



**ST. MARY'S UNIVERSITY  
SCHOOL OF GRADUATE STUDIES**

**EVALUATION OF THE IMPACT OF QUALITY MANAGEMENT  
SYSTEM ON OPERATIONAL PERFORMANCE: THE CASE OF EAST  
AFRICA BOTTLING SHARE COMPANY**

**MSC THESIS RESEARCH REPORT**

**BY:**

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**JANUARY, 2022**

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**A THESIS SUBMITTED TO ST. MARY'S UNIVERSITY SCHOOL OF GRADUATE  
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MANAGEMENT**

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**ST. MARY'S UNIVERSITY**  
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**INSTITUTE OF QUALITY AND PRODUCTIVITY MANAGEMENT**

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## **Declaration**

I, Mikias Worku, hereby declare that the thesis "**EVALUATION OF THE OUTCOME OF QUALITY MANAGEMENT SYSTEM ON OPERATIONAL PERFORMANCE: THE CASE OF EABSC**," submitted for the award of a master's degree in quality and productivity management, is my original work and that it has never been submitted for the award of a degree, diploma, scholarship, or other comparable designation by any other university or institution.

Signature\_\_\_\_\_

Name: Mikias Worku

Date: January 2022

## **Endorsement**

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

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January 2022

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## Acronym

|                       |  |
|-----------------------|--|
| <b><i>CCBA</i></b>    | Coca-Cola Beverage Africa                      |
| <b><i>CF</i></b>      | Customer Focus                                 |
| <b><i>CI</i></b>      | Customer Involvement                           |
| <b><i>COQ</i></b>     | Cost of Quality                                |
| <b><i>EABSC</i></b>   | East Africa Bottling Share Company             |
| <b><i>EI</i></b>      | Employee Involvement                           |
| <b><i>FBDM</i></b>    | Fact Based Decision Making                     |
| <b><i>FMEA</i></b>    | Faller Mode Effect Analysis                    |
| <b><i>ISO</i></b>     | International Organization for Standardization |
| <b><i>OP</i></b>      | Operational Performance                        |
| <b><i>PA</i></b>      | Process Approach                               |
| <b><i>QMS</i></b>     | Quality Management System                      |
| <b><i>SACCBCO</i></b> | South Africa Coca-Cola Bottling Company        |
| <b><i>SCW</i></b>     | Supply Chain Way                               |
| <b><i>SI</i></b>      | Supplier Involvement                           |
| <b><i>TMC</i></b>     | Top Management Commitment                      |
| <b><i>TQM</i></b>     | Total Quality Management                       |
| <b><i>TR</i></b>      | Training                                       |

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## ABSTRACT

*The purpose of this study was established the correlation between Quality management system implementation and organizational performance improvement in the case of East Africa bottling share company. It also required to find out the extent of Quality management system implementation in this institute as well as the challenges faced by institute in implementation. A survey questionnaire was used to collect data. Descriptive statistics was used to evaluate the extent of implementation of Quality management system practices and the challenges during implementation. Performance measures were regressed against the set of practices under Quality management system to evaluate the relationship between the two. A correlation and regression model was used to evaluate the overall association between Quality management system implementation and organizational performance improvement. The results from the study show that Quality management system have varying degrees of implementation in East Africa bottling share company. from the perspective of Quality management system Top management, customer focus, process approach, fact based decision making, continuous improvement and supplier involvement; from the perspective of Operational performance Customer satisfaction, Quality of product, profitability and firm competitiveness having the Very good extent of implementation and on the other hand Employee involvement and Employee satisfaction under Quality management practice and operational performance respectively are good level of implementation. On challenges faced in Quality management implementation, employee's quality culture, understanding, financial budgeting lower employee satisfaction, gaps in communication and resistance to change are considered. The greatest opportunity was top management commitment and support. Results from the descriptive statistics, correlation and regression analysis show that implementation of Quality management system in east Africa bottling Share Company is significantly related to organizational performance improvement*

**Key words:** Quality management and Organizational Performance.

# CHAPTER ONE

## 1. INTRODUCTION

In this study, the researcher will look at the outcome of quality management system on operational performance at the Coca-Cola Beverage Africa Group's Addis Ababa factory.

The first section of this chapter discusses the study's history, followed by the presentation of the problem, basic research questions, objectives (generic and specific), definitions of important words used in the research, and the study's importance.

### 1.1 Background of the Study

Now a days manufacturing industries to grow and compete with others, a manufacturing company must choose the right system to implement. Quality improvement, cost reduction, and on-time delivery are all vital components for manufacturing organizations to succeed in the changing global marketplace (Sofiana, Rosyidi and Pujiyanto, 2019).

Many manufacturing organizations have utilized product quality and cost reduction as their most popular competitive tactics. From time to time, manufacturing organizations must increase the quality of their products at a low cost. Many studies have been conducted on process quality improvement to save costs (Sofiana, Rosyidi, and Pujiyanto, 2019).

Quality is a multifaceted term. According to Garvin (1987), quality can be viewed from up to eight different perspectives; performance, features, reliability, conformance, durability, serviceability, aesthetics, and perceived quality. Within manufacturing operations, the conformance dimension is most influential since it refers to the process' ability to produce products to their predefined specification reliably and consistently (Ward et al. 1996; Slack and Lewis, 2002). High levels of conformance quality must be attained before trying to improve any other of the performance dimensions (Nakane, 1986; Ferdows and De Meyer, 1990). The idea is that poor compliance quality leads to scrap and rework, which in turn necessitates larger buffers and the like. Higher total inventory levels lengthen production lead times, which has a detrimental impact on delivery performance. Internal quality measures include the percentage of products that pass final inspection and the scrap rate, among other things. Customer satisfaction is frequently viewed as

the most important indicator of external quality (e.g., Anderson and Sullivan, 1993). (Sweeney and Szejczewski, 1996).

Competitive advantage is based on two factors: productivity and quality. No organization can achieve its objectives without high productivity; in fact, a higher rate of productivity is a key component for enhancing the quality and eliminating defects, as well as increasing profitability and lowering costs. Manufacturing companies that consistently produce high-quality products and are the most productive have reduced costs, bigger profit margins, and a growing market share (Ali *et al.*, 2011).

Most manufacturing organizations are investing a significant portion of their funding, allocating human and material resources, and excelling their performance through various improvement initiatives to ensure their success in beating their rivals in the increasing competition, improving program implementation, and overall performance. However, it appears that allocating the above listed points, may not ensure that the group engaged achieves its stated goal.

As we are reviewing some of the literature regarding Quality management system and operational performance, we found out that they mainly focus on customer focus and management commitment. In addition, we also observed in the literature review that there are various researches made about Leadership, Top management Commitment, Quality culture, Training, customer focus, and others. However, not much attention has been given to explicitly evaluating the factor behind the supply of exclusive process inputs like concentrates and sugars and there associated impact on performance.

The idea of "operational" The key focus for increasing profitability in the soft drink sector is performance. The majority of soft drink manufacturers start with raw materials and turn them into finished products. However, they are confronted with several issues that have an impact on their performance during the conversion process. This can be mostly due to human, machine, technology, management, process, environment and process input. Companies must upgrade their systems to better convert the input to output to enhance productivity. This takes us to Operational Performance Analysis.

East Africa Bottling Share Company (EABSC), a single bottler of Coca-Cola products in Ethiopia and part of the Coca-Cola Beverages Africa (CCBA) group, is one of the companies in the fast-growing soft drink production business. With an initial capital of birr 750,000, the East Africa Bottling Share Company was founded in 1959 by five Ethiopians with the first facility in Abinet, Addis Ababa. The second facility, which is located in Dire Dawa, was opened in 1965.

This time, one foreign national joined the five Ethiopians. In May 1999, the company took a big step forward by forming Coca-Cola South Africa Bottling Company, a joint venture with South Africa Bottling Company (CCSABCO). Coca-Cola SABCO grew its share to 61 percent in 2001, and now controls the majority of the company's leadership and management. Coca-Cola SABCO was amalgamated with The Coca-Cola Company and SABMiller on July 2, 2016, to establish Coca-Cola Beverages Africa (CCBA). SABMiller owns 57.0 percent of the company, Coca-Cola SABCO (Gutsche Family Investments) owns 31.7 percent, and The Coca-Cola Company owns 11.3 percent. EABSC opened its third facility at Bahir Dar on June 12, 2013, and has been serving the northern Ethiopian market since November 16, 2016. The company is currently preparing to open two new factories in Sebeta and Hawasa. However, the PET production line is currently located in the Addis Ababa factory.

## **1.2 Statement of the problem**

There has been no study conducted by the EABSC Addis Ababa plant to date that examines the outcome of quality management practices on operational performance. A comparison of quality management system among firms in different countries could help to explain the situation.

Many scholars have tried to figure out how QMS helps firms enhance their internal and external organizational processes, as well as their respective performance. Any continuous improvement program must always be linked to the improvement of some or all aspects of the organization's performance when seen from various angles. The association between QMS practices and performance has been measured in some empirical investigations. Several empirical investigations have shown that quality management system have a direct impact on organizational performance (Abusa, 2011).

According to various researchers, quality improvement activities have a favorable influence on an organization's operational performance and are usually linked to a good impact on the happiness

of the organization's consumers (Abusa, 2011). As per the findings of various researchers, quality improvement activities have a beneficial influence on the organization's product quality performance and are usually linked to a favorable impact on the delight of the organization's consumers (Alaoun and Faculty, 2018).

Information about how Quality management system within the organization is affecting the status of performance is very critical since organizations have begun focusing on its implementation and producing high-quality product to maintain their competitive position and meet the needs of both domestic and international customers (Hokoma, Khan, et al., 2008). All of these goods require a strong quality focus, which can only be achieved by a successful Quality management system and tracking its influence on OP. As a result, a thorough assessment of Quality management system is critical. Competition between local and international enterprises is driving the demand for QMS.

The company says that ISO Quality management system and certification of the ISO QMS standard can help organizations enhance their performance, although no clear research has been done to show that this is true. As a result, the purpose of this study is to look into the impact of QMS on the example company's operational performance. The following research questions will be answered after this study is completed.

### **1.3 Basic Research Questions.**

- a) What is the status of quality management system and operational performance of EABSC Addis Ababa Plant?
- b) To what extent does Quality management system influence the operational performance of EABSC Addis Ababa plant?
- c) What are the factors affecting Quality management system implementation in EABSC Addis Ababa plant?



## **1.4 Objective of the study**

### **1.4.1 General Objective**

The general objective of the study is to examine the impact of quality management system on the operational performance of EABSC Addis Ababa plant.

### **1.4.2 Specific Objectives**

- To assess the status of quality management system and operational performance of EABSC Addis Ababa plant.
- To establish the impact of quality management system on the operational performance of EABSC Addis Ababa plant.
- To identify factors that affect the implementation of Quality management system in EABSC Addis Ababa plant.
- To identify the gap in the effectiveness of the Quality Management system and provide recommendations.

## **1.5 Significance of the study**

Because the majority of studies in Quality management system are focused on manufacturing environments, it encourages researchers in the field to critically examine the subject under discussion from a variety of perspectives, particularly in the context of profit-oriented organizations, and fill the gaps that they can critically consider in future work.

Furthermore, it enables Manufacturing Organizations that are investing and allocating significant amounts of their resources (including funds, time, and manpower) to deal with performance enhancement through quality management practice process optimization, high-quality input from suppliers, and high-quality output from production, to examine the results of their investment. This research will allow them to see if it will help them attain their goal.

Finally, the research will improve the understanding and effectiveness of quality management system in the manufacturing process, allowing firms to improve their performance and attain excellence.

## **1.6 Scope of the Study**

The case organization for the study is the EABSC Addis Ababa plant. It was chosen as a research topic since the researcher has relevant experience and similar research has not been done at this level before. The participants in the study were EBSC Addis Ababa plant employees. The study took a representative sample of employees from various departments/functional units to gain a holistic view of the organization. The research was conducted in Addis Ababa, specifically in EABSC Addis Ababa plant. The research was conducted between September and December of 2021.

## **1.7 Limitation of the study**

Small number of respondents creates a limitation on the data coverage and limited the researcher to get extra detail information to study the problem. If the sample size is increased to include the perspectives of a larger number of quality management specialists, the results will be more reliable. Employees at lower levels should also be included in the study.

