ST.MARY'S UNIVERSITY

SCHOOL OF GRADUATE STUDIES

INSTITIUTE OF QUALITY & PRODUCTIVITY MANAGEMENT

ASSESS THE IMPACT OF FOOD SAFETY MANAGEMENT SYSTEM IMPLEMETAION THE CASE OF MOHA SOFT DRINKS INDUSTRY S.C SUMMIT PEPS PLANT

BY

MULUGETA YIMER

JUNE 2022

ADDIS ABABA –ETHIOPIAN

ASSESS THE IMPACT OF FOOD SAFETY MANAGEMENT SYSTEM IMPLEMENTATION THE CASE OF MOHA SOFT DRINK INDUSTRY S.C.

BY

MULUGETA YIMER

SGS/0419/2013A

ADVISOR

ASRAT BULBULA (Asst. Professor)

THESIS SUBMITTED TO ST. MARY'S UNIVERSITY SCHOOL OF GRADUATE STUDIES IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF SCIENCE IN QUALITY AND PRODUCTIVITY MANAGEMENT (MSC).

JUNE 2022

ADDIS ABABA, ETHIOPIAN

ST. MARY'S UNIVERSITY

SCHOOL OF GRADUATE STUDIES

INSTITUTE OF QUALITY AND PRODUCTIVITY MANAGEMENT

ASSESS THE IMPACT OF FOOD SAFETY MANAGEMENT SYSTEM IMPLEMENTAION THE CASE OF MOHA SOFT DRINKS INDUSTRY S.C.

BY

MULUGETA YIMER.

ID.NO SGS/419/2013A

APPROVED BY BOARD OF EXAMINERS

_____	_____
Dean, Graduate Studies	Signature
_____	_____
Advisor	Signature
_____	_____
Externat Examiner	Signature
_____	_____
Internal Examiner	Signature

DECLARATION

I, the undersigned, declare that this thesis is my original work, prepared under the guidance of Asrat Bulbula (Asst. Prof.). All sources of materials used for the thesis have been duly acknowledged. I further confirm that the thesis has not been submitted either in part or in full to any other higher learning institution for the purpose of earning any degree.

Mulugeta Yimer _____

Name Signature

St. Mary‘s University, Addis Ababa June 2022.

ENDORSEMENT

This thesis is having been submitted to St. Mary‘s University School of Graduate Studies for Examination with my approval as University Advisor.

Asrat Bulbula (Asst. Prof.) _____

Advisor Signature

St. Mary‘s University, Addis Ababa June 2022.

ACKNOWLEGGEMT

First I would like to thank GOD, the provider of everything, who gave me the strength and patience to finish my research. Next my special gratitude goes to my advisor Asrat Bulbula (Asst. Prof) for his helpful guidance and valuable support. From the start to the end of the study . I would like to thanks Moha Soft Drink Industry S,C ,Summit Pepsi plant employees and top managements to the for their willingness to support in distributing and collecting the questionnaires and arrange interviews for me. Finally, I am greatly indebted to my Mather Alemneshe Kebede , my wife Alma kef Kassa and beloved sons Leul Mulugeta and Roble Mulugeta ,my beloved sister Abebeche Abate and dear brother and close friend Tewodros Girma, Debkulu Seyoum and Bamlaku Work for their moral support. to succeed in my academic endeavor, my warmest appreciation and goes to my relatives and real friends for their encouragement and inspiration.

Table of Contents

List of Table

List of Figure

List of Abbreviations and Acronyms

CCP	Critical Control Point
CL	Critical Limit
FBD	Food Born Diseases
FSMS	Food Safety Management System
FSSC	Food Safety System Certification
GFSI	Global Food Safety Initiative
GHP	Good Hygienic Practices
GMP	Good Manufacturing Practices
GTP	Good Transpiration Practices
GDP	Good Distribution Practices
HACCP	Hazard Analysis Critical Control Point
ISO	International Organization for Standardization
KPI	Key Performance Indicator
MSDISPP	MOHA Soft drinks Industry S.C. Summit Pepsi plant
OPRP	Operational Pre request program
PDCA	Plan, Do, Check, and Act
PRP	Pre Request Program

Abstract

When Food manufacturing organizations seek to enhance the safety of food products and to meet the requirements put forward by customers and markets they are compelled to adopt various Food Safety Management Systems (FSMS) that conform to global, international, national, private and proprietary standards. In this study 'Multiple Food Safety Management Systems' (MFSMS) describes the situation in which one organization has adopted and implemented more than one FSMS standard.

The paper presents assesse impact of food safety management system implementation case study of a beverage manufacturing industry located in Addis Ababa Summit which has implemented FSMS, with the aim to analyses the motivations for the adoption of FSMS and the consequences of that adoption in the management system and the organization. The study notes that the key motivations for implementing FSMS were a management commitment to improve food quality and safety, compliance with regulations, market requirements, customer requirements, external funding, marketing tools, brand image, requirements of retailers and commercial pressure. The study also notes that the major consequences of FSMS were a duplication and complexity in management document and record systems, a need for additional resources, a development of new departments to implement and maintain management systems, an inability to focus on the implemented standard, ineffective internal audits and management reviews, additional time needed for management system activities, increased man-days allocated to external audits and a higher cost of the certification process. The findings of the study highlights some important issues with implications for the policies of food processors, developers of standards, bench marking bodies and customers insisting on special stipulations.

Key Words: - *Food Safety, Food safety management system*

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Safety and quality are important for the food industry. The Hazard Analysis Critical Control Point (HACCP) is a proven mechanism for controlling food safety. The HACCP approach is internationally recognized as essential for ensuring the safety and suitability of food for human consumption (Bas et al., 2006; Pierson and Corlett, 1992; Ramirez and Fernandez, 2003; (EC) 852/04, 2004). Due to the main concern of consumers on the safety of food (Kidd, 2000) more and more countries require satisfactory food control programme to ensure the safety, quality and availability of food supplies.

Food safety in the food market is one of the key areas of focus in public health, because it affects people of every age, race, gender, and income level around the world. Microbial contamination of foods, chemical contamination of foods, food adulteration, misuse of food additives, mislabeling, genetically modified foods (GM foods), and outdated foods or foods past their use-by dates were the identified food safety-related public health risks in the food market.

"A Food Safety Management System (FSMS) is a network of interrelated elements that combine to ensure that food does not cause adverse human health effects. These elements include programs, plans, policies, procedures, practices, processes, goals, objectives, methods, controls, roles, responsibilities, relationships, documents, records, and resources (Manish K.S, 2015). Today, food safety management system and practices stand out as the most prominent method of safe food production. Companies that implement systems such as the HACCP or ISO 22000 FSMS attain success in safe food production (Kocak, 2010).

The International Organization for Standardization (ISO) defined 'food safety' as the concept that food will not cause harm to the consumer when it is prepared and/or eaten according to its intended use (ISO, 2005a). A 'management system' is a set of interrelated or interacting elements to establish policy and objectives and to achieve those objectives (ISO, 2005b).

A standard is “a document, established by consensus and approved by a recognized body that provides, for common and repeated use, rules, guidelines or characteristics for activities or their results, aimed at the achievement of the optimum degree of order in a given context” (ISO, 2014) . FSMS standards can be broadly classified as global, international, national, private and proprietary standards. The Food Safety and Management Systems is a set of standards established to direct and control food safety aspects. Also referred to as FSMS, it helps the food business operators to gain this trust of the consumers or even serve them efficiently. A food business organization that beholds certification for FSMS depicts assurance that the organization has taken care of appropriate Food Safety and Management System. There are many international organizations like Hazard Analysis and Critical Control Point (HACCP), ISO 22000, Food Safety System Certification; FSSC 22000 that offer FSMS. The Codex Alimentarius Commission (Codex) sets the food safety standards at a global level on which WTO members should base their SPS methodologies. The Codex standard - General Principles of Food Hygiene -CAC/RCP 1-1969 details the Hazard Analysis Critical Control Point (HACCP) system and guidelines for its application.

HACCP principles are integrated into the official regulations of many countries (Higuera-Ciapara & Noriega-Orozco, 2000; Vasconcellos, 2004), which is basically designed to assure food safety (Spiegel et al., 2003). The international standard ISO 22000 - ‘Food Safety Management Systems- Requirements for any organization in the food chain’ was introduced by the ISO in 2005 and specifies requirements for a FSMS where an organization in the food chain needs to demonstrate its ability to control food safety hazards in order to ensure that food is safe at the time of human consumption. The standard is applicable to all organizations, regardless of size, which are involved in any aspect of the food chain and which want to implement systems that consistently provide safe products (ISO, 2005a).

National food safety standards set the standard setup in different countries to be followed by manufacturers and suppliers within the country and by foreign manufactures who supply to that country. These standards can be in the form of rules and regulations. EU and USFDA regulations are widely followed in the food industry, either because of supply chain requirements or to include these regulations to maintain its reputation.

1.2 Profile of the Study Organization

MOHA Soft Drinks Industry S.C Summit Plant (MSDISP) was established in May 2003 from the Ethiopian Privatization Agency with paid capital of Birr 108,654,000. The major products of the company are Pepsi Cola, Mirinda Orange, 7-Up, Mirinda Tonic, and Mirinda Apple.

The Annual Turn-over of the company has reached to Birr 150 million and sales stands at an average annual growth rate of 4% and the plant has currently 150 employees.

The company was valued for food safety system implementation and implemented ISO 22000: 2005, then upgrade to new version 22000:2018 and harmonized standard of FSSC 22000 V 5.1 on 2006, 2019 and 2021, respectively.

MSDISP has operated with a vision of 'to make each of our Pepsi products to be a drink of first choice among consumer and obtainable throughout the Ethiopian market. We intend to create superior value for our shareholders, our customers and our employees.' The mission of the company is 'MOHA soft drinks Industry S.C summit Pepsi plant, mission is to be the best beverage industry in the country we will continuously improve our responsiveness to the needs and concerns of our customers, employees, partners and communities. This will be accomplished through the development of our employees, an emphasis on cost efficiency, market expansion and profitability. We will expand our marketing areas to both protect and improve our positions by placing emphasis on innovation and technological improvement to keep always ahead of competition.'

The core values of the company are customer satisfaction, enhancement of positive corporate identity and image, ensure employees empowerment, be committed to social responsibilities, sustainability of quality and excellence in what we do and build a winning team.

