



**SCHOOL OF GRADUATE STUDIES
INSTITUTE OF QUALITY AND PRODUCTIVITY
MANAGEMENT**

**THE EFFECTS OF IMPLEMENTING QUALITY MANAGEMENT SYSTEM
ON ORGANIZATIONAL PERFORMANCE:
THE CASE OF “ONE” WATER BOTTLING COMPANY IN ADDIS ABABA**

**By
Getenet Entele Jote**

*June, 2020
Addis Ababa, Ethiopia*

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A THESIS SUBMITTED TO ST.MARY’S UNIVERSITY, SCHOOL OF GRADUATE STUDIES, INSTITUTE OF QUALITY AND PRODUCTIVITY MANAGEMENT, IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF SCIENCE IN QUALITY AND PRODUCTIVITY MANAGEMENT

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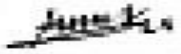

Addis Ababa, Ethiopia

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Declaration

I, Getenet Entele hereby declare that the thesis entitled “THE EFFECTS OF IMPLEMENTING QUALITY MANAGEMENT SYSTEM ON ORGANIZATIONAL PERFORMANCE: THE CASE OF “ONE” WATER BOTTLING COMPANY” submitted by me for the award of master’s Degree in Quality and Productivity Management is my original work and it has not been presented for the award of any other Degree, Diploma, Fellowship or any other similar titles of any other university or institutions.

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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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Addis Ababa, Ethiopia

June, 2020

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Acronym

ANOVA----- Analysis of variance

BPH ----- Bottles Per Hour

ISO ----- International Organization for Standardization

OD ----- Organizational Development

QMS ----- Quality Management System

QMP ----- Quality Management Principles

TQM ----- Total Quality Management

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ABSTRACT

This study sought to assess the effects of ISO 9001:2015 implementation to the performance of ONE water bottling company. The study adopted descriptive research method. In the course of analyzing the problems, both qualitative and quantitative research methods were introduced. The main tools of data collection were questionnaires and interviews. Purposive and simple random sampling methodologies were applied to select respondents. The quantitative data collected through questionnaire was analyzed by making use of inferential statistics using SPSS version 20 software. The performance measurement variables and the effects on the organizational performance dimensions are analyzed by employing the appropriate parametric statistical methods to determine the direction of relationship and degree of association based on the distribution of the sampled data collected. This research has assured that the implementation of ISO 9001:2015 has positive effects on the organization performance. The result of independent variable of descriptive statistics has shown that, the mean score of Quality Management Systems variables has been more than the average value. The descriptive analysis has shown the agreement of respondents that its practices improve the performance of the organization. The correlation matrix indicates that the seven Quality Management System variables: “Customer Focus, Leadership, Engagement of People, Process Approach, Improvement, Evidence-Based Decision making and Relationship Management” were positively and strongly correlated with overall organizational performance.

Keywords: Organizational Performance, Quality Management system, ISO 9001:2015, Implementation effects

Chapter One: INTRODUCTION

This Chapter presents an overview of the entire study. It includes the background of the study, Statement of the problem, Research questions and Objectives of the study, Significance of the study, Scope and Limitation of the study and Definition of terms.

1.1 Background of the Study

Globalization, intense worldwide competition and ever-changing customer demands have dramatically changed the business environment during the past few decades. In response to the above mentioned changes, many organizations have adopted different quality management systems such as ISO 9000, Total Quality Management (TQM), etc.

According to the International Organization for Standardization (ISO), quality management system (QMS) is defined as coordinated activities to direct and control an organization with regard to quality. It is a standard developed by the International Organizations for Standardization and act as a framework for organizational quality management systems (Bell & Omachonu, 2011). The framework is popularly understood by organizations and governments around the world and consequently used as standard for management systems.

The introduction in 1987 of the first international quality assurance standards- the ISO 9000 series- was greeted importantly in the business world. An ISO 9000 certification is an internationally recognized guarantee that a firm can deliver what it promises, consistently. The ISO 9000 series certification is important to organization seeking to interact internationally and it is also equally important for organizations seeking to perform well in their respective industry.

When we come to Ethiopian context, many manufacturers are currently claiming that they have acquired ISO certificates that helped them to perform well in their respective industry. Some of these companies are currently interacting with their customers internationally while the remaining is still in their domestic markets. Because customers are requiring producers to have a guarantee for their

products whether it is produced as per the specifications and the international standards, companies are therefore forced to register for ISO certification.

Moreover, companies are currently requiring their supplier to act according to the international quality systems to reduce the maximum loss they may face due to quality problems. To this point, the organization should have the system that can assure their products and services are produced as per the requirements. To another edge, companies seek to gain ISO certification because they think that it can improve their overall business performance. But, the question here is whether ISO certification can impact their performance or not. With this main question, the study has investigated the impact of ISO certification on the company's performance.

Several researches have shown quality management systems (QMS) have been widely applied successfully by many manufacturing companies to improve their processes, increase profits and organizational performance (Awoku, 2012). A large number of current literatures have indicated that the adoption of ISO 9001 results in firm's performance improvement (Karipidis, et al., 2009; Marin & Ruiz-Olalla, 2011).

