addition to this, the organization top management has to motivate the team by providing opportunities and helping them understand the importance of quality food production for the competition of modern market service improvement.
- In order increase the quality and safety of food products in the companies, the food manufacturing companies must give prime emphasis on issues such as: Top management leadership and commitment, process control, customer focus, work attitude and employee participation, process management, continuous improvement and safety management activities.
- The companies top management should give prime emphasis for Training and development by implementing programs such as: When employees arrive from training, supervisors encourage them to share what they have learned with other employees; by linking training and development with the company strategy; Supervisors must make sure that employees have the opportunity to use their training immediately; the organization has to be full-fledged training and development department manned with competent professionals and also by providing Job aids (resources or technology) that must be available on the job to support what employees learned in training.
- The companies have to focus customer -Satisfaction factors by creating suitable working conditions such as: spending the rest of employees career with this organization, creating a great deal of personal meaning in the organization, employees should enjoy discussing about their companies product improvement activities.
- Creating comfortable working environment is essential for strengthening the performance of the companies.

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3. Please specify the level of your education: High school complete Technical(TVET)

First Degree Master’s Degree PhD

4. Service Life Time (work Experience) in quality and safety management work

Under3 year 4-10 years 11-20years 21- 30 years above3 0

5. Marital status: Single Married Divorce

Section III. Based on your overall involvement in the food processing company, please evaluate the real status of the following quality and safety management factors specific to your food manufacturing factory using the 5-point Likert rating scale. Please tick (X) in the box provided.

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

Code	Factors of food manufacturing quality and safety management	Likert Scales				
		5	4	3	2	1
1	Top management leadership and commitment					
1.1	Top management has made adequate managerial/supervisory staff who have undergone quality improvement technique					
1.2	There is High cost in manufacturing process this company					
1.3	The company’s profit has been Increased					
1.4	you feel that the organization is a good place to work					
1.5	The company has quality improvement plan with the full support of top management					
1.6	Food safety is properly managed in your organization					
1.7	Your company has a quality policy (vision, mission, long & short-term strategies, objective & goal) and also has addressed company's position with regards to customers, suppliers, employees, community environment, & the business itself.					
2	Process control					

2.1	The processing time of every activity is measured and recorded properly					
2.2	There is a HACCP team in your organization and the HACCP team re-evaluates the company HACCP plan whenever a new product is being developed for production.					
2.3	FSMS help to increase your product shelf life					
2.4.	All monitoring equipment must be frequently calibrated and kept in good working condition.					
2.5	In this company, there is excellent Equipment and maintenance management practices					
3	Customer Focus					
3.1	The workers have knowledge about Satisfying internal customers (within the organization)					
3.2	The workers have knowledge about Satisfying external customers (outside the organization)					
3.3	There is excellent Partnership between organization and supplier in this company					
3.4	The company has a system for gathering client's suggestions/comments					
3.5	The company regularly measures client's satisfaction					
3.6.	Consumers give a positive response to safe food					
4	Work attitude and Employee participation					
4.1	Workers involved in production line pay enough attention to personal hygiene (clean clothes, hand washing, fingernails and hair					
4.2	Your organization can get success without FSMS in the market same as with FSMS					
4.3	you feel comfortable with rules and policy of the organization					
4.4	you feel comfortable with rules and policy of the organization					
5	Process management					
5.1	The company regularly collect data to measure the performance of operations or process					
5.2	your organization regularly identify problems and solve quality related problems					
5.3	There is good safety management process in this company					
5.4	There is good quality management process in this company					
6	Continuous Improvement					
6.1	All workers have good technical and practical knowledge about how to operate machines and manufacturing process					
6.2	your organization has applied quality and /or safety management system					

6.3	All workers have good technical and practical knowledge about how to manage safety and quality in the manufacturing process					
6.4	The company has been practicing s a quality circle team for quality improvement					
6.5	In this company, purchasing documents contain clear description Improvement					
6.6	There are clear criteria for selection of supplier's or sub-contractors					
6.7	The information collected on customer satisfaction are used for future					
7	Human resource development					
7.1	you are aware of the importance of safety and quality management, which has an important role in the success of any organization					
7.2	your performance is properly measured in the organization					
7.3	you get any regard on your good performance					
7.4	you find your job makes the best use of your abilities					
7.5	All workers know about the Value of money					
7.6	All workers know about the Value of Team work					
7.7	Investment in FSMS is beneficial in your organization's business growth					
8	Safety management					
8.1	My supervisor has provided me the necessary tools and information on how to perform my job safely.					
8.2	When improper environmental and/or safety conditions are reported, they are prioritized and addressed in a timely manner.					
8.3	When I observe a food safety concern, I report it.					
8.4	I am satisfied with my contribution to food safety at my organization.					
8.5	I spend additional time preparing paperwork or my work area for a food safety inspections or audits.					

IV. Challenges or Obstacles in the implementation of safety and/or quality management program:

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____

APPENDIX B: DIFFERENT TEST RESULTS

Table.3. Respondent's Characteristics

Item No.	Demographic Characteristics	Variables	No. of Respondents	Percentage (%)
1	Gender	Male	121	73.8 %
		Female	43	26.2 %
2	Age category	18-30	104	63.4 %
		31-40	60	36.6 %
		41-50	-----	0%
		above 50 years	-----	0%
3	Education	First Degree	109	66.5%
		Masters	65	35.5%
		PhD	----	%
4	Experience	Under 3 year	21	12.8 %
		4- 10 years	101	61.6 %
		11-20 years	42	25.6 %
		21- 30 years	--	%
		Above 30	--	%
5	Marital status	Single	115	70.5%
		Married	48	29.5%

Source: Own Survey, (2019)