Since December was closing month of the year, the tight schedules of managements in EABSC Addis Ababa plant the researcher is not be able to gather information through interview. This study also uses only a quantitative method of analysis. And if a qualitative study is included, it might give an additional insight the participants have on quality management system and operational performance. And also may enable to identify and investigate the barriers that are negatively affecting organizational performance and Quality practices. Moreover, there were unreturned questionnaires and improperly filled which were totally ignored. Thus, the research is limited on the gathered information; out of 83 distributed questionnaires, only 72 (92%) correctly filled questionnaire were able to be collected.

## **1.8 Organization of the Research Report**

The research is divided into five sections. The first chapter introduces and gives background information on Quality loss reduction strategies, the study's history, EABSC, the problem statement, the objectives, the scope of the investigation, and definitions of words, as well as the research question and importance of the study.

The second chapter covers pertinent literature studies for the study, including definitions of keywords like Quality, Quality Management system, and Operational Performance in Manufacturing Industries, as well as a theoretical framework to help with the situation at hand.

The study's methodology is detailed in the third chapter. It lays forth the study's research strategy, data type and source, sampling procedure, and analysis. The findings are presented, examined, and evaluated in chapter four, and the fifth chapter generates conclusions and recommendations for the case firm to consider, as well as any corrective measures based on the fourth chapter's study.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 Introduction**

This chapter examines the theoretical and empirical literature relevant to the study's research questions. The first section of the chapter discusses the primary theories that the study used to construct its research framework. The chapter then goes over the study's specific literature, focusing on the primary factors whose relationships were being explored. After evaluating the necessary literature, the conceptual framework is also given.

#### **2.2 Quality**

Quality can be defined in a variety of ways. Quality, according to Crosby, is "conformance to specifications." Quality is defined by Juran as "fitness for use," and there are many additional definitions that, in general, contain the main factor of meeting the demands and expectations of the client. (Al-Asiri, 2004).

The definition of quality in the manufacturing industry differs from that in the service industry. Manufacturing companies create tangible goods that can be seen, handled, and measured directly. This means that quality in manufacturing organizations focuses on physical product features the majority of the time (Eunice, 2016). Conformance to requirement, suitability for purpose, satisfying customer perceptions, exceeding customer expectations, and superior to competition are the five categories into which Quality definitions can be grouped (Franks, 2008).

Quality, according to Deming, has a positive chain reaction: "increasing quality leads to lower costs with less rework and delays, which enhances productivity and captures the market with higher quality and cheaper price" (Al-Asiri, 2004). Deming (1986) observed that no quality management framework could succeed without the involvement of top management; management invests in procedures, creates corporate culture, selects providers, and cultivates long-term relationships. Deming's Quality Improvement Theory enables businesses to eliminate low-quality control issues by implementing effective administrative procedures. The behavior of management forms the corporate attitude and defines what is required for the firm's success and survival (Eunice, 2016).

## 2.3 Quality management Practice

Quality management is a managerial strategy aimed at coordinating the natural managerial impulses of planning, controlling, and improving. Quality management is defined as design activities and production procedures targeted at improving product quality in a manufacturing-based approach. Quality management is defined by ISO 9000 as a collection of coordinated actions for directing and regulating an organization's quality projections. Quality planning, quality control, quality improvement, and quality assurance are all included in the activities (Eunice, 2016).

To identify, target, control, and coordinate the different elements (aims, procedures, resources, and so on) inside an organization, quality management is required. Manufacturing-based quality definitions consider quality from a manufacturing perspective, where pre-determined requirements, design activities, and manufacturing procedures are the foundations of a high-quality product, and the quality definition will be "conformance to requirement" (Crosby, 1990).

The major drivers of quality management have been recognized as the vehicle for achieving manufacturing excellence inside a business, according to the philosophy of quality management. Quality management is to eliminate waste and error in the industrial environment by getting things right the first time using processes such as statistical assessment and a zero-defect mentality (Evans and Lindsay, 2010).

The International Organization for Standardization (ISO) is a global federation of national standard-setting organizations (ISO member bodies). ISO introduced the quality system on March 15, 1987. ISO is compatible with both proprietary quality management methodologies such as those advocated by Deming, Juran, and Crosby, as well as nonproprietary systems like TQM, Lean Six Sigma, FMEA, COQ, and other continuous improvement techniques (PMI, 2008). The key to a successful QMS implementation is to treat it as a strategic choice for the company. The goal of a quality management system can be anything from eliminating potential errors throughout the project life cycle through proper control to quickly identifying faults/errors, measuring to avoid repeat mistakes, and selecting and implementing corrective action/preventive measures. (Kibe and Wanjau, 2014)

The ISO 9001:2015 standard is one of a group of ISO standards that define the requirements for a quality management system (ISO 9001:2015). (E). this standard's requirements are documented using eight quality management system principles. These are the principles: 1) customer focus; 2)

leadership; 3) employee involvement; 4) process approach; 5) system approach to management; 6) continuous improvement; 7) factual decision making; and 8) mutually beneficial supplier relationship. These ideas were turned into requirements, which were then recorded as ISO 9001:2015 standards. As a result, all work organizations seeking ISO 9001: 2015 certification must follow these guidelines and meet the standard's standards. ISO 9001:2015, These principles are intertwined and based on a process approach for an Organization's effective and efficient deployment of a QMS (Wanza, Ntale, and Korir, 2017).

ISO 9001 is a standard that "defines the interrelated and interacting elements of an organization to establish policies and processes to achieve quality objectives, resulting in a quality management system based on several management principles such as a strong customer focus, top management motivation and involvement, the process approach, and continuous improvement" (ISO, 2015b). ISO 9001 specifies a collection of core elements for the design and implementation of quality management systems, as well as guidelines for systematizing and formalizing a set of company processes into a set of procedures and documenting their application (Nuñez, 2020).

*Table 1 ISO 9001 principle and their benefit to the organization*

| <b>ISO 9001 principle</b> | <b>A benefit to the organization</b>  |
|---------------------------|---|
| Customer focus            | Flexible and quick responses to market opportunities resulted in increased revenue and market share. Increased efficiency in resource allocation to improve customer satisfaction. Customer loyalty improves, resulting in repeat business. |
| Top Management commitment | Organizational goals and objectives will be understood and motivating to people. The activities are assessed, linked, and implemented in a coordinated manner.  |
| Involvement of people     | People who are motivated, devoted, and involved in the organization. People who want to be a part of and contribute to continuous improvement.  |
| Process approach          | Using resources efficiently results in lower costs and shorter cycle times. Results that are better, more consistent, and more predictable. Opportunities for improvement that are focused and prioritized.                                 |

|                                     |  |
|-------------------------------------|--|
| Continual improvement               | Improved organizational capabilities provide a performance advantage.<br>Flexibility in responding to opportunities swiftly.   |
| Factual approach to decision making | Decisions based on facts. The ability to review, criticize, and change opinions and decisions has improved.  |
| supplier relationships              | The ability to create value for both parties has improved. Flexibility and responsiveness to changing market or client demands and expectations.<br><br>Cost and resource optimization |

Source: (BSI, 2017)

Effective planning, operation, and review, as well as continual improvement of the system at all levels of an organization, are all required for the successful implementation of a QMS, as outlined in the applicable ISO 9001 standard.

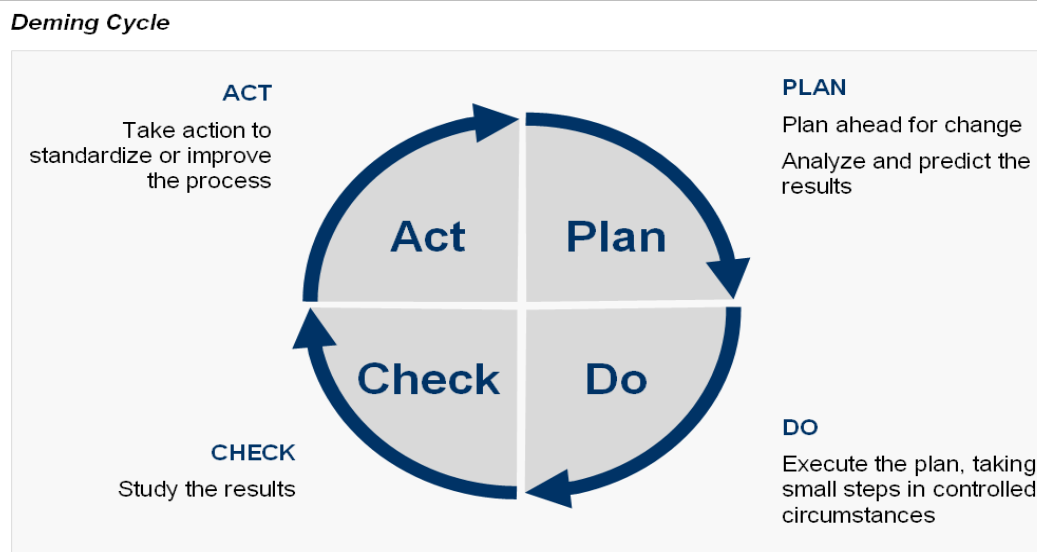
Continuous process improvement, top management commitment, people and systems, incentive systems, team, motivating elements, and education and training are all success criteria for quality management systems, according to (Kaziliunas, 2010). According to the findings of the study, there is a link between the above-mentioned principles and standards, which underpins the quality management system standard and the strategic dimensions of businesses. Employee education and training, according to the report, is another way of giving employees the knowledge and skills they need to achieve their overall professional and personal goals. It can build a solid foundation for continuous improvement if done regularly and maintained in the workplace through real-time updates, education, and training.

The study discovered that top management commitment was critical for ensuring quality improvement and conveying the organization's quality plan. The organization's top management should foster an environment that emphasizes continuous improvement.

**2.3.1 Plan Do Check Act cycle**

Deming's PDCA cycle, which guides continuous improvement, is another contribution. The cycle is an improvement process in which small steps are measured and compared to intended outcomes. The PDCA Cycle (Montgomery, D. C., Jennings, C. L. and Pfund, 2011) is an improvement framework for products and services, processes, and systems of processes, as shown in Figure 1.

(Deming, 1986) advocated for a methodical approach to critical thinking and developed the well-known Plan Do Check Act cycle. The (PDCA) cycle of continuous change is an all-encompassing quality improvement concept whose goal is to constantly improve execution, reducing the gap between customer requirements and assembly business implementation (S., 2006).



*Figure 1 Deming PDCA Cycle*

Each of the four key aspects of the PDCA Cycle (as illustrated in Figure 1) can be broken into the required step-by-step problem-solving actions (Goetsch, D. L. and Davis, 2010):

- Plan: make a list of goals and devise a strategy for achieving them.
- Do: make the plans a reality.
- Check: evaluate and analyze the change's outcomes to see what can be learned about the changes that occurred.
- Act: Make any revisions to the plans that are necessary, and then repeat the cycle.

The responsibilities of top management, according to (Oakland, 2004), should be to lead the pack in modifying procedures and structures. Because it is the top management's responsibility to create and communicate the vision to lead the firm toward execution change, administration plays a crucial role in ensuring the success of value administration.

### **2.3.2 Top Management Commitment**

For the successful application of quality management principles in a firm, Top management commitment is critical. Top administrators in critical top roles make up an organization's top



leadership. Top management in a company provides a vision of where the organization is headed with its quality efforts and helps to create a cultural shift (Wanza, Ntale, and Korir, 2017).

Top management's commitment, according (Alaoun and Faculty, 2018), is defined as top management's adoption of the concept of TQM and commitment to all of the requirements of implementing this system, as well as providing full support for its application and emphasizing the commitment of all employees at all levels to implement TQM.

Goals, quality policies, and resources for QMS implementation must be established by top management. According to (Wanza, Ntale and Korir, 2017), the core principle of leadership should result in the proper organizational culture and direction. While determining the most important aspect in the implementation of a quality management procedure. They also confirm that senior management influences organizational commitment, internal quality audits, and quality culture in a good way. The most important principle is top management commitment and support because it is top leadership that drives the entire institution, develops and facilitates the achievement of mission and vision, ensures the development of strategic quality objectives, and provides the necessary resources for successful QMS implementation.

### **2.3.3 Customer focus**

Organizations rely on their clients, so they must understand current and future client demands, meet client requirements, and strive to exceed client expectations. According to the ISO (9001: 2008) standard, customer service is devoting your time and energy to satisfying customers and knowing that success comes from doing so. The commercial center or a major provider establishes expectations.