Since its first major revision in the year 2000, ISO 9001 has adopted a "process approach" to manage quality. The quality management system requires organizations to fulfill and meet key requirements, which are originally defined by customers. The key requirements are:

- 1) a clear commitment of the organization's top management to the quality management system;
- 2) a customer focus approach throughout the organization;
- 3) a clear quality policy and policy objectives defined by top management;
- 4) definition of the responsibility and authority of the various personnel involved in the quality management system and communication between them;
- 5) ensuring the availability of resources (including competent personnel);
- 6) appropriate levels of documentation; and
- 7) Control of the various operational processes, from sales through design and development of the product or service provided, manufacture (or service provision), process monitoring, inspection and after-sales support (UNIDO, 2016).

ISO 9001 is an internationally recognized quality management tool which offers guidelines for continued improvement on processes (To *et al*, 2012). The tool is focused on meeting the

expectations of citizens and customers. It evaluates the effectiveness of a sector's quality management tools and forces the sector to identify and make improvements.

Quality Management System enables one to demonstrate commitment to quality and customer satisfaction, as well as continuously improving company's operations. The goal is for all organizations to seek continuous performance improvement. Quality management of the product or service includes a quality planning requirement along with policies, objectives and quantifiable targets. Quality Management System establishes and streamlines processes through complete documentation, improves and establishes training processes defines roles and responsibilities, increases operational efficiency. QMS also develops and builds relationships that help to retain existing customers; it improves customer relations; it ensures carefully planned improvements, based on documentation and analysis, it provides the necessary environment for regular audits/reviews of performance (Chris, 2009, Chong 2006, Feigenbaum1961, Nanda, 2005).

ISO 9001 improves the efficiency of the processes of an organization by generic guidance and documentations, and continual improvement through "Plan-Do-Check-Act" (PDCA) methodology. Unfortunately, most manufacturing companies in developing countries believe establishing QMS is just wasting time and money for consultancy, training, periodical internal and external audit, and settling certification fee, without any benefit, except its use as a market tool. Therefore, the managers often focus on the certification as the primary objective and requirement more than value in the organization. This kind of the notion and attitude can cause inefficient operation and unsustainable implementation of QMS. That is why most managers do not usually take a broad view of what quality constitutes as QMS. Some studies show that organizations implementing QMS just for the sake of certification do not fully benefit from the positive effects of implementing a QMS. Thus, this study was carried out with the aim of evaluating the effects of QMS implementation on the organizational performance in the case of ONE water bottling company of Ethiopia.

1.2 Statement of the Problem

The trend in the changing life style of the Ethiopian people in drinking bottled water at home, work place, recreation and travel in and outside provided another opportunity to sell bottled water in the local market and sought its potential market opportunity in the international market so long as international water quality standards are met. Having a QMS would create sustainable confidence.

A decade ago the idea of bottled water for many Ethiopians was a trend that characterized the urbanites and Diaspora. Nowadays things have dramatically changed in the country and water has become by far, one of the most sellable products in the country. Today it is common to see people who purchase bottled water along with their groceries in super markets and kiosks. Bottled water in cafes and restaurants has become the order of the day. (Shimeles Abebe, 2019)

With the changing lifestyle of Ethiopia's urban population, the use of treated and bottled water has been increasing rapidly. The number of factories involved in the mineral water is also significant. And hence to compete sustainably implementing QMS is considered to be very crucial.

Many researchers have sought to understand how the implementation of the ISO 9001 assists organizations to intrinsically improve their internal and external organizational processes and the respective performance. Quality management systems are often subverted in favor of higher profits. Hence organizations even entering the industries do not consider implementing ISO principles or requirements at the beginning of construction of the organizational structure and the physical construction of the factory. Instead management considers ISO certification as market penetration and market share increment strategy. ISO survey reveals that ISO 9001 certified organizations would improve the organizational performance in terms of Quality, Volume of sales, employee motivations and organizational competitiveness (Debby et al., 2015). Different studies show that there is a strong relationship between QMS principles and overall organizational performances but there are also some other studies that have findings which states that there is no direct relationship between QMS principles and organizational performance.

Organizations that have implemented QM gain advantages in various aspects of organizational performances. Some of the benefits are improved financial performance (Augustyn et al., 2019), established knowledge management (Honarpour et al., 2018), increased profitability (Hailu et al., 2018), improved labor productivity (Belay et al., 2014), improved open innovation (Rold et al., 2017), green innovation (Li et al., 2018), improved job satisfaction (Addis et al., 2019), etc. QM can, therefore, be seen as a way to gain a competitive advantage in the world market.

The case study on brewery companies by Tulu, (2011) has demonstrated that ISO certification has a significant impact on the companies' performance particularly sales improvement of the firms. Furthermore, the extraordinary growth in the number of companies attaining ISO 9000 certification worldwide suggests certification will yield benefits to the firm (Tulu, 2011).

Ethiopian Quality Award (2017) also stated quality award is designed to support the development and recognize the achievement of organizational excellence. It recognizes organizations for their achievements in quality and performance while raising awareness about the importance of excellence in quality and performance as a global competitive advantage.