1.3 Statement of the problem

This research explores the required needs of applying the food safety management systems, and the barriers that they face during implementation. It suggests a simplified implementation of food safety management systems requirements in particular for food businesses.

It investigates a simplified form of food safety management systems that Food and beverage industry s are able to apply and still maintain food safety. This concept of flexibility allows food safety management system systems' principles to be implemented in all cases, including small-to-medium enterprise. The flexibility and the kind of simplicity that can be used by small-to-medium and High level enterprise are investigated in this research. In particular, the research tries to:

- Develop new strategies for implementing food management systems in small, medium and high level Food business enterprise.
- Assess whether there are benefits for food safety management systems in place and if so, whether the investments required for successful implementation justify the benefits.
- Assess whether small-to-medium and High level manufacturing industry can apply food management systems due to their complexity.
- Assess whether the implementation of food management systems in small-to-medium and High level Food manufacturing industry improves the hygiene and compliance with food safety requirements.
- Investigate the food safety level of manufacturing before, during and after the implementation of the system.
- Investigate the extent to which the employees from the local enforcement authorities involved in the implementation of the system assisted the food businesses on implementing food management systems *f* Investigate what kind of problems the managers and owners of manufacturing's encounter in applying and maintaining food management systems.

1.4 . Objective of the study

1.4.1 General objective

The main objectives of this research it to examine the impact of Food Safety Management Systems in case of Moha Soft Drinks Industry S.C Summit Pepsi Plant.

1.4.2 Specific objective

The specific objectives of this research were:

- To identify the level of food safety management system implementation in MOHA SOFT Drinks Industry Sc. Summit Pepsi plant.
- To examine the food hygiene practices and attitude of organization.
- To identified the market share of the companies in Food safety implementation of ISO 22000.
- To examine the cost related to food safety management system implementation, certification and maintenance.

1.5 Research Question

1 What is the level of food safety management system implementation in MOHA Summit plant?

2 What are food hygiene and attitude of food business operators' Food Safety system implementation at MOHA SUMMIT?

3 Which are food safety system implementation motivations and benefits at MOHA SUMMIT?

4 What are the benefits and costs directly related to the food safety management system implementation, certification and maintenance at MOHA SUMMIT?

1.6 Significance of the Research

As it has been stated herein above the study has focused on food safety management system implementation recommended solutions.

- Hence, it may hopefully contribute by implementing sector specific food safety management system that enhance awareness of food quality regulatory bodies, food industries and consumer to work in collaboration and coordination in improving the production, supply and distribution of good quality and safe food.
- The study will also serve as input for those who want to conduct further research in the field.

- Finally, it may serve as input for policy making and regulation in the area of food quality and safety implementation.

1.7 Scope of the Research

The Scope this research was conducted in order to provide information about the food safety management system implementation in case of MOHA Soft Drinks Industry S.C. in terms of raw material purchasing, receiving, processing and distribution of the all Moha Soft drinks industry S.C summit Pepsi plant.

1.8 Operational Terms and Definition

C**ritical Control Point (CCP**):- is a step in the food production process where preventative measures can be applied to prevent, reduce or eliminate a food safety hazard, such as bacterial growth or chemical contamination.

Critical Limit (CL) :- is the maximum and/or minimum value to which a biological, chemical, or physical parameter must be controlled at a CCP to prevent, eliminate, or reduce to an acceptable level the occurrence of a food safety hazard.

Food Safety Management System (FSMS):- is a controlled process for managing food safety to ensure that all food that is produced is up to quality standards and safe to consume.

Impact: - The definition of impact is one thing crashing into or having an effect on another. An example of impact is the effect that food product are produced having on the good infrastructure and safe environment

Hazard Analysis Critical Control Point /HACCP /: - HACCP is a management system in which food safety is addressed through the analysis and control of biological, chemical, and physical hazards from raw material production, procurement and handling, to manufacturing, distribution and consumption of the finished product.

Good Manufacturing practices :- To simplify this, GMP helps to ensure the consistent quality and safety of products by focusing attention on five key elements, which are often referred to as the 5 P's of GMP—people, premises, processes, products and procedures (or paperwork).

International Organization for Standardization (ISO) :- is an international nongovernmental organization made up of national standards bodies; it develops and publishes a wide range of

proprietary, industrial, and commercial standards and is comprised of representatives from various national standards organizations

Additive. Any substance added to foods in processing or preparation that may become a chemical hazard, such as sulfites.

Biological Hazard. The danger posed to food safety by the contamination of food with pathogenic micro-organisms or naturally occurring toxins.

Contamination. The unintended presence of harmful substances or conditions in food that can cause illness or injury to people who eat the infected food.

Chemical Hazard. The danger posed to food safety by the contamination of food by chemical substance, such as pesticides, detergents, additives and toxin metals.

Cross- Contamination. The transfer of harmful micro-organisms from one item of food to another by means of a nonfood-contact surface (human hands, utensils equipment), or directly from a raw food to a cooked one.

Monitoring Procedures. A defined method of checking food during receiving, storage, preparation, holding, and serving processes.

Food. Any substance intended for use or for sale in whole or in part for human consumption, including ice and water.

Food Establishments. An operation that stores, prepares, packages, serves vends or otherwise provides food for human consumption such as a restaurants, food markets, institutional feeding location or vending location or facilities that are involved in food distribution.

1.9 Organization of the Research

This Research is divided into five chapters. The first chapter provides the background about the Research statement of problem and objectives. The second chapter discusses on relevant literature review on the topic to gain understanding of the fundamental requirements, practices, benefits and challenges in the development and implementation Food safety management system. Chapter three gives an account of the research methodology description and justification

of the design and research procedure followed in this research. Chapter four presents and analyses data to find out results which could answer the research questions. Chapter five focuses on drawing conclusions based on the findings, and making pertinent recommendations.

1.10 Limitation of the study

This study maybe has some limitations, the sample not representative of the target population, the number of samples use that are limited due to budget constraint, the object of this study was only limited to Pepsi Summit plant even though more other companies have implemented Food Management System ISO 22000. The research study was only limited to company in MOHA Summit plant and the result of questionnaire may not be the same when applied to other place.

CHAPTER TWO

LITERATURE REVIEW

2.1. Theoretical literature review

The implementation of a food safety management system ISO 22000 in the food industry ensures safe products produced and will increase the company's competitiveness in the global market (Segovia et al, 2014). Some food manufacturers companies implement ISO 22000 with a market share abroad to implement ISO 22000 to improve the efficiency, productivity and quality of food products and many companies do not realize the potential benefits of its application and feel the high cost associated implementation (María & Vijande, 2014). The main obstacles to the implementation of food safety management system ISO 22000 in general lack of financial resources, the size of the organization, infrastructure and inadequate facilities, and lack of top management commitment, the primary motivation for the implementation of ISO 22000 is to improve the quality and safety of products as well as improving the skills of employees , improved corporate image, increase product sales, increased market share, and access to new markets (Macheka et al, 2013). In clause 5 of ISO standard 22000: 2018 required the importance of leadership and commitment of top management to implementation goes well, the senior management must show leadership and responsibility, establish, implement, and maintain food safety policy (ISO, 2018). Research conducted by Shih, Ming &Tsai (2019), Qijun & Batt (2016) and Bouzembrak & Klüche (2019) concluded that food safety benefit to the company. One of the most important reasons why the ISO 22000 FSMS was published was to bring together all the previous standards (ISO 9001, HACCP) under a single rubric.

Moreover, the ISO 22000 FSMS standards also aim to ensure that food safety hazards and risks in all food and beverage companies are kept at a level that will not pose a risk for human health, and that consumers can consume safer food products. The ISO 22000 FSMS is an international quality system that enables and ensures a safe production for food items.

The first safety is security of food source (food security), important in low in coming countries, while the second safety is the one related to the sanitary correctness (food safety). One of the elements of the food safety relates to the legislation enforcement and food control, and is

performed by the system of rapid information on food for humans and animals RASFF (Rapid Alert System for Food and Feed) which enables rapid flow of information about new risks. Product changes are often reduced by temperature-controlled storage and distribution, which, however, normally require a significant amount of energy, there by negatively affecting the environmental impact of the products (James and James, 2010). Twinn in 2007 discussed the challenges the cold storage and distribution sector faces with respect to environmental concerns and increasing electricity costs. Nowadays, systems that are originally designed to control food safety (e.g. HACCP) are also used to increase the product quality throughout the supply chain (Panozzo et. al. 1999).

This also concerns nutritional quality, as can for instance be seen in the recent development of the nutritional control points (NCP) concept (Rodrigues et. al. 2010). This is based on the HACCP system, and can be used to identify the critical points in production and distribution systems related to nutritional product changes and eventually help to increase nutritional quality.

There is also a perception that FBD is a minor inconvenience and that it is largely unavoidable. However, research and practice shows that food safety exerts a considerable health burden, yet is amenable to solutions. Several developed countries have developed methods that allow assessment of the health burden FBD. These studies found that FBD was common (affecting around one in 3 to one in 6 people a year) and resulted in a high burden of disease (Gkogka et al., 2011; Kirk et al., 2014; Mangen et al., 2015; Scallan et al., 2011; Tam et al., 2014; Thomas et al., 2013). Moreover, the well-known gastrointestinal symptoms of FBD (vomiting and diarrhoea) were responsible for only about half the total health burden. An equally high, but less visible burden came from rare but serious effects such as septicemia, paralysis, stillbirth, and meningitis.

Among the available Quality Assurance (QA) systems there are at hand today systems such as: GMPs (Good Manufacturing Practices), GHPs (Good Hygiene Practices), GAPs (Good Agricultural Practices) or other prerequisite systems and HACCP (Hazard Analysis. Critical Control Points) (van der Spiegel et al., 2003

The ISO 22000 FSMS is all the more necessary for solving problems faced by food and beverage companies such as personnel's low level of education (such as the cooks and scullions), the company's inability to provide a sustained training for such personnel, insufficient supply for raw food products that comply with the standards, unfair conditions of competition concerning

the marketing of food products, price and quality balance, insufficient internal control, and inability to ensure sustained improvement in production processes.

In the world, the safety of food products was affected by successive crises in the food chain during previous years. As a way of re-establishing the confidence of consumers, it is important that food organizations prevent this kind of situation. The increasing concerns related to food safety management system among consumers have been addressed by competent authorities, through the publication of communitarian legislation and the ISO 22000. In September 2005, the International Organization for Standardization (ISO) published the 'ISO 22000: 2005 standard – food safety management systems (FSMS) – requirements that are applicable to any organization in the food chain'. This standard integrates the requirements defined by ISO 9001 and the methodology used by hazard analysis and critical control points (HACCP).