Customer focus is described by (Wanza, Ntale and Korir, 2017) as the degree to which a firm consistently meets client demands and expectations, and it may be measured by the presence of expected behavioral results that are consistent with organizations that prioritize customer value. Customer focus focuses on identifying the existence of systems that identify the customer in every action, the needs of the identified customers, and the processes that are utilized to produce value for the identified customer. When client expectations are met, customer satisfaction rises, and market share rises as well.

According to this management guideline, it is necessary to investigate, develop, and comprehend current and future client needs and desires, ensure that the organization's destinations are connected to client needs and desires, communicate client needs and desires throughout the organization, measure consumer loyalty and follow up on results, efficiently oversee client relations, and ensure an adjusted approach between satisfying clients and other invested individuals. Total Quality Management (TQM), as implemented by a QMS, is an evolving set of processes, tools, and training strategies for managing organizations to provide consumer satisfaction (Eunice, 2017).

#### **2.3.4 Employee Involvement**

Employee involvement, as defined by (Sumaedi, Sikand Yarmen, 2014) in their study, is defined as people's involvement, a clear and accepted job description, personnel competence, a consistent and effective system of training, a consistent and effective system of recruitment, and employee satisfaction. While (Kafetzopoulos, Dimitrios P. and Gotzamani, 2014) define the phrase as "employee qualities," which explicitly specifies "employee know-how," "employee involvement," "employee commitment," and "human resource availability."

QMS procedures ensure that all employees receive the essential training to improve their performance in their jobs. Employee participation refers to ensuring that employees are motivated to do their duties and that they do it to the appropriate standards. As stated in Article (Wanza, Ntale and Korir, 2017) According to certain research, staff training has a favorable impact on the operational, employee, and innovation performance, as well as customer, market, and financial performance (Phan et al., 2011; MacKelprang, Jayaram & Xu, 2012). However, Rungtusanatham, Forza, Filippini & Anderson's (1998) results were equally demonstrated and determined to be negative/insignificant. This could be due to employees' lack of commitment to the QMS.

This enhanced employee involvement is also thought to contribute to faster, more responsive decisions, ongoing performance improvement, and increased employee flexibility, dedication, and satisfaction. To achieve organizational goals, management must encourage teamwork and the establishment of synergy across all universal functional areas.(Wanza, Ntale and Korir, 2017)

### **2.3.5 Process approach**

The use of a system of processes within an organization, along with the identification and interactions of these processes, and their management to generate the intended outcome (ISO 9001, 2005) is proposed in the ISO 9001 standard.

The deployment of a QMS in an organization should begin with the identification of numerous processes and activities that are interconnected. Customer processes, as depicted in Figure 1, begin with customer needs, which serve as an input to all other processes and drive the activities of the firm. Client needs are directly incorporated into the product realization processes, which include procuring raw materials, receiving raw materials, transforming raw materials to customer standards, and finally delivering the product to the customer.

The information gathered during these procedures is then utilized to evaluate the overall performance of the QMS through measurement, analysis, and improvement processes. These QMS requirements for all of these procedures are addressed in the following section. The results of the measurement and analysis techniques are then reviewed at management review meetings, when management assesses the situation and makes critical decisions about resource allocation, if necessary. These can be accomplished by implementing resource management procedures. Customer feedback is received after items or services are delivered, and customer satisfaction levels are established through measurement, analysis, and improvement methods.

When related resources, tasks, and activities are handled as a process, the desired outcome is achieved more quickly. To use the process approach, the processes must be well-defined, with all of the inputs and outputs known. All risks and their implications for consumers, suppliers, and stakeholders should be assessed. The process management authority and responsibility are defined. Process management is regarded as a concern for quality conformity. One of the most critical aspects of process management is ensuring that the process capabilities can meet the production requirements (Khalfan *et al.*, 2020).

### **2.3.6 Training**

Training personnel can increase operational performance in local and worldwide markets, according to (Khalfan *et al.*, 2020). The Manufacturing sector must overcome shortages of technical, managerial, skilled, and unskilled employees through training its present workforce. According to (Eunice, 2017), preparation is a planned technique for altering one's mentality,

information, abilities, or behavior through the acquisition of knowledge to achieve successful execution of a certain action or set of exercises. Its motivation in the workplace is to help employees develop their abilities and to meet the organization's current and future labor needs.

### **2.3.7 Fact based Decision making**

After thoroughly studying information and data, all judgments should be taken. The information used to make judgments should come from trustworthy sources and be double-checked for accuracy. Methods should be installed to properly monitor and measure. To aid them in making the best decisions, the raw data should also be subjected to statistical analysis (Hj Ahmad, Iteng, and Rahim, 2017).

### **2.3.8 Continuous Improvement**

According to (Martin, 2017) thesis, findings suggest that improving processes over time improves the efficacy and efficiency of operations. The management philosophy that deals with barriers to making it more efficient and works on continuous improvement of just about everything related to improving the customer experience in its final form, from the beginning of service design to its implementation mechanism, which includes processes and employees, and leads to the improvement of the final service (Alaoun and Faculty, 2018).

The wheel of the organizational vehicle can be thought of as continuous improvement, focusing on existing audit methods, performance management reviews, and improvement processes based on the findings. Improvements in the organization are meticulously planned and performed utilizing a documented system based on factual data. The most important aspect of services is continuous improvement, which entails looking for continuous improvements and building procedures to identify new or improved techniques for translating inputs into valuable outputs (Wanza, Ntale, and Korir, 2017).

### **2.3.9 Supplier Involvement**

Supplier quality management, like materials and acquired parts, can be the source of quality issues. Alternatively, poor-quality supplier products usually result in higher purchase costs. This explains why a significant part of quality issues can be traced back to the supplier (Khalfan *et al.*, 2020).

The NTCGP 1000: 2009 and ISO 9001: 2008 Technical Standard of Quality in Public Management establish that the entity must evaluate and select suppliers based on an objective selection and their

ability to supply products and/or services under the entity's previously defined requirements. Because these criteria are patently subjective in most circumstances, they add a layer of complication to the process. As a result, there are considerable variances in a supplier's qualification depending on who is conducting the review (Andrade and Gutierrez, 2020).

## **2.4 Operational Performance**

According to (Psomas, E. & Kafetzopoulos, 2012), performance helps organizations gain a competitive advantage in a market where competition is fierce. The business gains an advantage over its competitors and performs better. Based on emailed questionnaires from ISO certified and non-certified manufacturing enterprises in Greece, they conducted their research with 140 responses. In terms of product quality, firm performance, operational, market, and financial performance, ISO-certified manufacturing businesses outperformed non-certified ones, according to the study's findings. The research was conducted in a developed country and included both financial and non-financial performance variables.

Measurement of operational performance can be based on consumer expectations within a manufacturing organization in terms of sales data on what clients order most of the time and what is not ordered, as well as how complaints are handled. Overall, it is customer relationship management (Eunice, 2016).

Researchers and academics varies on how to define performance. Depending on the research topic, various researchers use different performance markers. As previously stated, various challenges make deciding which indication to employ challenging. Customer satisfaction, product and service quality, employee satisfaction, firm competitiveness, and employee number will be the performance metrics for this study. Some of these performance indicators have already been utilized in research (Yusuf and Saffu, 2005;

### **2.4.1 Customer satisfaction**

(Andrade and Gutierrez, 2020) demonstrate that the customer approach has been increasingly important in recent quality management research, as evidenced by their various ideas. In general, quality management systems are customer-oriented, as they are concerned with recognizing and meeting existing and emerging consumer needs. According to (Lo and Chang, 2007), some of the external benefits linked with consumers are demonstrated by total quality principles and relate to a thorough grasp of current and future needs, as well as fulfilling and exceeding their expectations.

All external customer service programs, according to (Motwani, 2001), should include the provision of timely advice and information to customers, as well as systems to provide a rapid response to complaints and data collection channels to record the quantity and nature of questions or complaints received while acknowledging that success is measured by activities that show a measurable improvement in customer satisfaction and retention, rather than merely involve monetarily rewarding customers.

### **2.4.2 Quality of Product**

Product quality is the sum of all a product's qualities and characteristics that contribute to its ability to meet the needs and requirements of customers. A product can deliver on what the end-user wants and considers valuable. To implement process management, it is necessary to measure and record the performance of products and services quality (Abusa, 2011).

### **2.4.3 Employee satisfaction**

The words "product," "performance," and "achievement" are all synonyms for "result." Employee results in this scenario should be interpreted as an increase in work performance. In this context, job performance refers to the value that an employee is expected to bring to the organization as a result of certain behavioral episodes that occur throughout time. Similarly, (Lo and Chang, 2007) stated that the main benefit of the quality management system is focused internally and is determined by the level of human talent motivation, which drives operational processes.

Finally, (Martín, Varela and Coello, 2010) showed that staff conduct can lead to change by demonstrating a higher sense of belonging to the organization, greater participation in the setting of objectives, and more active teamwork promotion.

### **2.4.4 Profitability**

Implementing a quality management system has a favorable impact on a company's profitability. Profitability, it should be noted, is defined as the relative measure of profits and necessitates, in part, the improvement of the internal operation as well as the control of the operation's costs and expenses. This is critical for a company's long-term viability since profitability gives information on the return on investments made through the definition and application of liquidity and profitability indicators. (Andrade and Gutierrez, 2020).

(O'Neill, Sohal and Teng, 2016), Sohal and Teng, 2016) found that a company's commitment to quality management results in a statistically significant financial performance advantage over those that are not.

In today's competitive market, achieving, developing, and maintaining competitiveness is contingent on producing high-quality, low-cost products and services in the shortest time possible. As a result, businesses use a variety of management tools and philosophies, including quality management systems. These systems are critical for improving quality, safety, efficiency, reliability, productivity, and job satisfaction while also lowering costs. Several researchers have looked into the impact of implementing an ISO quality management system on organizational performance, including (Lakhal, L., Pasin, F. & Limam, 2006; Lin, C. & Jang, 2008). They assessed the influence of the quality management system on diverse firms using a variety of performance measures.

#### **2.4.5 Firm competitiveness**

Firm competitiveness refers to a company's ability to accomplish its dual goals of meeting customer needs while making a profit. This potential is realized by putting goods and services on the market that customers value more than those offered by competitors. A requirement for this competitiveness is for the company to be able to recognize and respond to changes in the environment and within the company by achieving competitive market standards that are always better than those of its competitors. (Chikán, 2008)

(Cure Vellojín, Meza González and Amaya Mier, 2006) suggest that competitive advantage derives from a company's ability to generate and give value to its customers that exceeds the cost of doing so. In this perspective, the competitive advantage is an organization's ability to meet the needs of its customers.

#### **2.5 Quality Management System and Operational Performance**

According to studies, there is a link between the performance of the operation and the performance of the QMS. There are numerous advantages to having a well-functioning QMS for an organization, some of which are listed below. A high-performing QMS aids the organization in cutting input costs, lowering the unit price of the product, and so increasing the return on investment and keeping the company in business (Parvadavardini, Vivek, and Devadasan, 2016).

According to empirical evidence, several organizations are compelled to register and implement ISO due to external pressures such as customer needs and market-related factors. Needs for process or system improvement, as well as improving overall company performance, are the most common reasons for implementing quality management systems.

Different metrics are used to quantify operational success in the manufacturing industry. Performance can also be measured with the use of measurement equipment installed in manufacturing facilities and service delivery centers (Hoyle, 2007).

This can only be accomplished if every employee in the company receives outstanding training (McCollum, 2004). In the end, Motorola was able to win the coveted Malcolm Baldrige National Quality Award, which is received in 1988. Quality is a vital aspect in this company since it leads to greater sales and market share, and hence high performance.

Only when the top brass, such as managers and top executives, play a role in driving change can a company achieve quality management system (Hoyle, 2007). Aside from it, several other elements and principles influence QM procedures. (Hoyle, 2007) emphasizes that the top management of a company is a driving force in ensuring that organizations attain a quality orientation. Firms can create value, set objectives, and implement processes that will meet customer expectations, hence improving the organization's success in the long run. When quality management is successful in a company, it leads to performance drivers including decreased costs, increased efficiency, improved product quality, increased market share, and increased motivation and satisfaction (Altiok, 2012).