From an interview which was conducted with the top management of ONE water bottling factory, it was possible to learn that the company implemented ISO 9001:2015 QMS and got certified with the quality management system standard. It was first registered & certified on October 18, 2017. Even though the company claims that the ISO QMS implementation has improved the companies' performance, there has not been explicit research conducted to evidence that it has actually benefitted from implementation and certification of the ISO QMS standard. Therefore, the rationale to conduct this research was to examine the effects of ISO 9001:2015 QMS implementation on the performance of the case company.

After completion of this research, the following research questions were answered.

- ✓ What is the existing QMS implementation practice of the case company?
- ✓ What is the relationship of ISO 9001 QMS implementation on the performance of the company?

1.3 Objectives of the Study

The major objective of the research was to study the effects of ISO 9001 QMS implementation on the performance of ONE water bottling factory.

The specific objectives were:

- ✓ To assess the practice of QMS implementation in the case company.
- ✓ To identify the relationship of quality management practices with organizational performance in the selected company.

1.4 Significance of the Study

Based on the research findings the output of this research was expected to indicate the major effects of ISO 9001:2015 quality management system on organizational performance of the case organization. To be a support source for the Quality and productivity initiatives that is implemented at the organization to ensure performance improvement from different perspectives. After implementation of QMS practices and certification, effect on the performance of the company, benefits will be realized by other water bottling companies. The findings of the research are important for Policy Makers & Researchers.

1.5 Scope of the study

The research activity had covered the investigation of the effects of ISO 9001:2015 QMS on organizational performance, ONE water bottling company. The company implemented ISO 9001:2015. QMS is among the means for continual improvement of organizational performance through the implementation of quality management standard system. It also involves the identification of firm performance variables which could be analyzed in the context of ISO 9001:2015 QMS implementation.

As the research focused on the investigation of the effects of ISO 9001:2015 QMS implementation on the case company performance, organization performance constructs such as Operational performance and Business performance were used as overall organizational constructs performance dimensions for the effects of the implemented QMS on the case company.

1.6 Limitation of the study

This study was conducted on a single case company due to money and time constraints. It had be preferred to conduct the study on different types of companies to make cross analysis and generate conclusive and generalized findings on the effects of QMS on the performance of the organization but it was impossible due to restrictions of movement during the covid-19 pandemics.

1.7 Operational Definition of Terms

Organizational Performance: the accumulated end results of all the organization's work processes and activities.

Quality Management system: Quality management system is defined as a set of interrelated or interacting elements to establish policies, objectives, and processes to achieve those objectives with regard to quality.

ISO 9001:2015: ISO 9001:2015 specifies requirements to plan, establish, implement, operate, monitor, review, maintain and continually improve a documented management system used to manage quality. The requirements set in ISO 9001:2015 are generic, flexible and useful to all types of organizations.

Chapter Two: LITERATURE REVIEW

This chapter demonstrates the review of related literatures which is classified in to Quality in Manufacturing, ISO 9001 Quality management System, Relationship between Quality Management and Performance finally the last part of the chapter is conceptual framework which is about the basic framework of this study and formulation of hypothesis

2.1 Introduction

Organizations are to compete to raise their organizational performance. Because customers have choices for the products and services they demand, producers are challenged in meeting the increasing consumers' requirements. Operational performance dimensions also increase as the concern of varied stakeholders and their corresponding interests, influences and requirements are growing. In response to these issues, several concepts and related systems, tools and techniques have been developed so that the growth and competitiveness of organizations can be maintained. Among these several concepts, quality concept is one. "Meeting customers' requirements" is the simplest definition of quality concept. But the concept of quality goes beyond and so it is very important to implement QMS systems such as ISO 9001 to make sure both the internal and external activities of the organization are carried out according to the internationally stated standards. Quality management system is amongst the ISO management system so far developed and applied world-wide.

2.2. The concept of quality

Quality has become a strategic weapon, which is nowadays being widely used by companies. A company with better quality has the tendency to have better market share than its competitors (Awoku, 2012). According to Awoku, Rachel Yetunde-Abiodun, several manufacturing companies have realized the importance of quality. This time, quality is a competitive dimension for companies by which they can excel their competitors and achieve wider market share.

There are different ways of defining quality. Today there is no single universal definition of quality. Quality is perceived differently by different people. Yet, everyone understands what is meant by

“quality.” (Cambridge University, 2017). In a manufactured product, the customer as a user recognizes the quality of fit, finish, appearance, function, and performance. The quality of service may be rated based on the degree of satisfaction by the customer receiving the service. Some people view quality as performance to standards; others view it as meeting the customer’s needs or satisfying the customers’ (Awoku, 2012). In order to ensure total quality in manufacturing, the definition of quality needs to be defined from customers’ perspectives.

ISO defines quality as “The degree to which a set of inherent characteristics fulfills requirements.” To fulfill requirements is to meet customers’ needs and regulatory requirements. The difference between one organization and another or between one product and another is generally perceived in relation to the product or service of the company.

In manufacturing, quality is best defined in terms of conformance, performance, reliability, features, durability and serviceability of a product (Awoku, 2012). Conformance is the degree at which a product’s characteristics meet set standards, while performance shows how the product functions efficiently. Reliability is the probability that a device will perform its required functions under stated conditions for a specific period of time. It is also vital that the products produced have features that would enable their efficient usage and to have durability and be easily repaired.