Role of food regulation on food safety Food safety implies absence or acceptable and safe level of contaminants, adulterants, or any other substances that may make food injurious to persons (WHO, 2004). This means that food safety is related with the absence or acceptable and safe level of harmful substances present in the food and concerned with whether the food has been prepared, handled, and stored under controlled and sanitary conditions in conformance with practice prescribed by government regulations. Many national governments have established the legal requirements for food quality and food safety with the objective of protecting consumers against unsafe, impure and fraudulently presented food by prohibiting the sale of food not of the nature, substance or quality demanded by the purchaser. It is to mean that regulating quality of food is necessitated with a view to protecting consumers from illness and injury as well as deceptive practices by obliging producers and distributors to provide true and reliable information on which consumers can rely to make the right choice of buying safe and of good quality food (Dawit D. 2010).

There are three recognized categories of food safety hazards: biological hazards, chemical hazards, and physical hazards. The origin of these hazards in foods can be from naturally occurring substances or agents in foods, from deterioration or decomposition of foods, or from contamination of the foods with the hazard at various stages of their production, harvesting, storing, processing, distribution, preparation, and utilization (Enhancement of Food Safety Standards, 2003). For many hazards, government regulatory agencies have established an

acceptable level of the hazard in a food; the Codex Alimentarius has also established acceptable levels of certain hazards as part of its food standards Programme. For some hazards, such as pathogenic bacteria (e.g., Salmonella spp.), there is zero tolerance, this means that the presence or the detection of the hazard in the food is unacceptable. The strategies used to address hazards in foods include the prevention or elimination of hazards, or the reduction of hazards to acceptable levels. These strategies are employed in the HACCP system (Ensuring food quality and safety FAO, 2001)

2.2. Role of Food Regulation on Food Safety in Ethiopia.

Food safety implies absence or acceptable and safe level of contaminants, adulterants, or any other substances that may make food injurious to persons (WHO, 2004). This means that food safety is related with the absence or acceptable and safe level of harmful substances present in the food and concerned with whether the food has been prepared, handled, and stored under controlled and sanitary conditions in conformance with practice prescribed by government regulations. Many national governments have established the legal requirements for food quality and food safety with the objective of protecting consumers against unsafe, impure and fraudulently presented food by prohibiting the sale of food not of the nature, substance or quality demanded by the purchaser. It is to mean that regulating quality of food is necessitated with a view to protecting consumers from illness and injury as well as deceptive practices by obliging producers and distributors to provide true and reliable information on which consumers can rely to make the right choice of buying safe and of good quality food (Dawit D. 2010). There are three recognized categories of food safety hazards: biological hazards, chemical hazards, and physical hazards. The origin of these hazards in foods can be from naturally occurring substances or agents in foods, from deterioration or decomposition of foods, or from contamination of the foods with the hazard at various stages of their production, harvesting, storing, processing, distribution, preparation, and utilization (Enhancement of Food Safety Standards, 2003). For many hazards, government regulatory agencies have established an acceptable level of the hazard in a food; the Codex Alimentarius has also established acceptable levels of certain hazards as part of its food standards programme. For some hazards, such as pathogenic bacteria (e.g., Salmonella spp.), there is zero tolerance, this means that the presence or the detection of the hazard in the food is

unacceptable. The strategies used to address hazards in foods include the prevention or elimination of hazards, or the reduction of hazards to acceptable levels. These strategies are employed in the HACCP system (Ensuring food quality and safety FAO, 2001)Food regulation in Ethiopia Food regulation in Ethiopia is a shared responsibility of Ministry of Health, Ministry of Agriculture and Rural Development, Ministry of Trade and Industry, and Quality and Standards Authority of Ethiopia. However there is no strong coordination and cooperation among these go vernment regulatory agencies. There is also no comprehensive food law that clearly defines and streamlines the activities of each regulatory body (Mulat Abegaz, 2004). Moreover the existing laws and regulations are outdated and could not respond to contemporary food quality and safety issues. Hence for the purpose of identifying the problems and challenges associated with food quality regulation in Ethiopia, international food standards guidelines and selected countries experience serve as useful instruments.

In the last decade, large efforts have been made on the national level towards development and Implementation of food regulation management systems to assure food regulation in the agrifood chain. This is demonstrated by multiple Codex Alimentarius guidelines and National Codex Committee (NCC) (Yalemtsehay, 2010). National Codex Committee (NCC) sets Ethiopian standards through active participation of all stockholders that are meant to take part to ensure its effective implementation.

In most cases, the involvement in the preparation of the Ethiopian standards is effected in two spheres/layers: by participating in attending the meeting of technical committee, and by commenting on the draft standards that are made to be available for public. Ethiopian standards are prepared by technical committees made up of experts from government, industry, use groups and other sectors of the economy (Mulat Abegaz, 2004). From this we can observe that those who are members of the technical committee can give their views and expertise opinion during their meeting. However those who are not participating in a technical committee but may be affected by the outcome of the standard can give their views and opinion through arrangements made for this purpose. This can be either through the QSAE website or through documents distributed to them.

The main activities of National Codex Committee (NCC) are adoption of recommend Codex standards as Ethiopian standards, represent the country's interest on selected international Codex meetings, identify priority areas on food regulation and develop fundable projects and conduct national awareness program on food regulation and codex standards (Yalemtsehay, 2010). The Codex texts are the basic reference materials.

2.3. Food safety regulation in Ethiopia

Food regulation in Ethiopia is a shared responsibility of Ministry of Health, Ministry of Agriculture and Rural Development, Ministry of Trade and Industry, and Quality and Standards Authority of Ethiopia. However there is no strong coordination and cooperation among these government regulatory agencies. There is also no comprehensive food law that clearly defines and streamlines the activities of each regulatory body (Mulat Abegaz, 2004). Moreover the existing laws and regulations are outdated and could not respond to contemporary food quality and safety issues. Hence for the purpose of identifying the problems and challenges associated with food quality regulation in Ethiopia, international food standards guidelines and selected countries experience serve as useful instruments. In the last decade, large efforts have been made on the national level towards development and implementation of food regulation management systems to assure food regulation in the Agri food chain. This is demonstrated by multiple Codex Alimentarius guidelines and National Codex Committee (NCC) (Yalemtsehay, 2010).

2.4. Need for Food Safety Management System (FSMS)

Current context of food factory concepts which needs to comply with basic hygienic requirements while certifying for voluntary certification systems such as HACCP, ISO 22000, ISO 9001, ISO 14001 and mandatory regulations monitoring measures has to be met (Sustainability Tea, 2008). These standards provides guidelines for organizations to establish their quality systems by focusing on procedures, control, and documentation (Sun et al., 2004), while conceptualizing that certain minimum characteristics of a quality management system could be usefully standardized, giving mutual benefit to suppliers and customers, and focusing on process rather than product/service quality (Van der Wiele et al., 2005). Considering the customer focus as one of the key area of customers' needs and expectations, one of the most

important customer expectations in their list is to have safe food products, where ISO 9001 allows an organization to integrate its quality management system with the implementation of a food safety system (Aggelogiannopoulos et al., 2007).

Food safety was primarily regulated since mid-1800s but it was mostly the responsibility of the local or state regulations in US at the time (FDA, 2004). Thus HACCP allow food manufacturer to carry out a detailed examination of a process to identify hazards and where the hazards can be controlled by setting up a framework (Khandke and Mayes, 1997) which is a food safety management strategy that has been widely tested and established as an effective means of preventing food-borne diseases when correctly implemented (WHO, 1993). HACCP has been designed in a way that it can be considered as a scientific and systematic system to assure food safety (Nguyen et al., 2004), while applying throughout the whole food chain (Domenech, 2008; Loc, 2006). Nevertheless, HACCP system is a proven, cost-effective method of maximizing food safety, where it focuses on hazard control at its source which consists of seven principles of international acceptance that outline how to establish, implement and maintain an HACCP plan for an operation under the consideration (Marnellos and Tsotras, 1999). On the other hand, most of the countries had made responsible food manufactures to oblige by legislation to apply HACCP, while other systems are applied voluntarily in the food industry. In addition, FDA has emphasized the role of prerequisite programs (PRPs) to be played while implementation of HACCP (Griffith, 2000) where it has been recommended to apply prerequisite programs before the HACCP plan is utilized, (Seward, 2000) which guarantees the assurances of GMP. Besides, HACCP complements the total quality management because it offers continuous problem prevention (Varzakas and Arvanitoyannis, 2008). Accordingly, companies have the option of adaptation to a food quality/food safety management system while communicating it to consumers, thereby gain marketing advantage and competitive advantages in the consumer level (Cao et al., 2004).

Several previous studies began the topic of leadership style integrate with food safety managent system to influence on the performance of that F.I. Dwiantoro (2017) has been observed that the type of leadership style transformational significant positive effect on performance, transactional leadership style type significant adverse effect on performance. The results of the uterus, Lengkong & Dotulong (2018) examines the impact of transformational leadership on employee performance, and transactional leadership does not affect the performance of employees. Ong,

Ariwibowo & Isnawati (2018) conducted research and concluded that the effect of transformational leadership style on performance. Transactional leadership style does not affect performance. Aqmarina, Utami & Prasetya (2016) conducted research and concluded that the type of transformational leadership negatively and not significantly influence employee performance transactional leadership while no significant influence on employee performance. Wahyuniardi & Nababan (2018) conducted research and concluded that the type of transformational leadership has a significant effect on job satisfaction, the kind of transformational leadership has no significant influence on employee performance, organizational culture has no significant impact on employee performance, and job satisfaction did not significantly affect the performance of the employee.