Continually improving and performing at a high-level QMS also improves the organization's performance by improving product quality, increasing production and productivity, producing a 100 percent quality every time, reducing employee turnover, reducing material wastage, and lowering production costs, thereby allowing the organization to meet customer needs, exceed customer expectations, improve customer satisfaction, create more jobs, and make the organization more profitable (Hj Ahmad, Iteng and Rahim, 2017).

Research findings have also shown that if organizations implement proper QMS and have a good continuous improvement cycle in place, they progress and enhance in performance over time, which is clearly illustrated when they increase market share, increase revenue and profit, meet all



legal and regulatory requirements, have a competitive edge over their competitors, have a positive consumer attitude, and provide a positive return on investment to their shareholders.

## **2.6 Factors affecting implementation of QMS**

The level of management support given to the implementation of a whole quality environment is crucial to the success of quality management. This program will not thrive without the involvement, dedication, and direction of high management. Top management is typically in charge of allocating money, planning for change, and providing monitoring systems for work progress, emphasizing the need for top management involvement in TQM implementation (Zhang, ZH, Waszink, AC & Wijngaard, 2000). According to (Baidoun and Zairi, 2003), the main issue with QM implementation is a lack of top management commitment and participation, which ultimately leads to failure.

When employees are committed to producing quality, they are more likely to meet specifications, identify and eliminate bottlenecks, improve designs, and set reasonable yet challenging performance goals. This is strengthened if resources are made available to staff (Al-tayeb, 2008)

Customer satisfaction is the overall purpose of the QMS, and a consistent customer focus increases a company's performance. The organization's purpose is to serve clients with products or services that suit their requirements. Customers can be internal or external.

Poor inbound materials and parts cause process and product quality issues, supplier quality is an important dimension of QM. Purchased materials are frequently the primary source of quality issues. Most researchers, such as (Bakar, Ali and Onyeizu, 2011), highlighted solid supplier relationships as a requirement for sustaining competitive advantage. Suppliers have a significant and direct impact on product cost, quality, technology, and time to market. Many different firms encourage their engineers to learn about their suppliers' systems, methods, and processes to improve communication, eliminate errors, and gain a better understanding of their capabilities (Rabaya, 2013).

A procedure is a method for completing tasks. A process is made up of the tasks, processes, and policies that are required to fulfill the customer's request. According to QM, if the process is correct, the result will be correct as well. As a result, the company should strive to enhance the process to improve the final product or service.

Documentation is a crucial component that aids in the review, appraisal, and implementation of QM in a company. QMS, processes, goods, and services can all benefit from a quality audit. A quality audit is used to determine whether or not there is a need for improvement or corrective action. The reviews can focus on an organization's procedures and practices, design standards, and building processes.

Financial difficulties, such as budgeting techniques, strategies to enhance income, reduce expenditure, and corrective action to control project cost and fulfill the budget, all have an impact on the implementation of quality in construction. Furthermore, quality teams provide the organized environment that is required for the QM process to be implemented successfully.

The biggest challenges to effective QMS implementation, according to (Zeng, S. X., Tian, P., & Tam, 2007), include a lack of commitment to maintaining QMS, maintaining high expectations from QMS results, and organizations' tendency to satisfy minimum standards to gain certification. Lack of understanding of QMS requirements among employees, partial fulfillment of QMS requirements, lack of interest in QMS from other functional areas, and failure to assign proper responsibilities were among the factors that hampered the success of QMS implementation in Korean shipbuilding companies, according to a study.

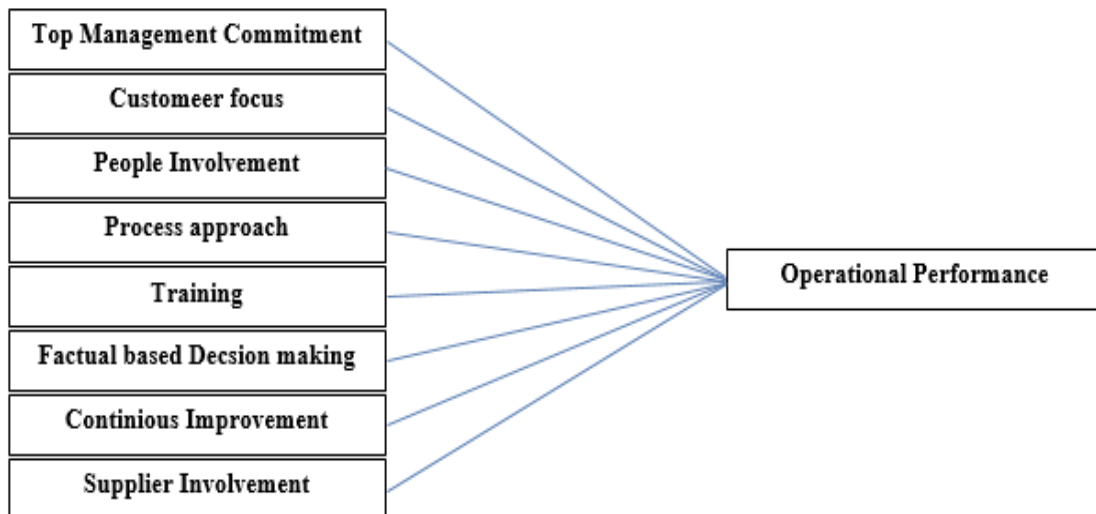
Organizations have frequently experienced issues with the preparation of QMS-related documentation due to a lack of understanding of requirements, insufficient resources and time devoted to QMS planning and implementation, and a lack of top management commitment during the QMS implementation process (Stevenson, T. H., & Barnes, 2002).

(Augustyn, M. M., & Pheby, 2000) identified a complaint monitoring system, a strong commitment and focus on providing effective training in required areas, dependable data collection methods, and an error prevention system as critical success factors for ensuring that a QMS is implemented successfully and achieves the desired results. A thorough examination of the QMS implementation process in a small manufacturing firm identified various variables that hindered the process. Lack of thorough understanding of the purpose of QMS standards, lack of commitment from top management, lack of belief in what QMS can achieve, failure to give sufficient resources for QMS training and implementation, and employee reluctance to change in processes were the main obstacles (Bhuiyan, N., & Alam, 2005). One of the most typical hurdles, according to several academics, is a lack of top management support and commitment. This is

considered as a significant impediment, which also leads to a negative attitude about QMS among employees (. Magd, 2008).

## 2.7 Conceptual Framework

The main purpose of this work was to evaluate the impact of quality management system on operational performance. Based on the introduction and literature study, the QMS appears to be essential in the manufacturing industry, particularly to improve operational performance. According to the analysis of literature and prior studies, it is critical to broaden learning to introduce suitable information. This work contributes by presenting a novel theory to explain the relative variable discussed above.



*Figure 2 Conceptual Framework*

## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.1 Introduction**

The methods employed in the study are detailed in this chapter. The chapter outline includes research design, population and sampling design (which includes sampling technique and size), data collection methods, research procedures, and data analysis methods.

#### **3.2 Research Design and approach**

In this study, the quantitative survey method was used. Because the goal of the study was to determine the outcome of quality management system implementation on operational performance of East Africa Bottling Share Company, a quantitative survey design was adopted. The study's quantitative methodologies (approach) are concerned with existing circumstances or relationships, held opinions, ongoing processes, visible impacts, or emerging trends. Because the major goal of this study is to assess the practices and experiences in-depth, as well as the issues and challenges that come with them, it employs a quantitative research approach to provide statistically significant findings that establish or refute causal linkages.

#### **3.3 Population and Sampling Design**

Employees of the case organization based in Ethiopia will be the study's target group. Internal samples are obtained. Internal samples are taken depending on their position in the organization, such as managerial duties, program personnel working on the organization's key performance areas (items described as KPIs), support staff, and service years working with the EABSC Addis Ababa plant. The external samples that were considered were chosen because they have a long history of working with the case organization. It is also considered to be a good source of information for evaluating the case organization's effectiveness on the ground with actual beneficiaries over time.

#### **3.4 Sample size**

Purposive sampling was utilized to choose key informants for this study. It is simple to identify using a technique such as purposive sampling or non-probability sampling. The approach selects samples consciously or purposefully from the case organization units that make up a sample that represents the study region (Kothari, 2004:17).

As a result, the samples for this study are drawn from the case organization, specifically from workers who are familiar with the topic and have personal experience working there. When the number of respondents is small and they are intimately familiar with the study's characteristics, it is preferable to use purposeful sampling (Kothari, 2004:17).

Respondents must be upper-level managers, middle managers, or supervisors; have at least two years of managerial experience; be leading/supervising QMS tools currently within the organization, and engage in the manufacturing area of the organization, according to the purposive criteria. Consequently, all workers who met the purposive requirements were determined and a random sample of them was chosen for data collection.

(Yamane, 1967) offers a simple formula for determining sample sizes. The sample sizes were calculated using the formula indicated below.  $P = .5$  and a 95 percent confidence level are assumed.

$$n = \frac{N}{1+N(e)^2}$$

The sample size is  $n$ , the population size is  $N$ , and the level of precision is  $e$ . When this formula is used on the sample above,

$$n = \frac{N}{1+N(e)^2} = \frac{102}{1+102(0.05)^2} = 82.27$$

The overall Nominee number of upper-level managers, middle managers, and supervisors in EABSC Addis Ababa plant that have a closer relationship with the subject is currently at 102, with many of them working in the field. And quantitative approaches consider a random sample of 83 employees as prospective respondents. The following is the distribution:

*Table 2 Respondents Sample*

| No    | Position/Department        | Sample size |
|-------|----------------------------|-------------|
| 1     | Upper-level managers       | 11          |
| 2     | Middle managers            | 16          |
| 3     | Supervisors (Team Leaders) | 56          |
| Total |                            | 83          |

### **3.5 Procedures of Data Collection**

The data acquired from staff respondents in the form of questionnaires is used as input in the study. The responders are chosen based on their job title, organizational role, work experience, and proximity to the program activities and concept under discussion.

### **3.6 Methods of Data Analysis**

The information gathered is structured to answer the research questions at hand. The quantitative data is utilized to further explain the findings. The report was written in a descriptive style. Completed questionnaires were edited for consistency and completeness, and errors and omissions were reviewed before being processed in to SPSS version 26 for quantitative analysis. The researcher also conduct correlation and regression analysis. This allowed the researcher to make broad statement about the observed characteristics.

### **3.7 Validity and Reliability**

This study made use of survey questionnaires that have already been evaluated and used in worldwide research (Eunice, 2017) and (Sutrisno, 2019). Cronbach's alpha coefficient is calculated to ensure the internal consistency of items, which is the level of homogeneity of a scale, was measured and incorporated in the instrument to be checked by using Cronbach's alpha coefficient. (See Annex B).

### **3.8 Ethical consideration**

The sources are identified while gathering, evaluating, and presenting information gathered from various sources. It is also taken care not to misrepresent or reveal the thoughts of respondents, or original writers, nor to change or modify them without citing the sources.

I was in charge of protecting respondents by ensuring that the research's aim was understood and establishing confidence by telling participants about the study's purpose.

Participants were given complete information about the study, including why they were chosen to participate, and their privacy, confidentiality, and anonymity were all ensured.

## CHAPTER FOUR

### PRESENTATION AND ANALYSIS OF DATA

This chapter presents analyzes and interprets all data. The chapter is divided into two parts: part one deals with the general features of the respondents' jobs and work experience, and part two deals with the specific characteristics of the respondents' positions and work experience.

Part two examines the data acquired on the influence of quality management system on operational performance and how it was analyzed and interpreted. Questionnaires were used to obtain pertinent data and information. As a result, the fundamental issues discussed in this chapter have been adequately addressed. 79 (92%) of the 84 surveys distributed were completed and returned. The data analysis and interpretation are shown below, based on the replies gathered from the sample respondents.