The concept of quality management systems has existed for many decades. In the 1930s, Walter Shewhart at Bell Laboratories inspired the use of statistics to identify ‘best practice’ in the USA. This discovery has evolved over many years into control charts and in the US was adopted by manufacturing industries before 1950. During World War II in the 1940s, quality control charts and statistical techniques were deployed to monitor production process and evaluate quality respectively (Goeff, 2001, p. 4). In the 1950s and 1960s, W. Edwards Deming and Joseph Juran saw the importance of pursuing perfection by applying quality principles and techniques to processes and management of organizations. With the U.S dominating world manufacturing, there was no practical interest in quality practices. Deming and Juran were invited to Japan to lecture on statistical quality control (Goeff, 2001). In the 1970s and 1980s, many U.S companies lost market share to foreign competition. Foreign manufacturing companies were producing lower-priced products and better quality. As the West continued to add luxury to products in order to sell at higher prices and increased profits, the East was busy adding quality to products in order to produce items better and cheaper (Goeff, 2001). In order to increase quality awareness, the ISO family standards and Malcolm Baldrige National Quality Award were established in 1987.

2.3 Quality in Manufacturing

Organizations have implemented the ISO 9001 quality system to improve the quality of products (Casadesus & Karapetrovic, 2005). Furthermore, ISO 9000 certification is an effective structural intervention that leads to enhanced product quality. Debby et al. (2015) stated that many organizations have not achieved the desired performance due to poor management of the certification process. In the manufacturing industry it is commonly stated that “Quality drives productivity.” Improved productivity is a source of greater revenues, employment opportunities and technological advances. Most discussions of quality refer to a finished part, wherever it is in the process. The best way to think about quality is in process control. If the process is under control, inspection is not necessary. Oakland (2003) goes on further to identify two aspects of quality: quality of design and quality of conformance to design. He defines quality of design as “a measure of how well the product or service is designed to achieve the agreed requirements”, and quality of conformance to design as “the extent to which the product or service achieves the quality of design”.

The concept of quality is now so widely used that it is no longer just an advantage to adopt it but a requirement for survival. With increased globalization, come increased competitive pressures. Businesses are forced to strive to be more efficient, more up-to-date with the changing technologies, more responsive to the markets. Adopting a management philosophy that has quality at its core makes it that much easier to succeed. Dale (2003), stresses the importance of quality in that it increases productivity, leads to better performance in the marketplace and improves overall business performance.

Much of the literature on quality demonstrates that, over the years, depending on different academic disciplines, orientations, and economic sectors, different definitions and dimensions of quality have been emphasized. However, regardless of these differences, quality is almost universally perceived as a dynamic threshold that a firm must meet to satisfy customers.

Repeated findings on quality either measured by customer satisfaction or perceived quality, provide a growing body of evidence that the relationship between quality and firm performance is positive. Interestingly, research on quality predominantly used profitability rather than growth as a measure of

firm performance. Here we have examined how quality and growth as well as profitability and market value are related to each other. Thus, the key findings according to Cho & Pucik (2005) are that:

- Finding A: The higher the quality, the greater the growth performance.
- Finding B: The higher the quality, the greater the profitability performance.
- Finding C: The higher the quality, the greater the market value performance.

2.3 ISO 9001 Quality management System

ISO 9001 specifies requirement for a quality management system that can be used for internal application by organizations, or for certification, or for contractual purposes. It focuses on the effectiveness of the quality management system in meeting customer requirements (INTRA.ITILTD-India, 2017).

This International Standard does not include requirements specific to other management systems, such as those particular to environmental management, occupational health and safety management, financial management or risk management. However, the International Standard enables an organization to align or integrate its own quality management system with related management system requirements.

It is possible for an organization to adapt its existing management system(s) in order to establish quality management system that complies with the requirements of this International Standard (INTRA.ITILTD-India, 2017).

There are seven principles that ISO 9001 embeds. These are customer focus, leadership, engagement of people, process approach, improvement, evidence based decision making and relationship management. The corresponding benefits of the organization implementing the management standard are as shown in Table 2.1.

ISO 9001:2015 certification is an important structural OD intervention and a quality management system. The systems help organizations in achieving quality products. Previous research studies have investigated the effects of ISO 9001 intervention on the various aspects of organizational performance (Debby, Vaughan & Trigunaryyah, 2015; Vasileios & Odysseas, 2015). Organizations have implemented the ISO 9001 quality system to improve the quality of products (Casadesus & Karapetrovic, 2005; Corbett, Montes-Sancho & Kirsch, 2005; Terziovski & Guerrero, 2014).

Furthermore, ISO 9000 certification is an effective structural intervention that leads to enhanced product quality. Debby et al. (2015) stated that many organizations have not achieved the desired performance due to poor management of the certification process.