2.5. Private and proprietary food safety management system standards

Private FSMS standards are the standards designed and owned by non-governmental entities, such as food industry stake holder groups (Manning et al., 2006), individual retailers or retailing groups and industry associations. The major Private Standards followed in the food industry are British Retail Consortium (BRC) Food, FSSC 22000, IFS Food, Dutch HACCP and other proprietary retailer standards. The BRC Global Standard for Food Safety was originally developed and published in 1998 by BRC, a stakeholder group of British Retailers (Herzfeld et al., 2011). The Foundation for Food Safety Certification (FSSC), founded in 2004, developed FSSC 22000, which includes requirements of ISO 22000, ISO 22002-1 and other additional requirements (FSSC, 2014). IFS food standard is also a quality and food safety standard for retailer branded food products, which was developed by the collaboration of three retail federations from Germany, France and Italy (IFS, 2014). SCV, the Foundation for the Certification for the Food Safety Systems was founded in 2004 by the National Board of Experts HACCP – The Netherlands and the associated Certification Bodies (SCV, 2014). BRC Food, IFS Food and FSSC 22000 schemes are recognized and benchmarked by the Global Food Safety Initiative (GFSI), GFSI is a global business-driven initiative for the continuous improvement of FSMS (GFSI, 2014). The other key private standards are the Global Red Meat Standard, published by the Danish Agriculture & Food Council, Safe Quality Food (SQF) owned and managed by the Food Marketing Institute (FMI) based in Virginia, and the Primus GFS food safety audit scheme, owned and managed by Azzule Systems, United States. Proprietary FSMS

standards are owned by individual organizations such as a retail chains and are enforced in their supply chains. For example, food manufacturing standard and McDonald's supplier quality management system specifies that FSMS be followed by its suppliers.

2.6. Multiple food safety management systems and standards

When there are variety of FSMS standards available supported by different stakeholders the involvement of those stakeholders in a business organization directly or indirectly enforces the organization to implement the management system desired by each stakeholder (Busch, 2011), as when different retailers, wholesalers, retailer associations, supplier associations and industry groups are involved. There are many different food safety standards available to food manufacturers even within a single industry segment (Powell et al., 2013). The BRC Global Standard for Food Safety certification is demanded by customers in the UK, and IFS Food certification is generally demanded by customers in France, Italy and Germany. Specific retailers demand management system implementation and audits based on their own proprietary standards, such as McDonald's Supplier Quality Management System, Tesco Food Manufacturing Standard, M&S Code of Practice, etc. This study uses the term 'Multiple Food Safety Management Systems' for a situation in which one organization has adopted and implemented more than one FSMS standard. MFSMS in one organization leads to a condition where an organization has to adopt various management system strategies, and this raises several conflicts within approaches to the management system. The implied ideal scenario would be one internationally accepted and benchmarked standard rather than allowing private entity to come up with their own standards and verification mechanisms. The GATT SPS agreement calls on countries to 'further the use of harmonized measures….on the basis of international standards, guidelines and recommendations developed by the relevant international organization, including the Codex Aliment Arius Commission'. Harmonization in this context is defined as 'the establishment, recognition and application of common sanitary and phytosanitary measures by different countries' (Motarjemi et al., 2001; Valdimarsson & Comier, 2004).

However, Trienekens and Zuurbier (2008) stated that adequate information should be available for planning, execution and monitoring functions. In addition to this, management support is also essential for successful implementation.

Ten years after the publication of the white paper on food safety of the European Commission, food business operators (FBOs) have made large efforts and investments in designing and implementing an FSMS in order to comply with requirements of the different stakeholders and to deliver safe food products (EU, 2000; Karipidis, Athanassiadis, Angelopoulos, & Giompliakis, 2009; Küpper & Batt, 2009; Soderlund, William, & Mulligan, 2008). One of the challenges for FBOs is combining the requirements from the different stakeholders (e.g. governmental and hygiene legislation, retailers and consumer demands) into a company-specific and customised FSMS. An FSMS usually contains the elaboration of PRPs and HACCPs (Jacxsens, Devlieghere, & Uyttendaele, 2009). Furthermore, the European Union hygiene legislation (e.g. EU Regulation 853/2004) points out the hygiene and food safety objectives, but does not state as to how to achieve them.

This situation is different from that related to the revoked European legislation (EU Directive 2004/41), where detailed requirements were set regarding good practices (e.g. holding times, temperatures, etc.). The current FSMS are organised differently by individual food businesses and are audited by an external party. After an audit, the improvement opportunities that had been identified should be implemented (Jacxsens et al. 2009; Luning & Marcelis, 2009).

However, there is a need for tools to help the FBOs to diagnose and improve their FSMS. This is especially so for small and medium enterprises, as they do not always have the necessary skills (e.g. expertise), experience and/or resources (e.g. financial and staff capabilities) (Aggelogian nopoulos, Drosinos, & Athanasopoulos, 2007; Karipidis et al., 2009; Lo & Humphreys, 2000; Yapp & Fairman, 2006). While implementing an FSMS, the lack of financial and human resources together with high costs, the low personnel skills and time restrictions together with a general lack of knowledge and experience (Aggelogiannopoulos et al., 2007; Karipidis et al., 2009; Mondelaers & Van Huylenbroeck, 2008) are major constraints. Furthermore, according to Semos and Kontogeorgos (2007), Küpper and Batt (2009) and Aggelogiannopoulos et al. (2007), the lack of information and the insufficient support and guidance as well as the lack of management and employee commitment promote a lack of confidence in the system. Thus, companies should be really involved and motivated regarding the FSMS in order to achieve real and global benefits from it.

Based on the literature review carried out, we were able to observe that there were a lot of studies related to FSMS implementation and certification, mainly related to HACCP. However, as far as Ethiopia is concerned, the research projects that have been conducted regarding this issue are scarce. Thus, aim of this research it to study the impact of food safety management system implementation the case of Moha Soft Drink Industry S.C, Summit Pepsi Plant.

ISO (International Organization for Standardization) is an independent, non- governmental membership organization and the world's largest developer of voluntary International Standards. It made up of 162 member countries that are the national standards bodies around the world, with a Central Secretariat that been based in Geneva, Switzerland.

The current public health concept used in food safety systems to control for the contamination of food during industrial production was invented in 1959 by the Pillsbury Company. It was designed for testing food of the National Aeronautics and Space Administration (NASA). NASA aimed to protect from hazards such as food poisoning, crumbling, floating into instrument panels and contamination in the capsules' atmosphere. The Pillsbury Company compressed food bars with an edible coating and the concept prevented food from breaking apart and damaging electronic components in the capsules. It also allowed the food to be free of pathogens and biological toxins by using three initial principles (Ross, 2007; Stevenson, & Bernard, 1995):

- Identifying and conducting a hazard analysis.
- Determining critical control points to control any identified hazards.
- Establishing a system (procedures) to monitor critical control points

The uses of HACCP and ISO 22000 have enabled food establishments to control food safety. Studies have defined food safety as a food that does not harm the consumers at the point of preparation or eating (Mensah &Julien, 2011). Harmful food is caused by physical, chemical and biological hazards such as bacteria, viruses, parasites, fungi and physical particles (sand and bottle particles) (Duan, Zhao, & Daschle, 2011). Contamination in food is caused by poor personal hygiene, improper hand washing and cross contamination. Furthermore, poor time-temperature management (ambient temperature) in ready to eat food such as salad can cause contamination (McSwane at el, 2000). People eating contaminated food suffer from foodborne diseases such as salmonellosis-foodborne inflection, clostridium perfringens-toxin mediated

infection and clostridium botulinum- intoxication inflection. It is reported 30% of people are affected by foodborne diseases in developed countries and an even greater number in developing countries (WHO, 2002). For example, in 2011 an E. coli outbreak occurred in Germany caused 1,534 people infected (Foley, 2013). Likewise, in Africa, De Waal and Robert (2005) found that 80,000 children die every year as a result of food borne diseases. Additionally, in 2003 the research of Henson (2005) showed the death rate due to foodborne disease per 1,000 people in countries such as Ethiopia was 10.73; in Zimbabwe was 40, and Tunisia was 41. In food establishments, mismanagement of safety practices enables pathogens to grow and contaminate the food. Research of Hedberge et al. (1994) states that food handlers become sources of hazards to consumers as most of the outbreak problems are caused by failure to attend to sufficiently safe practices (Tomohide, 2010).

CHAPTER THREE

RESEARCH DESIGN AND METHODOLOGY

3.1 Introduction

In this chapter the overall research design and methodology is explained. Hence, the type of research design, sample size and sampling techniques, data source, data analysis techniques and data gathering tools have been presented.

3.2 Research Design and Approach

The study was conducted using descriptive survey type of research and research is designed the impact of food safety management system in Moha Soft Drink Industry S.C based on descriptive methods. Thus, the literature review was been first be carried out to understand the topic, and the concepts of the study, in order to develop an appropriate survey questionnaire for obtaining data from the Moha soft drink companies. It presents an opportunity to fuse both quantitative and qualitative data as a means to reconstruct the 'what is' of a topic.

This research used a quantitative and Qualitative survey to determine food safety management practices of ISO 22000 and HACCP and their prerequisite programs Good Manufacturing practices (GMP) and Standard Operating Procedure (SOP) in the food manufacturing. The survey was administered using a selection of samples from specific food establishments identified by the Moha Soft Drinks industry summit plant.

The objective of quantitative methods is data expressing a certain quantity, amount or range. Usually, there is measurement units associated with the data, % of figure and table result, age of respondents, educational background and work experience is in the case of the food safety management system implantation in the organization. It makes sense to set boundary limits to such data, and it is also meaningful to apply arithmetic operations to the data collect and information and gain a better understanding of the research topic. The data gathered may be unstructured, at least in their raw form, but was tend to be detailed, and hence rich in content and scope (Fellows, 1997).

Descriptive research is conclusive in nature. This means that descriptive research gathers quantifiable information that can be used for statistical inference on our target audience through data analysis. As a consequence this type of research takes the form of closed-ended questions, which limits its ability to provide unique insights. However, used properly it can help an organization better define and measure the significance of something about a group of respondents and the population they represent (www.wikipedia.com)".

3.3 Source of Data

Source of data for this research work were MSDISPP employees at its five core and Administration & Finance, Production, Quality Assurance, Engineering, Marketing and Sales Department and the main focus and source of primary data included secondary data.

3.4 Methods of Data collection

The study used both primary and secondary data. Both primary and secondary data collection was undertaken by the researcher.

The primary data was comprised of the Observation direct participant and indirect participant employees and manufacturing site. Questionnaire is used to collect the needed information from selected sample members the company of Moha Soft drink industry summit Pepsi plant organization. Semi-structured interview was been used to collect information from experts working at the Moha Soft drink industry Summit Pepsi plant.

The secondary data obtained from review of literatures, recorded documents, published and unpublished, including relevant books, reports, and journals and relevant materials were used for the study. The below charts are the gaud of data collection sources.