*Table 3 Reliability Statistics*

| <b>Reliability Statistics</b> |  |            |
|-------------------------------|--|------------|
| Cronbach's Alpha              | Cronbach's Alpha Based on Standardized Items | N of Items |
| .958                          | .959   | 54         |

Source: Own Survey, 2021  
(See Annex B)

#### 4.1. Demographic Characteristics of Respondents

*Table 4 Demographic Characteristic of Respondents*

| <b>Gender</b> |           |               |                    |                    |
|---------------|-----------|---------------|--------------------|--------------------|
|               | Frequency | Percent       | Valid Percent      | Cumulative Percent |
| Male          | 49        | 59.0          | 68.1               | 68.1               |
| Female        | 23        | 27.7          | 31.9               | 100.0              |
| Total         | 72        | 86.7          | 100.0              |                    |
| <b>Age</b>    |           |               |                    |                    |
| Frequency     | Percent   | Valid Percent | Cumulative Percent |                    |



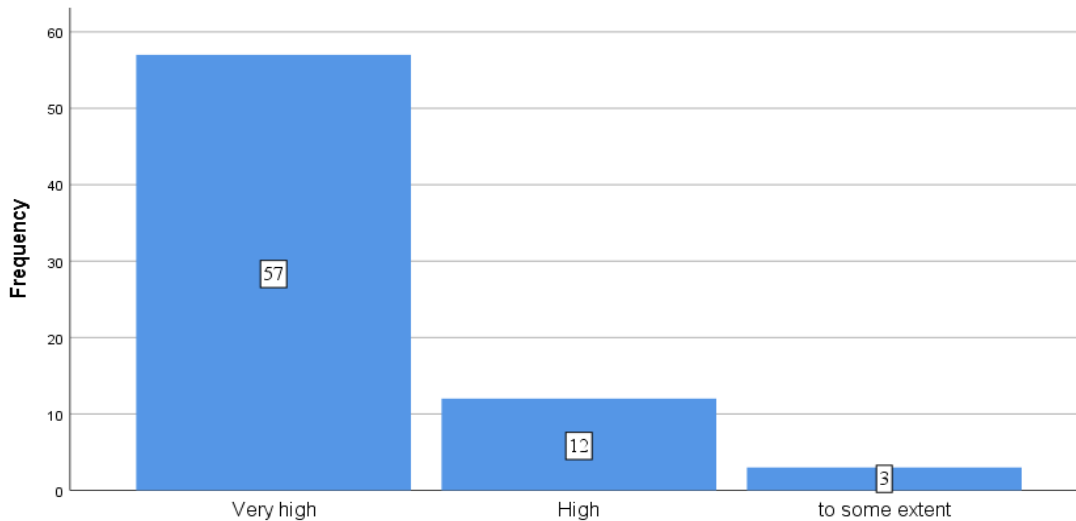
|                    |           |               |                    |                    |
|--------------------|-----------|---------------|--------------------|--------------------|
| 18-28              | 27        | 32.5          | 37.5               | 37.5               |
| 29-39              | 39        | 47.0          | 54.2               | 91.7               |
| 40-50              | 3         | 3.6           | 4.2                | 95.8               |
| Over 50            | 3         | 3.6           | 4.2                | 100.0              |
| Total              | 72        | 86.7          | 100.0              |                    |
| <b>Edu. Status</b> |           |               |                    |                    |
| Frequency          | Percent   | Valid Percent | Cumulative Percent |                    |
| College Diploma    | 2         | 2.4           | 2.8                | 2.8                |
| Degree             | 49        | 59.0          | 68.1               | 70.8               |
| Masters            | 21        | 25.3          | 29.2               | 100.0              |
| Total              | 72        | 86.7          | 100.0              |                    |
| <b>Experience</b>  |           |               |                    |                    |
|                    | Frequency | Percent       | Valid Percent      | Cumulative Percent |
| Less than 2        | 15        | 18.1          | 20.8               | 20.8               |
| 2-5                | 21        | 25.3          | 29.2               | 50.0               |
| 5-10               | 24        | 28.9          | 33.3               | 83.3               |
| above 10           | 12        | 14.5          | 16.7               | 100.0              |
| Total              | 72        | 86.7          | 100.0              |                    |

The profile of the selected responders is detailed in the table above. Gender, age, educational status, and year of experience in EABSC were the four essential and significant questions. Even if their numbers are fairly proportional, the majority of the respondents (49, 59 %) are male, indicating that the number of male workers in the company is still greater than the number of female workers. The majority of the respondents (39, 47 %) are between the ages of 29 and 39, indicating that they can express their wise opinion. The above figure also reveals that (49,59 %) of the respondents had a bachelor's degree and (24, 28.9%) have 5-10 years of experience in the business, indicating that they have sufficient experience to provide appropriate feedback on EABSC's quality management system and operational status.

## 4.2 Presentation and Analysis of Data

### 4.2.1 Descriptive Statistical Analysis

4.2.1.1 To what extent does Quality management system has an impact on operational performance.



*Figure 3 to what extent does Quality management system have an impact on operational performance?*

As shown in the above Figure, 57 employees, or 79.2%, believe that quality management system have a significant or very high impact on EABSC Addis Ababa plant operational performance, while 12 employees, or 16.6%, believe that quality management system have a moderate or high impact, and 3 employees, or 4.16%, believe that quality management system have an impact of to some extent. A formal pattern for establishing higher operational performance is to maintain a good quality management system in all organizational areas and processes. This, it is believed, will help the organization attain its aims and objectives. We may deduce from this definition that the majority of the total respondents believe that changes in quality management system have a significant impact on EABSC Addis Ababa plant operational performance.

*Table 5 Qualitative Interpretation of 5-Point Likert Scale Measurements*

| <b>Likert-Scale Description</b> | <b>Likert-Scale</b> | <b>Likert Scale interval</b> |
|---------------------------------|---------------------|------------------------------|
| Strongly disagree / Very low    | 1                   | 1.00 - 1.80                  |
| Disagree / low                  | 2                   | 1.81 - 2.60                  |
| Neutral / Uncertain             | 3                   | 2.61 - 3.40                  |
| Agree / High                    | 4                   | 3.41 - 4.20                  |
| Strongly agree / Very High      | 5                   | 4.21 - 5.00                  |

(Pimentel, 2010).

## **4.2.2 Data analysis on the quality management system**

### **4.2.2.1 Top management Commitment**

*Table 6 Top management Commitment Related Items*

| <b>Descriptive Statistics</b>  |          |            |            |             |                       |
|--|----------|------------|------------|-------------|-----------------------|
|  | <b>N</b> | <b>Min</b> | <b>Max</b> | <b>Mean</b> | <b>Std. Deviation</b> |
| The company's vision incorporates quality management.  | 72       | 1.00       | 5.00       | 4.1111      | .88103                |
| Top management evaluates the organization's quality management system at regular intervals to guarantee its consistency, appropriateness, and effectiveness. | 72       | 1.00       | 5.00       | 3.3333      | 1.06149               |
| Top management commits resources to ISO certification development and support.   | 72       | 3.00       | 5.00       | 4.1111      | .61794                |
| All personnel is aware of quality policies and processes, which are documented and conveyed to them.   | 72       | 2.00       | 5.00       | 3.2361      | 1.01389               |
| Quality policies are reviewed regularly to ensure that they continue to satisfy the organization's needs.  | 72       | 3.00       | 5.00       | 4.0833      | .64459                |
| Management takes the lead in guiding excellent teams.  | 72       | 2.00       | 5.00       | 3.5833      | 1.08446               |
| By removing fear, top management establishes trust and a commitment to quality improvement.  | 72       | 2.00       | 5.00       | 3.4444      | .82032                |

|         |    |  |        |        |
|---------|----|--|--------|--------|
| Average | 72 |  | 3.7003 | 0.8748 |
|---------|----|--|--------|--------|

According to the table above, the mean value for top management questions ranges from 3.2 to 4.1, with a standard deviation ranging from 0.61 to 1.08. The mean agreement with "The Company's vision incorporates quality management" and "Top management commits resources to ISO certification development and support." is 4.11, with 0.88 and 0.62 standard deviations, respectively. According to the Likert scale interpretation, the mean value for this statement ranges between 3.4 and less than 4.2, indicating a high level of agreement.

With a standard deviation of 0.87, the mean value of the agreement for Top Management Commitment is 3.7. According to the Likert scale interpretation, the mean value for this statement spans from 3.41 to less than 4.20, indicating a high level of agreement.

#### 4.2.2.2 Customer focus

*Table 7 Customer focus Related Items*

| Descriptive Statistics   |    |      |      |        |                |
|--|----|------|------|--------|----------------|
|  | N  | Min  | Max  | Mean   | Std. Deviation |
| There is one mechanism in place to handle client complaints.   | 72 | 2.00 | 5.00 | 4.0417 | .89502         |
| Customer service representatives have received extensive training in telephone customer service.         | 72 | 2.00 | 5.00 | 3.5833 | .76453         |
| The company is dedicated to retaining customers by providing high-quality items.                         | 72 | 2.00 | 5.00 | 4.1250 | .88711         |
| Customer expectations and wants are communicated throughout the organization.                            | 72 | 2.00 | 5.00 | 4.0417 | .94104         |
| The company conducts customer satisfaction surveys regularly.  | 72 | 3.00 | 5.00 | 4.0417 | .61524         |
| Comparing the company's performance to that of other companies allows the company to track its progress. | 72 | 2.00 | 5.00 | 3.9583 | .79501         |
| Average  | 72 |      |      | 3.9653 | 0.8163         |

The mean value for the questions under Customer Focus ranges from 3.58-4.12, with a standard deviation ranging from 0.61-0.94, according to the table above. With a standard deviation of 0.89, the mean value of the agreement with "The Company is dedicated to retaining customers by providing high-quality items." is 4.12. According to the Likert scale interpretation, the mean value for this statement ranges between 3.4 and less than 4.2, indicating a high level of agreement.

Customer focus has an overall mean value of 3.97 with a standard deviation of 0.82. According to the Likert scale interpretation, the mean value for this statement ranges from 3.41 to less than 4.20, indicating a high level of agreement.

### 4.2.2.3 Employee involvement

*Table 8 Employee involvement Related Items*

| <b>Descriptive Statistics</b>   |    |      |      |        |                |
|---|----|------|------|--------|----------------|
|   | N  | Min  | Max  | Mean   | Std. Deviation |
| Information sharing and consultations                                   | 72 | 1.00 | 5.00 | 3.7222 | .85945         |
| There is Teamwork/ collaboration  | 72 | 2.00 | 5.00 | 3.8750 | .78610         |
| Cooperation involvement in decision making is on ground                 | 72 | 1.00 | 5.00 | 3.4722 | 1.06112        |
| Employees in EABSC Addis Ababa plant have an Increased job satisfaction | 72 | 1.00 | 5.00 | 3.0556 | 1.08626        |
| Individual job enrichment through employee involvement                  | 72 | 1.00 | 5.00 | 3.5417 | .91832         |
| Much more responsibility on the side of employees                       | 72 | 3.00 | 5.00 | 4.0833 | .57531         |
| Average   | 72 |      |      | 3.625  | 0.8811         |

The mean value for the questions under Employee involvement in the above table spans from 3.05 to 4.08, with a standard deviation ranging from 0.57 to 1.08. With a standard deviation of 0.57, the mean level of agreement with "Much more responsibility on the side of employees" is 4.08. According to the Likert scale interpretation, the mean value for this statement ranges between 3.4 and less than 4.2, indicating a high level of agreement.

Employee involvement has an overall mean value of 3.62 and a standard deviation of 0.88. According to the Likert scale interpretation, the mean value for this statement spans from 3.41 to less than 4.20, indicating a high level of agreement.

#### 4.2.2.4 Process approach

*Table 9 Process approach Related Items*

| <b>Descriptive Statistics</b>                                    |    |      |      |        |                |
|--|----|------|------|--------|----------------|
|  | N  | Min  | Max  | Mean   | Std. Deviation |
| Consultations and sharing of information                         | 72 | 2.00 | 5.00 | 3.7778 | .90728         |
| How Do you evaluate division of labor in EABSC Addis Ababa plant | 72 | 1.00 | 5.00 | 3.4167 | .96049         |
| Collaboration/Teamwork   | 72 | 2.00 | 5.00 | 3.9583 | .84649         |
| Cooperation  | 72 | 2.00 | 5.00 | 3.7917 | .82116         |
| Job enrichment for individuals through employee interaction      | 72 | 1.00 | 5.00 | 3.7083 | 1.06728        |
| Acquisition of high-level skills                                 | 72 | 1.00 | 5.00 | 3.7500 | .97504         |
| Employees must take on a lot more responsibility.                | 72 | 2.00 | 5.00 | 4.0417 | .89502         |
| Average  | 72 |      |      | 3.7778 | 0.925          |

The mean value for the questions under the Process method ranges from 3.41-4.04, with a standard deviation ranging from 0.82-1.07, according to the table above. With a standard deviation of 0.89, the mean level of agreement with "Employees must take on a lot more responsibility." is 4.04. According to the Likert scale interpretation, the mean value for this statement ranges between 3.4 and less than 4.2, indicating a high level of agreement.