Table 2.1 ISO 9000:2015 and ISO 9001:2015 QMPs

QMPs	Statement
1. Customer focus	The primary focus of quality management is to meet customer requirements and to strive to exceed customer expectations.
2. Leadership	Leaders at all levels establish unity of purpose and direction and create conditions in which people are engaged in achieving the organization's quality objectives.
3. Engagement of people	Competent, empowered and engaged people at all levels throughout the organization are essential to enhance its capability to create and deliver value (involvement of people in ISO 900:2005 and ISO 9001:2008).
4. Process approach	Consistent and predictable results are achieved more effectively and efficiently when activities are understood and managed as interrelated processes that function as a coherent system (this principle encompasses the systems approach to management of ISO 9000:2005 and ISO 9001:2008 editions).
5. Improvement	Successful organizations have an ongoing focus on improvement (continual improvement in ISO 9000:2005 and ISO 9001:2008 editions).
6. Evidence-based decision-making	Decisions based on the analysis and evaluation of data and information are more likely to produce desired results (factual approach to decision-making in ISO 9000:2005 and ISO 9001:2008 editions).
7. Relationship management	For sustained success, an organization manages its relationships with interested parties, such as suppliers (mutually beneficial supplier relationships in ISO 9000:2005 and ISO 9001:2008 editions).

Source: ISO 9000:2015

2.4 Relationship between Quality Management and Performance

In general, research studies have argued a direct relationship between quality management principles and practices and performance. Sampaio, 2009 mentioned that the majority of the studies that try to relate the effects of quality management principles and practices (QMPs) over organizational performance that have been carried out, conclude that there is a positive relationship between the implementation of QMPs and organizational performance improvement (Mann and Kehoe, 1994; Maani et al., 1989; Adam et al., 1997; Curkovic and Pagell, 2000; Terziovski and Samson, 1999; Gupta, 2000; Romano, 2000).

However, others recent research on this link finds contradictory outcomes. That is, quality procedures may not consistently result in a positive or favorable organizational outcome (Foster, 2007; Kaynak 2003). Note, however, that, there is also evidence of complex cross relations among QMPs in extant literature. There are some researchers who found that the implementation of QMPs did not improve performance. For instance, Dow *et al.* (1999) showed that some QMPs contribute to “superior” quality outcome and others QMPs do not contribute to the improvement of organizations performance.

Terziovski and Samson (1999) investigated the relationship between QMPs and organizational performance in Australia and New Zealand and obtained mixed results, showed that a typical manufacturing organization is more likely to achieve better performance with QMPs than without QMPs implementation. The mixed findings and the need to gain further insights into generalized QMPs-performance link provide motivation for several research articles. Given the inconsistent findings attempting to link quality management to firm performance in the past (Kaynak, 2003), the authors believe that deconstructing quality management into the separate constructs of quality practices and quality context, and examining the causal sequence connecting these constructs, will prove beneficial.

Organizational performance comprises the actual output or results of an organization as measured against its intended outputs (or goals and objectives). Organizational performance encompasses two specific areas of firm outcomes: Business performance (profits, return on assets and return on investment), and market performance (sales, market share).

There are a number of common standards for measuring manufacturing performance (Neely, 2007). Among these are short delivery cycles, superior product quality and reliability, dependable delivery promises, ability to produce new products quickly, flexibility in adjusting to volume changes, low investment and hence higher return on investment, and low production costs. These measures of manufacturing performance necessitate trade-offs certain tasks. They cannot all be accomplished equally well because of the inevitable limitations of equipment and process technology. Such trade-offs as costs versus quality or short delivery cycles versus low inventory investment are fairly common. Other trade-offs, while less obvious, are equally real. They involve implicit choices in establishing manufacturing policies (Skinner, 1969).

For business enterprises, the significant driving force to establish the quality goals basically originates from customer needs. Generally speaking, customer needs identify the operational goals for firms to meet. And this type of quality goals is also referred as market-driven (Juran, 1992). Aaker, *et al*, 2007 mentioned that quality started with the understanding of customer needs and ended when those needs were satisfied. In order to meet the requirement of customers, top management should clarify the expectations of its customers.

Further, organizational strategy should also be developed based on customers' needs Etienne-Hamilton (1994). Kumar and Balakrishnan (2011) pointed out that customer focus is the underpinning principles for firms to implement QMS. Since senior management may have the influence and authority to dominate the entire QMS implementation, dedicated commitment from top management about implementing QMS is certainly a necessity.

Top Management in organizations maintains the leadership responsibility for the quality management systems, with involvement of all organizational staffs. This responsibility includes; ensuring the availability of resources to all staff to ensure improved service delivery is achieved for the realization of the organization's vision and mission. Establishing and reviewing the quality policy and quality objectives quarterly to ensure compliance to the quality standards (Cane, Sheila 1996 Soltani, 2005, Ali and Abedalfattah 2012).

Leaders should provide a clear vision of the organization's future and set challenging goals and targets. It is only through unity of purpose and direction of employees that achieves organization's objectives. Leader should maintain internal environment where people can get fully involved by

establishing trust and eliminating fear. (Cole & Phil 2011) defines leadership as the process of influencing others to understand and agree about what needs to be done and how to do it, and the process of facilitating individual and collective efforts to accomplish shared objectives.

2.5 Profile of the Organization

Like other developing countries, the role of Ethiopian manufacturing sector is quite similar and expected to contribute for the betterment of the country export, employment and national output. One Natural Purified Water is purified bottled water that started to be produced in 2015. The brand aims at achieving the utmost quality level in the production of its bottled products keeping the natural contents in the bottled spring water.