3.5 Sample Size and Sampling Techniques

The research is done by taking some directorates of the company (MSDISPPs which are believed information rich for the data collection with respect to the research objective.

3.6 Sample Size

Moha soft drink industry S.C. summit plant has 150 employees among them 70 employees has five core and Administration & Finance, Production, Quality Assurance, Engineering, Marketing and Sales Department and the main focus and source of primary data included secondary data and a well-designed questioner distributed to each respondent.

The sample size determination is based on Slovin's formula, which was developed by Robert Solving, with confidence level 95% and confidence interval (error margin) 5%. The derivations above show that Slovin's formula is applicable only when estimating a population proportion using a confidence coefficient of 95% (Tejada & Punzalan, 2012). From the data gathered target population of the study is 150 from the organization employees. Sample size determined is based on Slovin's formula with confidence level 95 % and confidence interval (error margin) 5%.

n = N/ (1+N*(e) 2) Where: n = no. of sample

N = total population

e = error margin.

n=85/ (1+85(0.05)2) =70

The total population size is 85. Out of this total 70 sample sizes have taken based on above formula. 70 questionnaires were distributed, and 82.4% usable questionnaires were collected.

3.7 Process of Data Collection

The processes of Data collection were constructed to rank the number of the participants involved in the survey and were designed into multiple/single choice format; it consisted of six questions. Question I was a multiple response question, measured age. Question II another multiple response, asked about gender of the participants. Question III asked the level of education of the respondents and question. Question III, the last one, measured the experience of the participants in Moha Soft drink industry in summit Pepsi. Question yes or no question, asked if the company based on related FSMS. Question V1 agreed and dis agreed question in the deferens Food safety management system task area and Final Question Choices of general information of Food safety management system.

3.8 Data Analysis

The collected data was entered and analyzed by using Microsoft Excel and SPSS software to obtain descriptive statistics of frequencies of responses, means and standard deviations. 33 Microsoft Excel was also used to prepare tables and graphs of all variables in the study in order to quantify the qualitative responses.

The data collected through interviews were subjected to content analysis. A separate table was prepared for each question in order to quantify the quantitative responses. The company personnel were distributed in these tables according to the responses they provided. In the last stage, the opinions of the participants were interpreted in an orderly way and presented as a report.

3.9 Ethical Considerations

This research work strictly adheres to the ethical principles with respect to the data used in the work. First, revising the literature of all the ideas and concepts taken from other scholars are acknowledged. Secondly, the data obtained through questionnaire from employees also remain confidential as stated on the questionnaire. Moreover, the information secured through observation from employees log book was only used for the purpose of the research and the written notes will not pass to the third party at any circumstances.

3.10 Reliability and Validity of research

Expert evaluation and detailed descriptions were used to ensure validity. Expert evaluation is defined as the examination of the research by an expert who is knowledgeable about the topic under inquiry as well as the qualitative research methods in various respects. The expert (a quality systems trainer) examined various aspects and stages of the research such as methods, data, statistical analysis, conclusions, and writing and gave detailed feedback to the researchers on each of these topics. Detailed description means presenting the concepts and themes that come forth in the evaluation of the collected raw data without any additional input or commentary by the researchers. Some of the data collected in this study were written in its raw form without any additional interpretation.

CHAPTER FOUR

RESULT AND DISCUSSION

4.1 Introduction

In this chapter the findings of the study were presented clearly in a very informative was in accordance with the research objectives of the impact of food safety management system 22000:2018 FSMS (FSSC 22000 V.5.1 in MOHA SOFT Drinks Industry S.C Summit Pepsi plant. Data was summarized and presented in the form of table, figures, proportion and percentage.

4.2 Demographic Characteristics of the Respondents

The reason I use gender and age is to understand the employee's and the relationship with the job as well as the organization's staff balance.

I am convinced that it is possible to avenge and implement the trainings provided, especially as most employees are younger workers

The results show that the majority of respondents (71.4 %) are males and the remaining are females as indicated below in table 4.1. Nearly (95.7 %) of respondents are (26-40) years old and the rest (4.3 %) were (41-45 years old) as shown in table 4.2.

Table 2: Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	50	71.4	71.4	71.4
	Female	20	28.6	28.6	28.6 100.0
	Total	70	100.0	100.0	

Table 2 age of respondents

Age of respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	26-40	67	95.7	95.7	95.7
	41-55	3	4.3	4.3	100.0
	Total	70	100.0	100.0	

4.3 Educational Background of respondents

The main reason I want to evaluate the educational background of staff in this study is to evaluate how educational background and work experience contribute to the food safety management system. Based on my research, I have found that educational background can be implemented and development of food safety management system. The results shows that the respondent's educational level is technical school graduates are about 4.3%, college Diploma 35.7%, Bachelor degree 41.4% and 18.6 % Master's degree holders. As it was clearly indicated from data collected most (77.1%) of respondents were college diploma and BSC degree holders. Data also reviled that most (77 %) of respondents (10-19) years' of experience.

Table 3: Education level of respondents

Highest formal education attended

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Technical school graduate	3	4.3	4.3	4.3
	College diploma	25	35.7	35.7	40.0
	Bachelor's Degree:	29	41.4	41.4	81.4
	Master's Degree	13	18.6	18.6	100.0
	Total	70	100.0	100.0	

4.4 Status of Food Safety Management System.

The total number of 70 employees who were asked to give their feedbacks on the level of accessibility and implementation of the food management system implementation by the

organization, 98.6% (69) employees responded correctly, which ensures that the food safety management system is being implemented in the organization.

MOHA Soft Drink Industry S.C summit Pepsi plant is committed to producing safe, legal and quality beverage products and services that continue to satisfy and exceed the growing needs and requirements of customers and interested parties. This commitment is consistently demonstrated through the implementation and maintenance of Food Safety management system FSSC 22000 V5.1 that addresses any relevant legal, corporate, customer or other standards and obligations. As indicated below in table 3. About 98.6% (69) employees reviled that food safety management system implementation was underway in MOHA soft drink S.C Summit plant.

Table 4: Level of food safety implementation status.

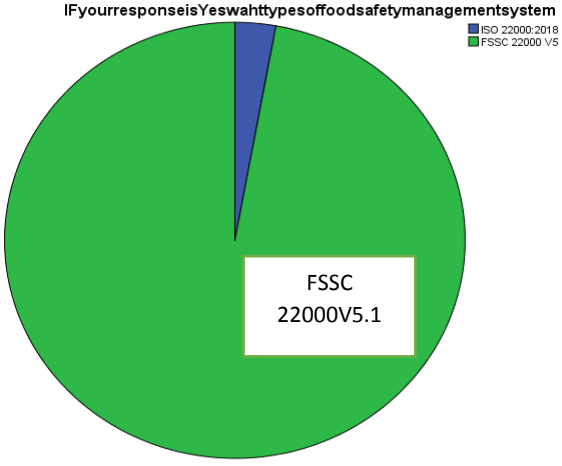
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	69	98.6	98.6	98.6
	NO.	1	1.4	1.4	100.0
	Total	70	100.0	100.0	

4.5 Food safety management system implemented.

About 97 % of respondents replied 'Yes' and reviled that Moha soft drinks industry S.C Summit Pepsi plant has implemented food safety management system based on ISO 222000 :2018 and upgrade (FSSC 22000 V.5.1).

In addition to the respondents, based on research and sampling, I have confirmed that Pepsi International has its own internal mandatory guidelines for Moha Soft Drinks Industry are used for internal Quality Assurance system.

Figure 4



4.6 Understanding of food safety management.

Responded who were asked about their awareness and training received with regard to food safety management system staff works for Moha soft drinks industry S.C Summit Pepsi plant has replied as there was scheduled training and awareness was provided based on food safety management system on time training was provided and evaluation was conducted. About, 38.6 % respondent is agreeing and 34.3. % respondent are strongly agree. The aggregate the result shows that food safety management system training and awareness of respondent 73 % are trained employees.

Table 5: Adequately trained and information.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly dis Agree	13	18.6	18.6	18.6
	Disagree	1	1.4	1.4	20.0
	Neutral	5	7.1	7.1	27.1
	agree	27	38.6	38.6	65.7
	strongly agree	24	34.3	34.3	100.0
	Total	70	100.0	100.0	

4.7 Role and responsibility of FSMS .Controlling.

With regard to assigned food safety management system controlling roles and responsibility about 41.4% (29), respondents are agreed and 38.6% (27), respondents are strongly agree most of 80%respondents are agreed the role and responsibility in food safety management system controlling. The organization has a good impact of role and responsibility controlling system for all processing unit.

Table 6: Given a detailed role and responsibility.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly dis agree	3	4.3	4.3	4.3
	disagree	1	1.4	1.4	5.7
	neutral	10	14.3	14.3	20.0
	Agree	29	41.4	41.4	61.4
	strongly Agree	27	38.6	38.6	100.0
	Total	70	100.0	100.0	

4.8 Food hygiene practices and attitude

MSDISPP believes that the organization has done a great job in terms of implementing a food safety management system and protecting the health of consumers. The respondents on the questions based on food safety management system protecting the health of consumer or customers the 45.7.% (32) respondent are agree and 47.1 % (33) respondents are strongly agree .total aggregate respondent has 92.9% as taken protect the health of the consumers or customers.

In addition, I have verified that the MSDISPP a System will conduct its own, but impartial, audit twice a year, which will ensure that the system is in good working order.

Table 7: Hygiene practices and attitude.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Neutral	5	7.1	7.1	7.1
	Agree	32	45.7	45.7	52.9
	strongly Agree	33	47.1	47.1	100.0
	Total	70	100.0	100.0	

In addition to this, Moha Soft Drinks industry S.C. summit Pepsi plant has a system in place to control from raw material to finished product distribution supply chain system in relation to the food safety management system.

The respondents on the questions based on food safety management in place to control from raw material to finished product distribution supply chain system in relation to the food safety management system 50% (35) respondent has are strongly agree and 40% (28) respondent has agree the aggregate results of Moha soft drink industry has in place end to end food safety management control system as taken respondent 90% are agreed refers the below table 7.