The process approach's total mean value of the agreement is 3.78, with a standard deviation of 0.92. According to the Likert scale interpretation, the mean value for this statement spans from 3.41 to less than 4.20, indicating a high level of agreement.

#### 4.2.2.5 Training

Table 10 Training Related Items

| Descriptive Statistics   |    |      |      |        |                |
|--|----|------|------|--------|----------------|
|  | N  | Min  | Max  | Mean   | Std. Deviation |
| The organization determines the training requirements.                   | 72 | 3.00 | 5.00 | 4.4583 | .57989         |
| The organization establishes clear training objectives.                  | 72 | 2.00 | 5.00 | 4.2917 | .89502         |
| The company selects the most appropriate training methods.               | 72 | 2.00 | 5.00 | 4.1250 | .97775         |
| The organization provides appropriate training resources.                | 72 | 3.00 | 5.00 | 4.1250 | .67003         |
| Quality training is provided to all employees at all levels by the firm. | 72 | 1.00 | 5.00 | 3.0417 | 1.24965        |
| The company assesses training using objective criteria.                  | 72 | 1.00 | 5.00 | 3.8750 | 1.02005        |
| Average  | 72 |      |      | 3.9861 | 0.8987         |

The mean value for the questions under Training in the above table runs from 3.04 to 4.45, with a standard deviation of 0.57 to 1.24. With a standard deviation of 0.58, the mean level of agreement with "The organization determines the training requirements." is 4.46. According to the Likert scale interpretation, the mean value for this statement spans from 4.2 to less than 5, indicating a very high level of agreement.

With a standard deviation of 0.89, the overall mean value of the agreement for training is 3.99. According to the Likert scale interpretation, the mean value for this statement spans from 3.41 to less than 4.20, indicating a high level of agreement.

#### 4.2.2.6 Factual based Decision making

Table 11 Factual based decision making Related Items

| Descriptive Statistics |   |     |     |      |                |
|------------------------|---|-----|-----|------|----------------|
|                        | N | Min | Max | Mean | Std. Deviation |

|  |    |      |      |        |        |
|--|----|------|------|--------|--------|
| How do you rate the facts and information accuracy and reliability?                                      | 72 | 1.00 | 5.00 | 3.6667 | .80491 |
| Is all relevant information available to people who require it?  | 72 | 2.00 | 5.00 | 3.7500 | .78274 |
| Valid procedures are used to analyze data and information.   | 72 | 3.00 | 5.00 | 4.1250 | .78610 |
| The factual analysis is balanced with experience and intuition while making decisions and taking action. | 72 | 1.00 | 5.00 | 3.6667 | .94943 |
| Average  | 72 |      |      | 3.8021 | 0.8308 |

The mean value for the questions under Factual-based decision making ranges from 3.67-4.12, with a standard deviation of 0.78-0.94 in the table above. With a standard deviation of 0.78, the mean value of the agreement with "Valid procedures are used to analyze data and information." is 4.12. According to the Likert scale interpretation, the mean value for this statement spans from 3.41 to less than 4.2, indicating a high level of agreement.

With a standard deviation of 0.83, the overall mean value of the agreement for fact-based decision-making is 3.80. According to the Likert scale interpretation, the mean value for this statement spans from 3.41 to less than 4.20, indicating a high level of agreement.

#### 4.2.2.7 Continuous Improvement

*Table 12 Continuous improvement Related Items*

| Descriptive Statistics  |    |      |      |        |                |
|---|----|------|------|--------|----------------|
|   | N  | Min  | Max  | Mean   | Std. Deviation |
| The organization has procedures in place for employee training.                           | 72 | 1.00 | 5.00 | 3.9583 | .98492         |
| Employees receive ongoing training to improve internal quality performance.               | 72 | 2.00 | 5.00 | 3.7917 | .71083         |
| The company's quality processes are always being improved, resulting in higher revenue.   | 72 | 2.00 | 5.00 | 3.7917 | .64867         |
| The company compares its quality to other best practices in quality management.           | 72 | 2.00 | 5.00 | 3.9167 | .76453         |
| To ensure product delivery efficiency, the organization has imposed a time constraint. As | 72 | 3.00 | 5.00 | 4.2083 | .71083         |



|   |    |      |      |        |         |
|---|----|------|------|--------|---------|
| part of the ISO certification process, quality audits are conducted regularly.                                  |    |      |      |        |         |
| Internal quality audits are used to monitor continual improvement.  | 72 | 2.00 | 5.00 | 4.3750 | .81253  |
| Every employee in the organization is required to adhere to a program of continual product quality improvement. | 72 | 2.00 | 5.00 | 3.8333 | 1.03461 |
| Average   | 72 |      |      | 3.9821 | 0.8096  |

The mean value for the questions under Continuous Improvement runs from 3.83-4.37, with a standard deviation of 0.64-1.03, according to the table above. With a standard deviation of 0.81, the mean value of the agreement with "Internal quality audits are utilized to monitor continuous improvement." is 4.37. According to the Likert scale interpretation, the mean value for this statement spans from 4.2 to less than 5, indicating a very high level of agreement.

With a standard deviation of 0.81, the total mean value of the agreement for Continuous improvement is 3.98. According to the Likert scale interpretation, the mean value for this statement spans from 3.41 to less than 4.20, indicating a high level of agreement.

#### 4.2.2.8 Supplier Involvement

*Table 13 Supplier involvement Related Items*

| Descriptive Statistics   |    |      |      |        |                |
|--|----|------|------|--------|----------------|
|  | N  | Min  | Max  | Mean   | Std. Deviation |
| Our company has developed long-term relationships with suppliers.  | 72 | 2.00 | 5.00 | 4.1667 | .85580         |
| When it comes to selecting suppliers, our organization considers product quality to be the most important element ( E.g quality rather than price or schedule) | 72 | 1.00 | 5.00 | 3.5833 | 1.04477        |
| Our company is always involved in quality-related supplier activities.   | 72 | 1.00 | 5.00 | 4.0000 | 1.08770        |
| Our company always provides feedback on the performance of the products of our suppliers.  | 72 | 2.00 | 5.00 | 4.2083 | .87109         |

|   |    |      |      |        |         |
|---|----|------|------|--------|---------|
| Our company has detailed information on the performance of its suppliers. | 72 | 2.00 | 5.00 | 4.0000 | .91928  |
| Our organization is reliant on a small number of reputable suppliers.     | 72 | 1.00 | 5.00 | 3.6250 | 1.15597 |
| Average   | 72 |      |      | 3.9306 | 0.9891  |

The mean value for the questions under Supplier involvement ranges from 3.58-4.20, with a standard deviation of 0.85-1.15, according to the table above. With a standard deviation of 0.87, the mean value of the agreement with "Our Company always provides feedback on the performance of the products of our suppliers." is 4.21. According to the Likert scale interpretation, the mean value for this statement spans from 4.2 to less than 5, indicating a very high level of agreement.

With a standard deviation of 0.98, the total mean value of the agreement for Supplier involvement is 3.93. According to the Likert scale interpretation, the mean value for this statement spans from 3.41 to less than 4.20, indicating a high level of agreement.

### 4.2.3 Operational Performances

4.2.2.1 What is the trend of the following aspects of operational performance in your organization for the last 5 years?

*Table 14 what is the trend of the following aspects of operational performance in your organization for the last 5 years?*

| <b>Descriptive Statistics</b> |    |      |      |        |                |
|-------------------------------|----|------|------|--------|----------------|
|                               | N  | Min  | Max  | Mean   | Std. Deviation |
| Customer satisfaction         | 72 | 2.00 | 5.00 | 3.9028 | .69525         |
| Quality of Product            | 72 | 2.00 | 5.00 | 3.8194 | .73784         |
| Employee satisfaction         | 72 | 1.00 | 5.00 | 2.8750 | 1.27751        |

|                      |    |      |      |        |         |
|----------------------|----|------|------|--------|---------|
| Profitability        | 72 | 1.00 | 5.00 | 3.4861 | 1.35307 |
| Firm competitiveness | 72 | 3.00 | 5.00 | 4.0833 | .49647  |
| Average              | 72 |      |      | 3.633  | 0.9120  |

The mean value for the questions under Operational performance ranges from 2.87-4.08, with a standard deviation of 0.49-1.35, according to the table above. With a standard deviation of 0.49, the mean value of the agreement with "Firm Competitiveness" is 4.08. According to the Likert scale interpretation, the mean value for this statement spans from 3.41 to less than 4.2, indicating a high level of increment.

With a standard deviation of 0.91, the total mean value of the agreement for Supplier involvement is 3.63. According to the Likert scale interpretation, the mean value for this statement spans from 3.41 to less than 4.20, indicating a high level of increment.

#### 4.2.4 Factors affecting the practice of quality management

*Table 15 Factors affecting the practice of quality management*

| Descriptive Statistics   |    |         |         |        |                |
|--|----|---------|---------|--------|----------------|
|  | N  | Minimum | Maximum | Mean   | Std. Deviation |
| Top managements are not committed and participant in QMS                       | 72 | 1.00    | 5.00    | 2.6389 | 1.37693        |
| There is poor culture and understanding regarding QMS within the organization  | 72 | 1.00    | 5.00    | 2.9861 | 1.14441        |
| Organizational Structure is not suitable to the QMS                            | 72 | 1.00    | 5.00    | 2.4583 | 1.50994        |
| There are Financial difficulties, such as budgeting for the improvement of QMS | 72 | 1.00    | 5.00    | 2.8889 | 1.44919        |
| Average  | 72 |         |         | 2.743  | 1.3701         |

The mean value for the questions under Factors affecting the practice of quality management ranges from 2.45-2.98, with a standard deviation of 1.14-1.50, according to the table above. With a standard deviation of 1.14, the mean value of the agreement with "There is poor culture and

understanding regarding QMS within the organization “is 2.98. According to the Likert scale interpretation, the mean value for this statement spans from 2.61 to less than 3.40, indicating a neutral level of agreement.

With a standard deviation of 1.37, the total mean value of the agreement for Supplier involvement is 2.74. According to the Likert scale interpretation, the mean value for this statement spans from 2.61 to less than 3.40, indicating a neutral level of agreement.

#### **4.2.4 Correlation and regression analysis result**

##### ***4.2.4.1 Correlation analysis***

Table 17 shows the results of the correlation between the variables. Correlation is a measure of the relationship between two or more variables in theory. The correlation coefficient might be anything between -1.00 and +1.00. A complete negative correlation between two variables is represented by a value of -1.00, while a perfect positive correlation between two variables is represented by a value of +1.00. A negative correlation, on the other hand, suggests that if one increases the other decreases. A chance of correlation is represented by a value of 0.00.

To determine the correlation between variables, Pearson's Correlation Coefficient is utilized. The following criteria are used to evaluate the correlations between scales (Kalayci, 2006).

| <b>r</b>    | <b>Level of Correlation</b> |
|-------------|-----------------------------|
| 0.00 - 0.25 | Very Low                    |
| 0.26 - 0.49 | Low                         |
| 0.50 – 0.69 | Moderate                    |
| 0.70 – 0.89 | High                        |
| 0.90 – 1.00 | Very High                   |

*Table 16 the level of correlation between variables*

The commitment of top management and the organization's performance are closely entwined. Table 17 shows the 0.301 Pearson correlations between organizational performance and top

management commitment. Correlation analysis had a level of significance of 0.00, which is less than the threshold value of 0.05, suggesting that the results are significant. Organizational performance and top management commitment have a stable relationship and have an impact on one another in non-technical terms. The findings also show that if top management commitment standards are met more frequently in the organization, the organization's performance will increase, whereas if they are not met, the organization's performance would deteriorate.

Organizational performance and customer focus have a strong relationship with each other. Table 17 shows a 3.43 Pearson correlation between organization performance and customer focus. The level of significance is .000, which is less than the 0.05 threshold value, indicating that the findings are significant. In non-technical terms, organization performance and customer focus have a strong link and have an impact on one another. The finding also demonstrates that if the business follows customer focus criteria more frequently, its performance will improve; but, if these procedures are not followed, the firm's performance will suffer, and its competitive advantage will be harmed.