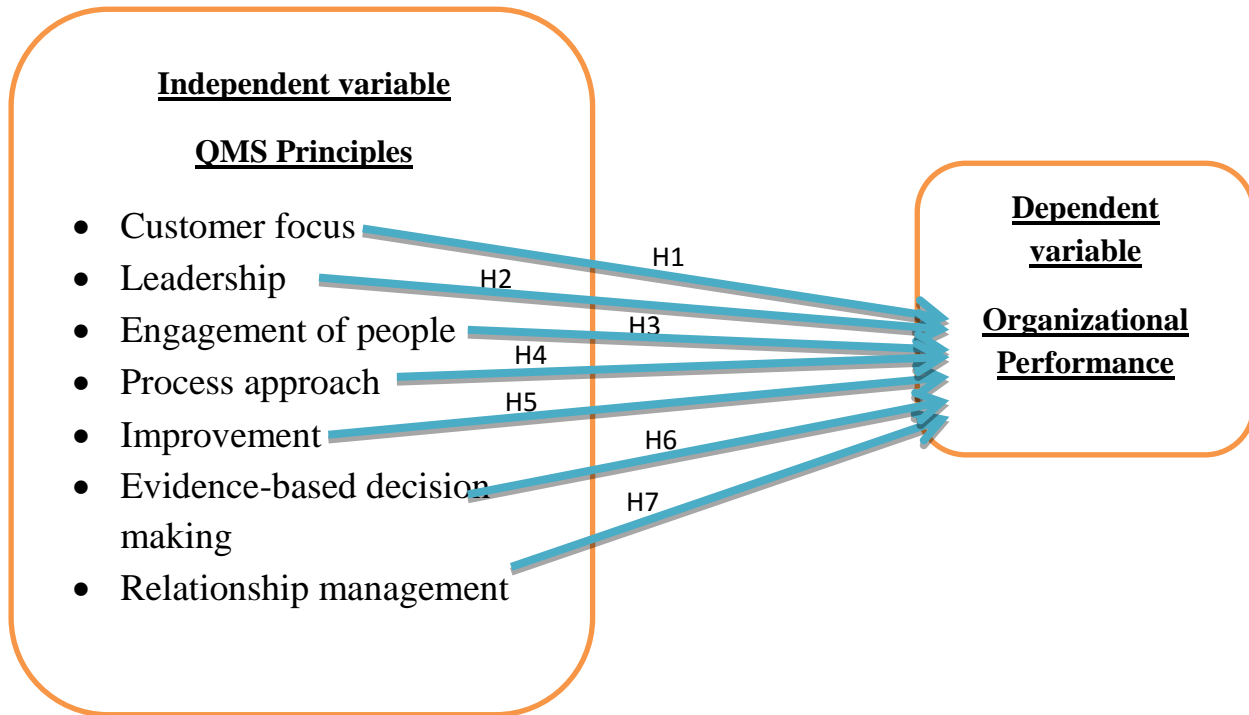
Derived from the original source of Mogle Mountain, One Natural Purified Water is produced at its 13,000 square meters of factory in the Sebeta area, about 30KM southwest of Addis Ababa. ONE's products are manufactured with the highest quality as it uses the latest machinery in water purification technology along with highly qualified experts. It rests on 13,000 square meters plot of land, having an initial capacity of 14,000 bottles per hour. One Spring Water aims at countries in the region. It has sufficient highly qualified professionals.

On April 2017 the company installed the second line with the capacity 18,000 bottles per hour and the total capacity to expand production to 32,000 BPH. The company draws underground water from 186M deep borehole at Mogle Mountain. The borehole provides 15 liters of water per second and the newly add borehole 196M deep provide more than 13 L/s.

2.6 Conceptual Framework and Hypothesis of the Study

The diagram below shows the proposed conceptual framework which served as foundation of this study. According to the figure, organizational performance is the Dependent variable and QMS principles (Customer focus, Leadership, Engagement of people, Process approach, Improvement, Evidence-based decision-making and Relationship management) are the Independent Variables.

Figure 2.1 Conceptual framework of the study



The theory which supports the hypothesis formulation was discussed in the literature review.

H1: *There is a significant and positive relationship between customer focus and organizational performance in the case ONE water bottling company.*

H2: *There is a significant and positive relationship between Leadership and organizational performance in the case ONE water bottling company.*

H3: *There is a significant and positive relationship between Engagement of people and organizational performance in the case ONE water bottling company.*

H4: *There is a significant and positive relationship between process approach and organizational performance in the case ONE water bottling company.*

H5: *There is a significant and positive relationship between Improvement and organizational performance in the case ONE water bottling company.*

H6: *There is a significant and positive relationship between Evidence-based decision making and organizational performance in the case ONE water bottling company.*

H7: *There is a significant and positive relationship between Relationship management and organizational performance in the case ONE water bottling company.*

Chapter Three: RESEARCH DESIGN AND METHODOLOGY

This chapter explains the research methodologies employed .it included description of the study areas, research approach, research design, population and sampling, instruments of data collection, method of data analysis, reliability and validity of the instrument and also include ethical considerations

3.1 Research Design

Descriptive research sets out to describe and to interpret what is. It looks at individuals, groups, institutions, methods and materials in order to describe, compare, contrast, classify, analyze and interpret the entities and the events that constitute the various fields of inquiry. It aims to describe the state of affairs as it exists. A descriptive survey research design was employed to identify whether there were effects on organizational performance as a result of ISO 9001 QMS implementation at ONE water bottling company. This study has followed mixed research approach. In the course of analyzing the problems, both qualitative and quantitative research methods were introduced in addition only primary data was utilized.