Table 8: A System in place to control from raw material to finished product distribution.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Neutral	5	7.1	7.1	7.1
	Agree	28	40.0	40.0	47.1
	Strongly Agree	35	50.0	50.0	97.1
	disagree	2	2.9	2.9	100.0
	Total	70	100.0	100.0	

4.9 Performance and Evaluation

The total evaluation and system performance measurement of Moha soft drinks industry based on food safety management systems as per respondents feedback, about 48.6%(34) respondent agree and 48.6% (34) respondents are strongly agree . The aggregates of respondents as indicated below in Table.8 for most of 97% respondents that agreed , Moha soft drinks industry S.C Summit Pepsi plant has a good performance and evaluation system for food safety management system (FSSC 22000:V5) .

In this study, I have confirmed that the organization's performance and competency criteria for evaluating the organization's performance and results are part of the monitoring and annual audit.

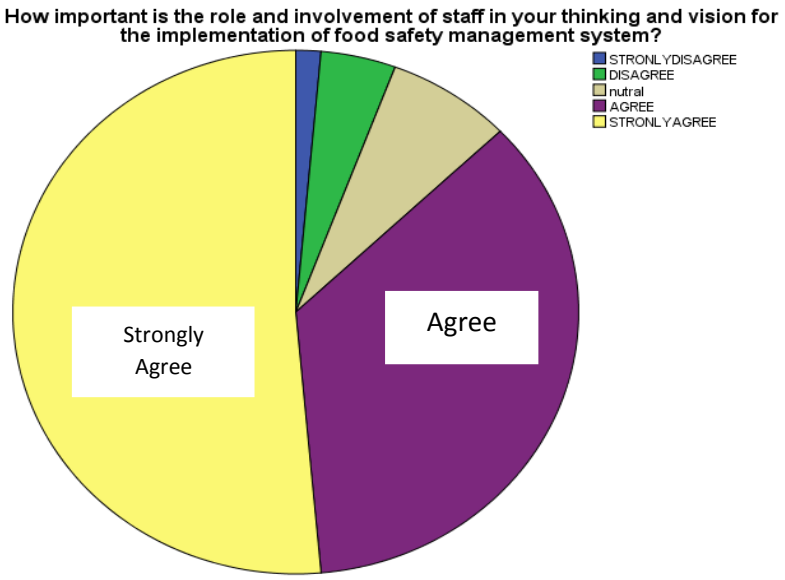
Table 9: Level of evolution system.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly dis Agree	1	1.4	1.4	1.4
	Dis agree	1	1.4	1.4	2.9
	Agree	34	48.6	48.6	51.4
	Strongly agree	34	48.6	48.6	100.0
	Total	70	100.0	100.0	

Moreover, the finding of the study was reviled on the importance of the involvement of staff for realization of company's vision for the implementation of food safety management system.

Table below shows the extent of agreement whether the importance role and involvement of staff in organization thinking and vision food safety management system 51.4% of respondent strongly agree and 35.4% of respondent agree.4.3% of the respondent disagrees and 1.4% of the respondent are strongly disagree. Refers to the below figure 2

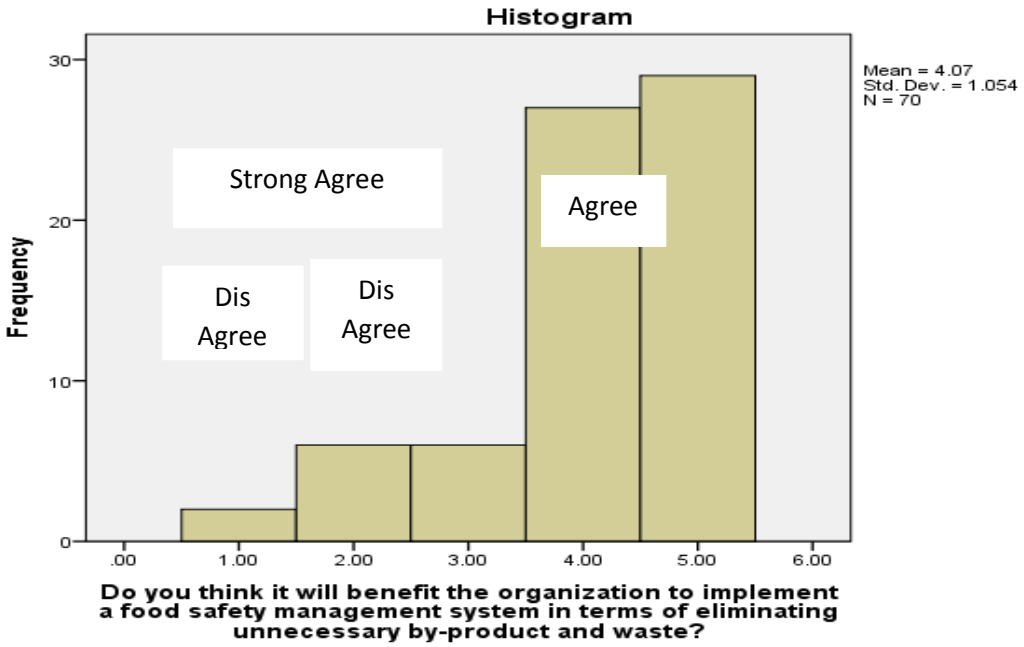
Figure 5: Role and Involvement of staff.



4.10 Benefit of FSMS in terms of eliminating unnecessary.

Overall, out of 70 respondents, 41.1% respondent was strongly agreed and 38.6% respondents were agreed on the benefits of FSMS implementation for eliminating wastes. The aggregate results of food safety management system implementation has 79.7% respondents are agreed a good controlling system of unnecessary product quality problems and waste elimination as indicated in below Figure 3.

Figure 6: Benefit of FSMS implementation in eliminating unnecessary by-product and waste.



4.11 Management barrier Status

The management meeting and discuss the system progress achievement questions about 37.1% respondent has agreed the frequently meeting based on management system 32.9 % respondents are strongly agree to the frequently meeting with managers to discuss the progress towards the achievements of Food safety management system . This indicates 70% respondents are agreed to the frequently meeting and discuss on food safety management system. Moha Soft drinks industry summit Pepsi plant was highly and strong impact of management discuss on the food safety management system progress and working activity.

Table 10: Management barrier Status.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Dis agree	1	1.4	1.4	1.4
	Dis agree	8	11.4	11.4	12.9
	Neutral	12	17.1	17.1	30.0
	Agree	26	37.1	37.1	67.1
	Strongly agree	23	32.9	32.9	100.0
	Total	70	100.0	100.0	

4.12 Properly identified working method and processes

Based on respondents asked about the relation of planning working method and processes exist in Moha soft Drinks Industry S.C. summit Pepsi plant in order to implement FSMS, about 41.4 % respondent are strongly agree and 35.7% respondent are agree. In general the above question is properly agreed on the system document achievement 77.1% as taken on the place as indicated in Table 10.

Table 11: properly identified working method and processes.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly dis agree	3	4.3	4.3	4.3
	Dis agree	1	1.4	1.4	5.7
	Neutral	12	17.1	17.1	22.9
	Agree	25	35.7	35.7	58.6
	Strongly Agree	29	41.4	41.4	100.0
	Total	70	100.0	100.0	

4.13 Top Management and staff training

Moha Soft Drinks Industry S.C Summit Pepsi plant have issued training on the implementation and awareness of the Food Safety management system policy and objective for all employees. The training and evaluation 48.6% respondent are agreed, and 41.4 % respondents are strongly agreed. It indicates most of MSDISPP managements has a good progress and communicate at all employee informed food safety policy and object the aggregated of the respondent has been 89% respondent has agreed.

Table 12: Top Management and management members.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly dis agree	2	2.9	2.9	2.9
	Neutral	5	7.1	7.1	10.0
	Agree	34	48.6	48.6	58.6
	Strongly agree	29	41.4	41.4	100.0
	Total	70	100.0	100.0	

Based on Food safety Management system key performance indictors in organization properly measures the organization.

Progress and performance of individual effort

The contacted respondents of about 47.1 % were agreed and 35.7% respondent was agreed.

Table 13: Food safety management key performance indicators.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	1	1.4	1.5	1.5
	neutral	9	12.9	13.2	14.7
	Agree	33	47.1	48.5	63.2
	Strongly agree	25	35.7	36.8	100.0
	Total	68	97.1	100.0	
Dis agree		2	2.9		
Total		70	100.0		

4.14 Role of FSMS in profit maximization.

Food safety management system implementation brings revenue growth and sustainable market share to the organization. About 34.3% respondents are agreed and 32.9% respondents are strongly agreed with the role of FSMS implementation for profit maximization. Cognizant with this the total market Share was increased to about 67% with MSDISPP as result of food safety management system implementation brings revenue growth and sustainable market share to the organization.

Table 14: Revenue growth and sustainable market share to my organization.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly dis agree	2	2.9	2.9	2.9
	Dis agree	3	4.3	4.3	7.1
	neutral	18	25.7	25.7	32.9
	Agree	24	34.3	34.3	67.1
	Strongly Agree	23	32.9	32.9	100.0
	Total	70	100.0	100.0	

4.15 Customer satisfaction

As respondents replied there is a level of customer satisfaction improvement from time to time after FSMS implementation. MSDISPP measurement system based on food safety 41.4 % respondent are agree 32.9 % respondent are strongly agree. In this question and respondent are actively relation on job the general aggregated of customer satisfaction measurement and improvement respondent 74.3% agreed the increasing customer satisfaction after food safety management system implementation.

Table 15: Level of customer satisfaction.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly dis agree	2	2.9	2.9	2.9
	dis agree	1	1	1	1
	Neutral	15	21.7	21.7	24.6
	Agree	29	41.4	42.0	66.7
	Strongly agree	23	32.9	33.3	100.0
	Total	69	98.6	100.0	
Total		70	100.0		

4.16 System in place to ensure

Increasing customer demand and consumer confident are the primary activity of MSDIPP about 44.3 % respondents is agreed, and 24.3% respondents are strongly agreed. The aggregate results of most respondents are food safety management implementation has increasing customer demand and confined 68.6%. In detail information and background refers to the below table 15.

Table 16: Ensure that customers are happens and have confidence.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly dis agree	2	2.9	2.9	2.9
	dis agree	2	2.9	2.9	5.7
	neutral	18	25.7	25.7	31.4
	Agree	31	44.3	44.3	75.7
	Strongly Agree	17	24.3	24.3	100.0
	Total	70	100.0	100.0	

4.17 Learning and growth perspectives/Documentation

They believe that there is a complete documentation of the food safety system control and verification recodes. The 50 % respondents are agreed and 27.1% agree the most respondent result is agreed. Documentation is one of the primary requirements of food safety management system implementation and certification it indicates Moha soft drinks Industry S.C summit plant 77.1 % respondent has a good documentation management system.