The association between organizational performance and employee involvement is substantial. 6.24 Pearson is shown in the table. Correlations between company performance and employee participation. The significance level is .000, which is less than 0.05, indicating that the results are significant. In non-technical terms, organization performance and employee engagement have a strong link and have an impact on one another. The study also demonstrates that if the organization pays more attention to employee involvement, the organization's performance will improve.

*Table 17 Correlation analysis result*

| Correlations |        |        |        |        |        |        |        |    |    |
|--------------|--------|--------|--------|--------|--------|--------|--------|----|----|
|              | TMC    | CF     | EI     | PA     | TR     | FBDM   | CI     | SI | OP |
| TMC          | 1      |        |        |        |        |        |        |    |    |
| CF           | .694** | 1      |        |        |        |        |        |    |    |
| EI           | .432** | .630** | 1      |        |        |        |        |    |    |
| PA           | .647** | .755** | .859** | 1      |        |        |        |    |    |
| TR           | .652** | .753** | .591** | .762** | 1      |        |        |    |    |
| FBDM         | .400** | .439** | .666** | .735** | .557** | 1      |        |    |    |
| CI           | .634** | .497** | .409** | .643** | .585** | .603** | 1      |    |    |
| SI           | .548** | .709** | .658** | .658** | .787** | .582** | .455** | 1  |    |

|  |       |        |        |        |        |        |        |        |   |
|--|-------|--------|--------|--------|--------|--------|--------|--------|---|
| OP   | .301* | .343** | .624** | .514** | .348** | .548** | .338** | .542** | 1 |
| **. Correlation is significant at the 0.01 level (2-tailed). |       |        |        |        |        |        |        |        |   |
| *. Correlation is significant at the 0.05 level (2-tailed).  |       |        |        |        |        |        |        |        |   |

The performance of the organization and the process approach is inextricably linked. The 0.514 Pearson correlation between organizational performance and Process method is seen in Table 17. The level of significance is 0.00, which is less than the 0.05 threshold value, indicating that the findings are significant. In non-technical terms, organization performance and Process approach have a strong link and have an impact on one another. The finding also reveals that if the Process approach principles are followed more frequently by the organization, its performance will improve, however, if they are not followed, organizational performance will decline.

The performance of an organization and its training are inextricably linked. The Pearson correlation between organizational performance and training is 0.348, as shown in Table 17. The level of significance is 0.000, which is less than the 0.05 threshold value, indicating that the findings are significant. In non-technical terms, organization performance and training have a strong relationship and have an impact on each other. The finding also demonstrates that if the organization follows training rules more frequently, its performance will improve; but, if these guidelines are not followed, the organization's performance will suffer, and its competitive edge will be harmed.

The association between organizational performance and fact-based decision-making is significant. The Pearson correlation between organizational success and fact-based decision-making is 0.343 in Table 17. The level of significance is 0.00, which is less than the 0.05 threshold value, indicating that the findings are significant. In non-technical terms, it can be argued that organizational performance and fact-based decision-making have a strong relationship and mutual influence. The findings also suggest that if an organization follows fact-based decision-making standards more frequently, its performance will improve; but, if these guidelines are not followed, organizational performance will decline, and competitive advantage would be harmed.

The association between organizational performance and continuous improvement is significant. The Pearson correlation between organizational performance and continuous improvement is 0.338 in Table 17. The level of significance is 0.00, which is less than the 0.05 threshold value,

indicating that the findings are significant. In non-technical terms, organizational performance and continuous improvement have a strong relationship and influence on one another. The results also suggest that if the organization follows continuous improvement guidelines more frequently, its performance will improve; but, if these guidelines are not followed, the firm's performance will decline, and its competitive advantage will be harmed.

Organizational performance and supplier involvement are inextricably linked. The Pearson correlation between organization success and supplier involvement is 0.338 in Table 17. The level of significance is 0.00, which is less than the 0.05 threshold value, indicating that the findings are significant. In non-technical terms, organization performance and supplier involvement have a strong link and have an impact on each other. The finding also demonstrates that if the organization follows supplier involvement standards more closely, its performance will improve; but, if these guidelines are not followed, the organization's performance will suffer, and its competitive advantage will be affected.

#### 4.2.5 Regression analysis

*Table 18 Variables*

| Variables Entered/Removed <sup>a</sup> |  |                   |        |
|--|--|-------------------|--------|
| Model                                  | Variables Entered                              | Variables Removed | Method |
| 1                                      | SI, CI, EI, TMC, FBDM, CF, TR, PA <sup>b</sup> | .                 | Enter  |
| a. Dependent Variable: OP              |  |                   |        |
| b. All requested variables entered.    |  |                   |        |

*Table 19 Model Summary*

| Model Summary |   |          |                   |                            |                   |          |      |      |               |
|---------------|---|----------|-------------------|----------------------------|-------------------|----------|------|------|---------------|
| Model         | R | R Square | Adjusted R Square | Std. Error of the Estimate | Change Statistics |          |      |      |               |
|               |   |          |                   |                            | R Square Change   | F Change | df 1 | df 2 | Sig. F Change |
| 1             |   |          |                   |                            |                   |          |      |      |               |

|  |           |      |      |        |      |       |   |    |      |
|--|-----------|------|------|--------|------|-------|---|----|------|
| 1  | .706<br>a | .499 | .435 | .55215 | .499 | 7.836 | 8 | 63 | .000 |
| a. Predictors: (Constant), SI, CI, EI, TMC, FBDM, CF, TR, PA |           |      |      |        |      |       |   |    |      |

Overall, the model produces a 0.435 Adjusted R square value, indicating that all independent variables can account for 43.5 percent of the variability in organizational performance. The model is relevant since it has a strong fit.

Table 20 ANOVA (Analysis of Variance)

| ANOVA a  |            |                |    |             |       |       |
|--|------------|----------------|----|-------------|-------|-------|
| Model  |            | Sum of Squares | df | Mean Square | F     | Sig.  |
| 1  | Regression | 19.113         | 8  | 2.389       | 7.836 | .000b |
|  | Residual   | 19.207         | 63 | .305        |       |       |
|  | Total      | 38.320         | 71 |             |       |       |
| a. Dependent Variable: OP                                    |            |                |    |             |       |       |
| b. Predictors: (Constant), SI, CI, EI, TMC, FBDM, CF, TR, PA |            |                |    |             |       |       |

This shows that the (R= (19.11) F= (7.836). This data shows the association between the variables that indicated the effect of the independent variables and the dependent variables; which means the percentage of the effect of the independent variables on the dependent variables.

Table 21 Coefficient

| Coefficients <sup>a</sup> |            |                             |            |                           |       |      |                                 |             |
|---------------------------|------------|-----------------------------|------------|---------------------------|-------|------|---------------------------------|-------------|
| Model                     |            | Unstandardized Coefficients |            | Standardized Coefficients | t     | Sig. | 95.0% Confidence Interval for B |             |
|                           |            | B                           | Std. Error | Beta                      |       |      | Lower Bound                     | Upper Bound |
| 1                         | (Constant) | .808                        | .574       |                           | 1.407 | .164 | -.339                           | 1.956       |
|                           | EI         | .564                        | .231       | .531                      | 2.445 | .017 | .103                            | 1.025       |
|                           | SI         | .420                        | .175       | .432                      | 2.399 | .019 | .070                            | .770        |
| a. Dependent Variable: OP |            |                             |            |                           |       |      |                                 |             |

Employee involvement has a regression coefficient ( $\beta$ ) of 0.531 and a significance value of 0.017. It states that employee involvement has a substantial impact on the company's performance.



Employee involvement, according to the decision, is a critical strong variable throughout the process. It can be deduced that changing the independent variable by one unit raises the dependent variable by 53.1 %.

Supplier involvement has a regression coefficient ( $\beta$ ) of 0.432 and a significance value of 0.019. It states that supplier involvement has a substantial impact on the company's performance. Supplier involvement, according to the decision, is a significant strong variable throughout the process. The results show that changing the independent variable by one unit increases the dependent variable by 43.2 %.

## **CHAPTER FIVE**

### **SUMMARY, CONCLUSION, AND RECOMMENDATIONS**

#### **5.1 Introduction**

The Summary, conclusions, and recommendations for further research are presented in this chapter. The study's goal was to see how quality management practices affected EABSC's operational performance. The research has three goals: To determine the impact of quality management system on operational performance, to identify factors that influence the efficiency of quality management system, to determine the gap in the efficacy of the Quality Management system, and to make recommendations.

#### **5.2 Summary**

The study's first goal was to determine the extent of QM practice in EABSC. To do so, descriptive statistics were employed to analyze data from 73 respondents in EABSC, including general managers, quality managers, and supervisors. To analyze QMS implementation, eight quality management system techniques were studied. Top management commitment, customer focus, employee involvement, training, fact-based decision making, process approach, continuous improvement, and supplier interaction were among the practices identified. The overall conclusion is that the level of QM practice at the EABSC was high or strong, as evidenced by the questionnaire results. The results reveal that EABSC has implemented quality management system in a major way. This shows that the managers and supervisors at EABSC understand the significance of implementing QMS variables. The process and product monitoring and measurement are outstanding, audits and management reviews are completed on time, a proper evaluation system is in place, and an acceptable feedback mechanism takes into account consumer needs and perceptions. There is a proper record-keeping system in place, and documentation is updated regularly. Finally, we can state that the firm is concerned about its performance and is constantly working to improve product quality.

According to the descriptive study, respondents agree that QM processes boost the organization's performance. The organizational performance measurement dimensions of customer satisfaction, product quality, employee satisfaction, profitability, and firm competitiveness are all increasing, and it can be concluded that EABSC's quality management system enables the company to meet

customers' needs and expectations, leading to customers preferring the company's services. In other words, this enables the organization to compete in the market.

The correlation results suggest that the relationships between QMS sub-variables are moderate to strong; the associations are moderate to strong. Furthermore, the connections between each QMS sub-variable and operational performance are strong to very strong, implying that the quality management and operational performance relationship is very strong. Multiple regression analysis also reveals that the total quality management sub-variable has an impact on operational performance. However, not every QMS sub-variable has an impact on operational performance; only employee involvement (53.1%) and supplier involvement (43.2%) have a considerable positive impact on operational performance. Other QMS variables, on the other hand, do not affect operational performance. Employee participation has the greatest impact, followed by supplier participation.

According to the findings, Employee involvement has a significant impact on EABSC's operational success. It was concluded that employees' job satisfaction is low and has a significant impact on employee involvement which impacts operational performance indirectly. According to the study Information sharing and consultations, teamwork/collaboration, and high skill acquisition positively impact employee involvement.

The establishment of overall quality management at EABSC has resulted in strategic cooperation with suppliers to ensure that manufacturing processes continue to run smoothly. The company has effectively tapped into the potential benefits of forming supplier partnerships. From the respondents, it is concluded that the organization encourages and supports communication with major suppliers and improves the efficacy. The company routinely exchanges information with suppliers, such as their needs and expectations, and encourages supplier quality cooperation, which leads the company to improve its operational performance.

A detailed grasp of important success criteria, the hurdles to obtaining these factors, and managerial tools and procedures to overcome these barriers are required for successful QM practice (Moghaddam and Moballeghi, 2008). Failure could be attributed to a failure to pay enough attention to quality management techniques rather than to flaws in the QMS ideas themselves. From the many challenges to quality management techniques presented in the literature (as

mentioned in Chapter 4), four barriers were identified as the key barriers that hampered the success of QM practice in EABSC. Questions on a five-point scale were used to assess these factors. The findings revealed that EABSC's management is committed to implementing QMS and that employees have a higher quality culture and understanding. The findings also suggest that the corporate culture is conducive to quality management system, with the majority of financial budgeting for QMS improvement is in place. Furthermore, the questioner's open-ended questions revealed that there were a variety of impediments that hampered the practice of quality management. Most importantly, employees are averse to changing the organization's current system. Ineffective knowledge and information management systems, as well as communication gaps inside the organization. As well as communication gaps between the company and its customers are considered as a barrier. Over all from the study it can be concluded from the EABSC quality management system the operational performance increases and impacted by 43.5 % from the implementation of QMS.