3.2. Data types and source

Quantitative data was used for the descriptive and inferential analysis of the performance measures from the questionnaire. The source of the questionnaire data were the employees and management member of the company. The qualitative data was gathered through interview from selected top and middle management members, and experts.

3.3 Population and sampling techniques

The target population of this study was the ONE purified water company Staffs and department managers and division heads who were experts for the enterprise besides they were the key players of the quality management. All of the different level managers and some of the employees were included in the questionnaire and only departmental managers were interviewed.

This study has adopted a non-probabilistic sampling strategy. Purposive sampling method was used to select the interviewee's and respondents of the questionnaire. Purposive sampling technique, also called judgment sampling, is simply put, the researcher decides what needs to be known and sets out to find people who were willing to provide information by knowledge or experience. Accordingly, from the total of 271 permanent employees, 80 respondents were selected on the basis of their significant role in designing, planning, implementation, controlling and evaluation of the QMS system. ONE water bottling company employees, experts, Divisional heads, Directors and Managers who were willing and have significant role in the design, planning, implementation and evaluation of ISO 9001:2015 QMS implementation were included. ONE water bottling employees, which were newly employed and had inadequate information on the implementation of ISO 9001:2015, were excluded.

3.4 Method of Data Collection

In order to gather the data from relevant sources the following methods were applied. To learn what employee think about ISO 9001:2015 QMS and its effects on the organization, this research applied a surveys method of data collection; so questioners and interview were the main tools used to collect data.

3.4.1 Questionnaire

The questionnaire was the primary data collection instrument which was a self-administered questionnaire designed by the researcher as per the context of the study. The questionnaire had two parts. The first section assessed the demographic and social background characteristics of the respondents. The second part of questionnaires was closed ended, and utilized a five point likert scale which had assigned scores between 1 and 5, namely Strongly Agree (5), Agree (4), Neutral (3), Disagreed (2) and Strongly Disagree (1) this allowed the researcher to draw conclusions based on comparisons made from the responses. The questionnaires were distributed to selected employees in each department.

3.4.2 Interview

The interview was conducted with top level management members who were process owners at each department. The interview questions were structured kind questions. Interview was conducted by the principal investigator of this study.

3.5 Techniques of Data analysis and interpretation

The quantitative data collected through questioner was analyzed by making use of inferential statistics using SPSS version 20 software. The performance measurement variables and the effects on the organizational performance dimensions were analyzed by employing the appropriate parametric statistical methods to determine the direction of relationship and degree of association based on the distribution of the sampled data collected. The descriptive statistics was presented using Tables to see the descriptive statistical values of the five-point Likert scale data. Narrative analysis was followed and employed to the qualitative data collected from interview.

The following method was adopted to describe the relationship among variables of interest based on ISO9001:2015 QMS. To assess the extent of implementing ISO QMS, variables were created as a dependent and independent and indicators of the result were identified. So the independent variables in this study were the seven ISO 9001:2015 QMS principles; *Customer focus, Leadership, Engagement of people, Process approach, Improvement, Evidence-based decision-making and Relationship management* on ISO 9001:2015 and the dependent constructs were *Operational Performance and Business Performances*. The Operational Performance will be explained by; process effectiveness, efficiency and high Productivity. Business Performance was explained by; Company's ability to have access to new domestic and foreign markets, competitive advantage, market share, sales, profits and unit cost of manufacturing.

3.6 Reliability and Validity of Data

3.6.1 Reliability of Data

The reliability test is an important instrument to measure the degree of consistency of an attribute which is supposed to measure. As stated by Mahon and Yarcheski (2002) the less variation of the instruments produces in repeated measurements of an attribute the higher its reliability. Reliability

can be equated with the stability, consistency, or dependability of a measuring tool. Cronbach's alpha is one of the most commonly accepted measures of reliability. It measures the internal consistency of the items in a scale. It indicates that the extent to which the items in a questionnaire are related to each other. It also indicates that whether a scale is one-dimensional or multidimensional. The normal range of Cronbach's coefficient alpha value ranges between 0- 1 and the higher values reflects a higher degree of internal consistency. Different authors accept different values of this test in order to achieve internal reliability, but the most commonly accepted value is 0.70 as it should be equal to or higher than to reach internal reliability (Hair et al., 2003). As can be seen on the table below the data collected in this study was reliable.

Table 3.1: Cronbach's Alpha Result

Variables	Cronbach's Alpha	N of Items
Customer focus	.728	5
Leadership	.718	5
Engagement of people	.713	5
Process approach	.736	5
Improvement	.712	5
Evidence-based decision-making	.907	5
Relationship management	.818	5
Organizational performance	.848	9

Source: Result from data collected, 2020

3.6.2 Validity of Data

According to (Saunders, 2003), validity is concerned with whether the findings are really about what they appear to be about. It is the accuracy and meaningfulness of inferences, which are based on the research results. Since the respondents were participated in voluntarily basis, questionnaires had no ambiguity, language barriers were avoided. All of the above stated factors indicated that the research results were valid.