Table 17: Record keeping and documentation.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Neutral	15	21.4	21.7	21.7
	Agree	35	50.0	50.7	72.5
	Strongly Agree	19	27.1	27.5	100.0
	Total	69	98.6	100.0	
	dis agree	1	1.4		
Total		70	100.0		

4.18 The working environment

Working environment is one of the primer infrastructures of food industry the 55.7% Respondent are agree and 18.6 % respondent strongly agree. The aggregated result of responded are 74.4% respondent are agreed the good working environment of Moha Soft Drinks industry summit plant.

Table 18: The working environment is suitable to develop my job, knowledge

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly dis agree	3	4.3	4.3	4.3
	Disagree	2	2.9	2.9	7.1
	Neutral	13	18.6	18.6	25.7
	Agree	39	55.7	55.7	81.4
	Strongly agree	13	18.6	18.6	100.0
	Total	70	100.0	100.0	

4.19. Discussion

The implementation level of a food safety management system in the food industry improved time to time which includes good manufacturing practice (GMP), HACCP based principles and FSMS 2005 and 2018 to ensure safe products produced and to increase the company's competitiveness in the global market. Based on this finding Moha soft drink industry S.C summit Pepsi plant has certified food safety management system ISO 22000:2018 in 2018 and FSSC22000 V .5,1 in 2021 respectively. This indicates Moha soft drink industry S.C summit Pepsi plant implement high level food safety management system, which increase market competitiveness and customer satisfaction of the company.

Good hygiene practices examined the areas of Primary production, design and facilities, Control of operation, maintenance and sanitation, personal hygiene, transportation, Product information, consumer awareness and training of employees. According to this finding Moha soft drink S.C summit Pepsi plant has a good hygiene practice and attitude after implementation of food safety management system ISO 22000:2018 in 2018 and FSSCV .5,1. This implies the company build Satisfied customers, a good reputation, loyal customers, Less food wastage and controlled running costs – higher profits, A pleasant place of work, High staff morale, Lower staff turnover, Compliance with food safety laws, and Better job security.

Based on this finding, Moha soft Drinks industry S.C. Summit Pepsi plant prevents its business from any potential through, less customer complaints, less food product recalls or returns, standardized compliance with food laws and increase market share through implementation of food safety management system.

The findings indicate that marketing resources impact on financial performance indirectly through creating customer satisfaction and loyalty and building superior market performance.

Moha Soft Drinks Industry S.C. summit plant has adopted a food security system following a customer-centric production system with a significant market share.

In addition, the information I have received from my personal data and staff indicates that it has a better market share by following the principles of planning, verification and implementation to be more efficient and accessible in order to respond to customer complaints.

According to the result of this research, food safety management systems implementation costs are in terms of infrastructure, training and system certification, but in the end there is a significant change in performance and implementation costs. Consumption plays an important role in meeting the needs of consumers and consumers, so any cost of food safety control is not considered an ordinary expense.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATION

5.1 SUMMARY OF MAJOR FINDINGS

The study was conducted to assess the practice and impact of Food safety management system implementation of Moha Soft Drinks Industry S.C Summit Pepsi Plant. In order to attain these, relevant data were gathered through questionnaire and interview with 70 permanent employees at processing facility. The data were analyzed with the aid of descriptive statistics (percentage), mean and standard deviation. Based on the discussion of the data, the following summaries of findings are drawn:

1. Regarded to the result of educational level of the respondents are 60% Master's & Bachelor degree educational level. This implies the organization employees have good understanding of importance of food safety management system implementation.
2. The level of accessibility and implementation of the food management system implementation by the organization is about 98.6% (69) employees responded correctly, which ensures that the food safety management system is being implemented in the organization.
3. Status of Food Safety Management System: Based on respondents' feedback with regard level of FSMS implementation with MSDISPP, 98.6% (69) employees responded correctly, which ensures that the food safety management system is being implemented in the organization.
4. With regard to types of food safety management system implemented about 97 % of respondents replied 'Yes' and reviled that Moha soft drinks industry S.C Summit Pepsi plant has implemented food safety management system based on ISO 222000 :2018 and upgrade (FSSC 22000 V.5.1).
5. Understanding of food safety management. About 38.6 % respondent was agreeing and 34.3.% respondent are strongly agree as there was scheduled training and awareness was provided based on food safety management system on time training was provided and evaluation was conducted.

6. Role and responsibility of food safety management system controlling. With regard to assigned food safety management system controlling roles and responsibility about 41.4% (29), respondents are agreed and 38.6% (27), respondents are strongly agree most of 80% respondents are agreed the role and responsibility in food safety management system controlling. The organization has a good impact of role and responsibility controlling system for all processing unit.
7. The food hygiene practices and attitude of MSDISPP after implementation of food safety management system. With regard the importance of food safety management system protecting the health of consumer or customers the 45.7.% (32) respondent were agreed and 47.1 % (33) respondents are strongly agree.
8. MSDISPP has a system in place to control from raw material to finished product distribution supply chain system in relation to the food safety management system. About 50% (35) respondent was strongly agreed and 40% (28) respondent was agreed as a there was system in place to control from raw material to finished product distribution supply chain system in relation to the food safety management system.
9. System Performance and Evaluation for MSDISPP: The total evaluation and system performance measurement of Moha soft drinks industry based on food safety management systems as per respondents feedback, about 48.6% (34) respondent agree and 48.6% (34) respondents are strongly agree. The extent of agreement whether the importance role and involvement of staff in organization thinking and vision food safety management system 51.4% of respondent strongly agree and 35.4% of respondent agree.
10. The benefit of FSMS in terms of eliminating unnecessary by-product and wastes. Overall, out of 70 respondents, 41.1% respondent was strongly agreed and 38.6% respondents were agreed on the benefits of FSMS implementation for eliminating wastes. The aggregate results of food safety management system implementation has 79.7% respondents are agreed a good controlling system of unnecessary product quality problems and waste elimination.
11. Progress and performance of individual effort towards the achievements of the company strategy: The contacted respondents of about 47.1 % were agreed and 35.7% respondent was agreed. Based on conducted assessment food safety management system implementation helps organization to use its resource cost effectively. There is observed

after food safety management system implementation there was no re-work and unnecessary waste of any types of resources. The data collected reviled that about 37.1. % of respondents strongly agrees and 35.7% respondents are agreed. It indicates the impact of food safety management system implementation according to its resources utilization 72.8% respondents are agreed to the food safety management system cost effectiveness.

12. Role of FSMS in profit maximization: Food safety management system implementation brings revenue growth and sustainable market share to the organization. About 34.3% respondents are agree and 32.9% respondents are strongly agree with the role of FSMS implementation for profit maximization. Cognizant with this the total market Share was increased to about 67% with MSDISPP as result of food safety management system implementation brings revenue growth and sustainable market share to the organization.
13. Customer satisfaction of MSDISPP: As respondents replied there is a level of customer satisfaction improvement from time to time after FSMS implementation. MSDISPP measurement system based on food safety 41.4 % respondent are agree 32.9 % respondent are strongly agree. In this question and respondent are actively relation on job the general aggregated of customer satisfaction measurement and improvement respondent 74.3% agreed the increasing customer satisfaction after food safety management system implementation.

5.2 Conclusion

As conclusion status MSDISPP, was fully implemented ISO 222000 :2018 and upgrade (FSSC 22000 V.5.1), by which the company's ensures its produce quality and safety and more importantly the productivity and profitability. The company was providing scheduled training and awareness. The implementation of FSMS also support in providing roles, responsibilities and accountabilities within the organizations in terms of food safety management systems. The staff and management of the organization understood the importance of food safety management system in protecting the health of consumer or customers.

Through implementation of FSMS the company was put emplaced the system for the control of all its processes from raw material to finished product distribution supply chain system in relation to the food safety management system. Strongly agreed on the important role played on creating shared vision and mission of the organization. There was no observed re-work and

unnecessary waste after FSMS implementation within MSDISPP. In addition to this, the food safety management system implementation for cost effectiveness. Furthermore, the good level of customer satisfaction that was significantly improved from time to time after FSMS implementation. The role of FSMS implementation for profit maximization. Cognizant that the total market shares were increased to about 67% within MSDISPP as result of food safety management system implementation that brings revenue growth and sustainable market share increment.

5.3 Recommendation

The purpose of a food safety management system is to ensure that food is safe to eat and will not lead to outbreaks of foodborne illness among consumers. Food incidents or concerns about the safety of food can harm the food business operator's reputation in the industry.

Therefor based on this research finding MSDISPP recommend implementing the following food safety management system to deliver sustainable, safe and adequate food product to the community.

- To increase competitiveness of the company Food safety management system certification maintained.
- The MSDISPP implemented Food safety and Quality upgraded to GFSI.
- The best experience with regard to FSMS implementation of MSDISPP conduct to be adapted and scale out to other relevant processing industries.
- Implement and develop monitoring and evaluation system for the impacts, outcomes, outputs, and inputs that are monitored during implementation to assess progress of the company.
- For implementing the Food safety management system the general and documentation requirement with modular approach and the Management responsibility for their food safety policy, hygienic design, specifying the program for cleaning and sanitization, equipment maintenance, control for strict raw materials and analysis of critical control point (CCP) are taken care of for sustainable and reliable delivery safe and quality for the society.

References

Aggelogiannopoulos, D., Drossiness, E. H. and Athanasopoulos, P. 2007. Implementation of a quality management system according to the ISO 9000 family in a Greek small-sized winery: A case study. Food Control, 18(9): 1077–1085. (doi:10.1016/j.foodcont.2006.07.010)

Mulat Abegaz, 2004 (There is also no comprehensive food law that clearly defines and streamlines the activities of each regulatory body) .

Codex standard - General Principles of Food Hygiene -CAC/RCP 1-1969 details the Hazard Analysis Critical Control Point (HACCP) system and guidelines for its application.

Dawit D. 2010 . There are three recognized categories of food safety hazards: biological hazards, chemical hazards, and physical hazards.

Gkogka et al., 2011; Kirk et al., 2014; Mangen et al., 2015; Scallan et al., 2011; Tam et al., 2014; Thomas et al., 2013.