### **5.3 Conclusion**

The quality management system was being implemented in in East African Bottling Share Company; not only to enhance operational performance but also to transform the company to a better position in all dimension. And measured by linker scale from 1-5 that are strongly disagree, disagree, moderate, agree and strongly agree that the result indicated minimum result above 3.6 whereas maximum result above 4.00 so this result should take as an a better practiced. The objective of this study was to assessing the level of quality management implementation, on organizational performance major achievements, challenges.

These achievements are in short: From Quality management system: top Management Commitment, Employee involvement, Customer focus, Process approach, Training, Factual based decision making, continuous improvement and supplier involvement are better practiced in the institute. And from Operational performance: Customer satisfaction, Product quality, profitability and Firm competitiveness are better achieved in the institute. Whereas Employee satisfaction is not yet achieved in a better way by the institute.

Employee's quality culture, understanding, financial budgeting lower employee satisfaction, gaps in communication and resistance to change are noticed to be challenges faced by the company during the implementation of quality management system.

## 5.4 Recommendation

- Examine the impact of various types of QMS, such as TQM and others, on individual business performance and evaluate their relative influence. This can assist organizations in identifying areas where they can improve their QMS.
- Carry out the proposed research for various industries and the effects of implementing a quality management system in other types of organizations can be compared. The impact of an organization's work culture on its performance can also be considered.
- The company needs to focus more on supplier involvement to ensure the smoothness of the production operation. EABSC should lead suppliers to implement QM practice for better operational performance and increased supplied material quality, scheduled audits should also be in place to ensure continuous improvement. Because it has a strong impact on the company's operational performance.
- By paying greater attention to supplier involvement, the organization should be able to focus more on it. Because it has a bearing on the company's operating efficiency. Employees should be promoted, given raises, and provided additional benefits based on their performance evaluations to keep them loyal and motivated (Kyoon Yoo and Ah Park, 2007). Performance evaluations will also assist management in identifying underperforming staff who require additional training and education. Not only will this serve to increase employee performance, but it will also help to improve the organization's overall performance.
- Finally, the study suggests that a proactive awareness program be established and implemented to teach all employees that quality is their duty as well as everyone. Additional training is required to inform employees that the functional quality units exist in the organization simply to provide specialized expertise to assist employees in taking responsibility for quality.

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## Appendix

### Appendix A: questionnaire

Greetings, responder my name is Mikias Worku, I am a Quality and Productivity Management graduate student at Saint Mary's University. Currently, I'm working on a thesis titled EVALUATION OF QUALITY MANAGEMENT SYSTEM IMPACT ON OPERATIONAL PERFORMANCE: THE CASE OF EABSC. The goal of this survey is to gather information based on your viewpoint. The correctness of the information you gave determines the quality of the results in this study. This study project is solely for academic purposes. As a result, the research will ensure that the information provided is kept private. I appreciate and thank you for all of your accurate reflections.

*Email: mikiasworku@gmail.com*

#### ***Part One: Profile of Participants***

1. Gender  
a) Male  b) Female
2. Age  
a) 18-28  c) 40-50   
b) 29-39  d) Over 50
3. Education status  
a) College Diploma  c) Masters   
b) Degree  d) PHD
4. How long have you been working in EABSC Addis Ababa plant?  
a) Less than 2 year  c) 5-10 years   
b) 2-5 years  d) 10 years or more
5. In your opinion, to what extent does Quality management system has an impact on operational performance?  
a) Very high  c) To some extent   
b) High  d) Not at all

**Part Two: Quality Management system**

Note: 1= Strongly Disagree, 2= Disagree, 3= Neutral, 4= Agree and 5= Strongly Agree

| List of questions |  |   |   |   |   |   |
|-------------------|--|---|---|---|---|---|
| SN                | Top management commitment  | 1 | 2 | 3 | 4 | 5 |
| 1                 | The company's vision incorporates quality management.  |   |   |   |   |   |
| 2                 | Top management evaluates the organization's quality management system at regular intervals to guarantee its consistency, appropriateness, and effectiveness. |   |   |   |   |   |
| 3                 | Top management commits resources to ISO certification development and support.   |   |   |   |   |   |
| 4                 | All personnel is aware of quality policies and processes, which are documented and conveyed to them.   |   |   |   |   |   |
| 5                 | Quality policies are reviewed regularly to ensure that they continue to satisfy the organization's needs.  |   |   |   |   |   |
| 6                 | Management takes the lead in guiding excellent teams.  |   |   |   |   |   |
| 7                 | By removing fear, top management establishes trust and a commitment to quality improvement.  |   |   |   |   |   |
|                   | <b>Customer focus</b>  |   |   |   |   |   |
| 1                 | There is one mechanism in place to handle client complaints.   |   |   |   |   |   |
| 2                 | Customer service representatives have received extensive training in telephone customer service.   |   |   |   |   |   |
| 3                 | The company is dedicated to retaining customers by providing high-quality items.   |   |   |   |   |   |
| 4                 | Customer expectations and wants are communicated throughout the organization.  |   |   |   |   |   |
| 5                 | The company conducts customer satisfaction surveys regularly.  |   |   |   |   |   |
| 6                 | Comparing the company's performance to that of other companies allows the company to track its progress.   |   |   |   |   |   |
|                   | <b>Employee involvement</b>  |   |   |   |   |   |
| 1                 | Information sharing and consultations  |   |   |   |   |   |
| 2                 | There is Teamwork/ collaboration   |   |   |   |   |   |
| 3                 | Cooperation involvement in decision making is on ground  |   |   |   |   |   |

|   |  |  |  |  |  |  |
|---|--|--|--|--|--|--|
| 4 | Employees in EABSC Addis Ababa plant have an Increased job satisfaction                                  |  |  |  |  |  |
| 5 | Individual job enrichment through employee involvement   |  |  |  |  |  |
| 6 | Much more responsibility on the side of employees  |  |  |  |  |  |
|   | <b>Process approach</b>  |  |  |  |  |  |
| 1 | Consultations and sharing of information   |  |  |  |  |  |
| 2 | How Do you evaluate division of labor in EABSC Addis Ababa plant   |  |  |  |  |  |
| 3 | Collaboration/Teamwork   |  |  |  |  |  |
| 4 | Cooperation  |  |  |  |  |  |
| 5 | Job enrichment for individuals through employee interaction  |  |  |  |  |  |
| 6 | Acquisition of high-level skills   |  |  |  |  |  |
| 7 | Employees must take on a lot more responsibility.  |  |  |  |  |  |
|   | <b>Training</b>  |  |  |  |  |  |
| 1 | The organization determines the training requirements.   |  |  |  |  |  |
| 2 | The organization establishes clear training objectives.  |  |  |  |  |  |
| 3 | The company selects the most appropriate training methods.   |  |  |  |  |  |
| 4 | The organization provides appropriate training resources.  |  |  |  |  |  |
| 5 | Quality training is provided to all employees at all levels by the firm.                                 |  |  |  |  |  |
| 6 | The company assesses training using objective criteria.  |  |  |  |  |  |
|   | <b>Factual-based Decision making</b>   |  |  |  |  |  |
| 1 | How do you rate the facts and information accuracy and reliability?                                      |  |  |  |  |  |
| 2 | Is all relevant information available to people who require it?  |  |  |  |  |  |
| 3 | Valid procedures are used to analyze data and information.   |  |  |  |  |  |
| 4 | The factual analysis is balanced with experience and intuition while making decisions and taking action. |  |  |  |  |  |
|   | <b>Continuous Improvement</b>  |  |  |  |  |  |
| 1 | The organization has procedures in place for employee training.  |  |  |  |  |  |
| 2 | Employees receive ongoing training to improve internal quality performance.                              |  |  |  |  |  |
| 3 | The company's quality processes are always being improved, resulting in higher revenue.                  |  |  |  |  |  |

|   |  |  |  |  |  |  |
|---|--|--|--|--|--|--|
| 4 | The company compares its quality to other best practices in quality management.  |  |  |  |  |  |
| 5 | To ensure product delivery efficiency, the organization has imposed a time constraint. As part of the ISO certification process, quality audits are conducted regularly. |  |  |  |  |  |
| 6 | Internal quality audits are used to monitor continual improvement.   |  |  |  |  |  |
| 7 | Every employee in the organization is required to adhere to a program of continual product quality improvement.  |  |  |  |  |  |
|   | <b>Supplier Involvement</b>  |  |  |  |  |  |
| 1 | Our company has developed long-term relationships with suppliers.  |  |  |  |  |  |
| 2 | When it comes to selecting suppliers, our organization considers product quality to be the most important element ( E.g. quality rather than price or schedule)          |  |  |  |  |  |
| 3 | Our company is always involved in quality-related supplier activities.   |  |  |  |  |  |
| 4 | Our company always provides feedback on the performance of the products of our suppliers.  |  |  |  |  |  |
| 5 | Our company has detailed information on the performance of its suppliers.  |  |  |  |  |  |
| 6 | Our organization is reliant on a small number of reputable suppliers.  |  |  |  |  |  |

### Part Three: Operational Performance

What is the trend of the following aspects of operational performance in your organization for the last 5 years? Where 1 = greatly decreased and 5 = greatly improved.

| SN | List of questions     | 1 | 2 | 3 | 4 | 5 |
|----|-----------------------|---|---|---|---|---|
| 1  | Customer satisfaction |   |   |   |   |   |
| 2  | Quality of Product    |   |   |   |   |   |
| 3  | Employee satisfaction |   |   |   |   |   |
| 4  | Profitability         |   |   |   |   |   |
| 5  | Firm competitiveness  |   |   |   |   |   |

**PART Four: Factors affecting QM Practices within the organization:**

Note: 1= Strongly Disagree, 2= Disagree, 3= Neutral, 4= Agree and 5= Strongly Agree

| SN | List of questions  | 1 | 2 | 3 | 4 |
|----|--|---|---|---|---|
| 1  | Top managements are not committed and participant in QMS                       |   |   |   |   |
| 2  | There is poor culture and understanding regarding QMS within the organization  |   |   |   |   |
| 3  | Organizational Structure is not suitable to the QMS                            |   |   |   |   |
| 4  | There are Financial difficulties, such as budgeting for the improvement of QMS |   |   |   |   |

**PART Five: Others Factors Question:** What other factors not listed in Part B do you consider to influence the implementation of quality management standards?

- i. \_\_\_\_\_
- ii. \_\_\_\_\_
- iii. \_\_\_\_\_
- iv. \_\_\_\_\_

## Appendixes B: Reliability Statistics result

Reliability Statistics all sub items categorized under TMC, CF, EI, PA, TR, FBDM, CI, SI & OP

| Cronbach's Alpha | Cronbach's Alpha Based on Standardized Items | N of Items |
|------------------|--|------------|
| .958             | .959   | 54         |

### Reliability Statistics Top Management Commitment

| Cronbach's Alpha | Cronbach's Alpha Based on Standardized Items | N of Items |
|------------------|--|------------|
| .828             | .827   | 7          |

### Reliability Statistics Customer focus

| Cronbach's Alpha | Cronbach's Alpha Based on Standardized Items | N of Items |
|------------------|--|------------|
| .801             | .804   | 6          |

### Reliability Statistics Employee involvement

| Cronbach's Alpha | Cronbach's Alpha Based on Standardized Items | N of Items |
|------------------|--|------------|
| .744             | .735   | 6          |

### Reliability Statistics Process approach

| Cronbach's Alpha | Cronbach's Alpha Based on Standardized Items | N of Items |
|------------------|--|------------|
| .801             | .803   | 7          |

## Reliability Statistics Training

| Cronbach's Alpha | Cronbach's Alpha Based on Standardized Items | N of Items |
|------------------|--|------------|
| .865             | .884   | 6          |

## Reliability Statistics Factual-based Decision making

| Cronbach's Alpha | Cronbach's Alpha Based on Standardized Items | N of Items |
|------------------|--|------------|
| .748             | .748   | 4          |

## Reliability Statistics Continuous Improvement

| Cronbach's Alpha | Cronbach's Alpha Based on Standardized Items | N of Items |
|------------------|--|------------|
| .770             | .790   | 7          |

## Reliability Statistics Supplier Involvement

| Cronbach's Alpha | Cronbach's Alpha Based on Standardized Items | N of Items |
|------------------|--|------------|
| .824             | .824   | 6          |

## Reliability Statistics Operational Performance

| Cronbach's Alpha | Cronbach's Alpha Based on Standardized Items | N of Items |
|------------------|--|------------|
| .811             | .852   | 5          |