Higuera-Ciapara & Noriega-Orozco, 2000; Vasconcellos, 2004), which is basically designed to assure food safety (Spiegel et al., 2003).

(Kocak, 2010). Companies that implement systems such as the HACCP or ISO 22000 FSMS attain success in safe food production

María & Vijande, 2014. quality of food products and many companies do not realize the potential benefits of its application and feel the high cost associated implementation

Macheka et al, 2013 primary motivation for the implementation of ISO 22000 is to improve the quality and safety of products as well as improving the skills of employees , improved corporate image, increase product sales, increased market share, and access to new markets .

Mulat Abegaz, 2004 there is also no comprehensive food law that clearly defines and streamlines the activities of each regulatory body

Research conducted by Shih, Ming &Tsai (2019), Qijun & Batt (2016) and Bouzembrak & Klüche (2019) concluded that food safety benefit to the company

Segovia et al, 2014 .The implementation of a food safety management system ISO 22000 in the food industry ensures safe products produced and will increase the company's competitiveness in the global market

Yalemtsehay, 2010 this is demonstrated by multiple Codex Alimentarius guidelines and National Codex Committee (NCC)

Annex A

Questionnaire

ST. MARY'S UNIVERSITY SCHOOL OF GRADUTIES STUDIES

INSTITUTE OF QUALITY AND PRODUCTIVITY MANAGEMENT

The questioners to be filled by Moha Soft Drinks Industry Summit pepies plant

Researcher :- Mulugeta Yimer mulugetayimer293@gmail.com. +251920137688.

Research Topic: Impact Of Food safety Management system implementation (ISO 22000: 2018)

Dear Respondents,

I would like to express my sincere appreciation for your generous time and honest prompt responses.

Objective: This questionnaire is designed to collect information about the existing Practices and Impact of food safety Management system implementation of MOHA Softy Drink industry summit pipes plant .

The information that you respond to shall be used as a primary data in my case research which I am conducting as partial requirements of Master's degree at St Mary's University under Institute of Quality and Productivity Management.

Therefore, the information gathered will be used fully and with due attention for academic purpose only and I would like to assure you that the data collected will not be misused any ways.

General Instructions

- There is no need of writing your name.
- In all cases where answer options are available please tick (√) in the appropriate box.
- For questions that demand your opinion, please try to describe as per the questions on the space provided
- If the space provided is not enough for your opinions, please use the back side of the paper by writing the question number.

I. **Personal Information**

1. Your age

18-25 ☐ 26-40 ☐ 41-55 ☐ 55-60 ☐

2. Sex

Male ☐ Female ☐

3. Highest formal education attended

High School gradate ☐

Technical School graduate ☐

College Diploma ☐

Bachelor's Degree ☐

Master's Degree ☐

PhD other (Please state) _____

4. Years of service in the organization

0-4 ☐ 5-9 ☐ 10-19 ☐ 20-30 ☐ above 30 years ☐

5. Your current position (Job grade) _____

6. Years of service on the current job _____

II. Please respond on the following questions to indicate your level of agreement with each of the identified issues associated with the implementation of impact of food safety management system. And put a tick mark (√) or select in the box in front of the items of your choice.

7. Moha Soft Drinks industry S.C Summit pipes plant has implemented food safety system?

☐ Yes ☐ No

8. If Your Response is Yes what types of food safety management system?

A. HACCP B. ISO 2200:2018 C. FSSC D. GFSI.

9. What was your role and responsibility in the food safety management system implementation and process?

A. Food safety Team Leader B. Food Safety Team member C. participant

10. Since the implementation of Food Safety Management system , how often do you have training or educational programs to update your skill?

☐ Always ☐ Often ☐ Sometimes ☐ Never

11. How do you find your job and personal target after FSMS implementation in Moha Soft Drinks industry ?

☐ Interesting ☐ Routine

☐ Challenging but achievable ☐ somehow difficult to achieve

13 Do you think that the performance evaluation system of your organization is serving its purpose?

☐ Yes ☐ No

14. Do you think that the performance evaluation system differentiates effective performer from non –performer at all levels?

☐ Yes ☐ No

15. Are you satisfied with Food Safety Management system as performance evaluation system in Moha Soft Drinks Industry?

☐ Yes ☐ No

16. If your answer is No for question no-15, what do you think the reason is? Please explain

_____

_____

_____

_____

_____

II. In this part of the questionnaire, there are questions that are related Impact of Food Safety management system implementation .and difference categories of Food safety management. Therefore, you are required to give your opinion, to what extent your organization has done these activities to proper implement of FSMS . Please use the following scale to indicate your level of agreement with each of the identified issues associated with the implementation of a Food safety management system . And putting a tick mark (√) in the box in front of the items of your choice**.**

If You Strongly Agree	If You Agree	If you Don't Know (Neutral)	If You Disagree	If you strongly Disagree
5 point	4 point	3 point	2 point	1 point

№	Please use the following scale to indicate your level of agreement with Each of the identified issues related to factors that contribute to the success of the FSMS implementation.	1	2	3	4	5
Impact of Food Safety Management system implementation						
understanding of food safety management						
15	You have been adequately trained and information about the Moha Soft Drinks Industry summit Pepsi plant food safety and Quality control system?					
16	At the Moha Soft Drinks Industry Summit Pepsi plant, you are given a detailed role and responsibility in food safety management controlling					
17	They believe that the organization has done a great job in terms of implementing a food safety management system and protecting the health of consumers or customers?					
18	Moha soft Drinks industry S.C. summit Pepsi plant has a system in place to control from raw material to finished product distribution supply chain system in relation to the food safety management system?					

System Performance and Evaluation						
21	Moha Soft Drinks Industry Summit Pepsi plant provides training to management and staff to ensure sustainability of the food safety					
22	Evaluate the third-party audits annually or when necessary to ensure that the system is working properly?					
23	How important is the role and involvement of staff in your thinking and vision for the implementation of food safety management system?					
Resource Management						
24	Do you think it will benefit the organization to implement a food safety management system in terms of eliminating unnecessary by-product and					
25	In your opinion, Moha soft Drinks Industry S.C. summit Pepsi plant wasted resources to implement the food safety management system?					
26	Moha soft drinks Industry S.C summit pipes plant they think the use of resources and practices have improved with the implementation of the food safety management system?					
Management barrier						
27	I have frequently meeting with managers to discuss the progress towards the achievements of FSMS					
28	Properly identified working method and processes exist in Moha soft Drinks Industry S.C. summit Pepsi plant in order to implement FSMS?					
29	The Top Management and management members of Moha Soft Drinks Industry S.C Summit Pepsi plant have issued training on the implementation and awareness of the Food Safety management system policy and objective for all employees?					
30	Based on Food safety Management system key performance indictors in organization properly measures the organization Progress and performance of individual effort towards the achievements of the company strategy?					
Financial Perspectives/						
31	Food safety management system implementation helps organization to use its resource cost effectively?					
32	Food safety Management system implementation brings revenue growth and sustainable market share to my organization?					
33	They think the cost of implementing the food safety management system is un necessary cost for the company in terms of food production and productivity as well as quality Assurance?					

34	They think that the organization has good profitability and motivation after implementing the food safety management system?					
Internal business unit perspectives						
35	Due to the implementation of FSMS in organization the service delivery time and					
36	Food Safety Management system implementation improves achievement of Strategic Goals for vision and objective of business unit?					
37	Food safety management system implementation is suitable to meet customer requirement and increasing consumer satisfaction?					
Customer perspectives						
38	Before to the implementation of the food safety system, there was a guide and procedure for measuring customer satisfaction?					
39	There is a level of customer satisfaction measurement and improvement procedure from time to time?					
40	The implementation of food safety managent system improves the service delivery					
41	There is a system in place to ensure that customers are happy and have confidence in the organization, such as :-increase customer number, etc. ?					
	Learning and growth perspectives/Documentation					
42	They believe that there is a complete documentation of the food safety system?					
43	They think the implementation of the food safety system will make improvement of the workers, the professionals and the industry?					
44	I have taken all necessary support to improve myself through training					
45	The working environment is suitable to develop my job, knowledge and					
46	The training program given for me is appropriate to enhance my					

IV. Performance measurement related

Performance measurement in this questionnaire does not refer to the performance of individuals. It refers to the process of collecting and analyzing data for the purpose of strategic decision making

Questions number 47 to 51 please circle the appropriate response

47. What is your assessment of value of performance measurement to the organization?

1. Effective 2. Limited value 3. A key managerial control 4. Waste of time

48. How often do you prepare your formal performance measurement reports? Please circle the most appropriate response.

1 Quarterly 2. If other please specify 3. Annually 4. Twice a year 5. Every month

49. Are performance measures modified when there are changes in the organization's strategic objective?

1. Always 2. Usually 3. Often 4. Rarely 5. Never

50. Over the last five years, how would you describe your organization's approach to the use of performance measurement?

1. Falling interest 2.Unchanged 3.Increasing interest 4.Heavy emphasis

51. Does your organization use performance measurement to identify areas that require strategic focus?

1. Never 2. Rarely 3. Sometimes 4.Frequently 5. As a matter of policy.

v. Additional Personal Opinions

1. Out of the above listed points, are there any other impacts your organization face after food safety management system implementation? Please list _____

_____

_____

_____

_____

_____

2. In your opinion, there are some changes that have been made since the Moha Soft Drinks Industry Food Safety management System was implemented? _____

3. What do you recommend to solve the above problems in Moha Soft drinks Industry S.C summit Pepsi plant?

Appendix B Interview

St. Mary's University School of graduate studies Quality and productivity management program.

The following interview questions are designed to collect information about the perception of employees towards the practice and impact of Food safety management system implementation of MOHA SOFT DRINKS S.C Summit Pepsi plant . the information shall be used as primary data in my case research which I am conducting my Food safety management Assessment under Quality and productivity management.

The research is to be evaluated in terms of its contribution to our understanding of the practices and Impact of food safety management system implementation Moha Soft Drinks Factory summit Pepsi plant its contribution to the improvement of these practices. Finally, your genuine, honest and prompt response is a valuable input for the quality and successful completion of the project.

List of interview questions:

1. What is the level of food safety management system implementation in MOHA SOFT Drinks Industry S.C. summit Pepsi plant?
2. What are food hygiene and attitude of food business operator before and after food safety system implementation?
3. Which are food safety system implementation motivations and benefits?
4. What are the benefits and costs directly related to the food safety management system implementation, certification and maintenance?