- Data was collected from reliable sources.
- Survey question were made based on literature review and frame of reference to ensure result validity.

- Analysis was made using different statistical tools.

3.7 Ethical consideration

In this research, the case company's confidential information was kept as per the guide lines put in the questionnaire and there were no disclosure without the consent of the company. The originality of the research was maintained as well as all facts and previous research findings were acknowledged with the respective authors.

Chapter Four: RESULTS AND DISCUSSION

This chapter of the research paper incorporates four parts. The first part discusses about the sample characteristics of the respondents is presented using descriptive statistic. Then correlation analyses and regression analysis, as well as discussion of the result presented accordingly.

4.1 Sample and Response rate

After distributing 80 questionnaires for customers, a total of 60 responded to questionnaires were retrieved, which is 75% of the total distributed questionnaires. After checking the retrieved questionnaires, the 55 questionnaires were valid for statistical analysis. Ultimately, 91.67% of the total questionnaires distributed entered the analysis and the rest 8.33% were not analyzed.

4.2 Demographic Analysis of Respondents

Table 4.1: Gender of respondents

Gender	Frequency	Percent
Male	42	70
Female	13	30
Total	55	100.0

Source: Result from data collected, 2020

A total of 55 questionnaires were completed and used in data analysis representing 91.67 percent of response rate. In order to generally describe the characteristics of the respondent; gender, highest qualification and experience were part of the general information questions. Majority of the respondents were males which were 70 % and female respondents were 30%.

Table 4.2 Highest qualification of the respondents

Source: Result from data collected, 2020

Highest qualification					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Diploma	9	11.3	16.4	16.4
	BSC/BA	40	50.0	72.7	89.1
	Masters and above	6	7.5	10.9	100.0

	Total	55	68.8	100.0	
Missing	System	25	31.3		
Total		80	100.0		

The educational level of respondents' shows that 16.4% of them are diploma holder, 72.7% of them are degree holders and the remaining 10.9% are masters & above level. This implies that, among the total number of respondents, most of them are degree holders in this regards.

4.3 Descriptive Analysis of variables

Descriptive statistics were used to describe the basic features of the data in a study. It provides simple summaries about the sample and the measures. The researcher used descriptive Statistics to present quantitative descriptions in a manageable form; each descriptive statistic reduces lots of data into a simpler summary. The mean scores have been computed for all the five customer focus variables by equally weighting the mean scores of all the items under each dimension. Respondents were asked to rate their insight / observation on a five-point Likert type scale ranging from 1 being strongly disagree to 5 strongly agree for customer focus dimensions. The result is presented in the Table below.

Table 4.3 Descriptive statistics of customer focus

Descriptive Statistics			
	N	Mean	Std. Deviation
Customers provide feedback on quality and delivery performance	55	4.55	.899
The organization measures customer satisfaction of external customer	55	4.11	1.048
Customer requirements are used as the basis for quality in your organization	55	3.96	.881
Employees are aware about your customers	55	3.73	.622
Customers visit your plant	55	3.31	.742
Valid N	55		

Source: Result from data collected, 2020

As it can be seen from table 4.3 above the mean score values of customer focus ranges between 4.55 (mean score value of customers provide feedback on quality and delivery performance) with standard

deviation of .899 and 3.31 (mean score value of customers visit your plant) with standard deviation of .742. From these findings customer’s feedback on quality and delivery performance has the highest mean score which implicates quality and delivery performance as an important determinant in customer satisfaction.

Table 4.4 Descriptive statistics of leadership

Descriptive Statistics			
	N	Mean	Std. Deviation
The top management (i.e. top executives and major department heads) assumes responsibility for quality performance	55	4.36	1.043
major department heads participate in the quality improvement process	55	4.20	.931
“Quality issues” are reviewed in top management meetings	55	4.02	.828
top management views quality performance as a major objective	55	3.80	.678
quality policy is developed by top management	55	3.36	.969
Valid N	55		

Source: Result from data collected, 2020

Descriptive statistics especially means, and standard deviation was used to evaluate the effect of leadership on organizational performance. As it can be seen from table 4.4 above the mean score values of leadership ranges between 4.36 (mean score value of the top management (i.e. top executives and major department heads) assumes responsibility for quality performance) with standard deviation of 1.043 and 3.36 (mean score value of quality policy is developed by top management) with standard deviation of .969. From these findings top management assumes responsibility for quality performance has the highest mean score which implicates that top management commitment to responsibly attain quality performance is a highest determinant in leadership.

Table 4.5 Descriptive statistics of engagement of people

Descriptive statistics			
	N	Mean	Std. Deviation
The organization form teams to solve problems	55	4.31	1.086
The organization provides feedback to employees on their quality performance	55	4.16	.898

Employees are also involved in quality decisions in your organization	55	3.98	.707
Supervisors encourage teamwork in your organization	55	3.71	.599
Quality-related training is given to managers and supervisors in your organization	55	3.53	.690
Valid N	55		

Source: Result from data collected, 2020

As it can be seen from table 4.5 above the mean score values of engagement of people ranges between 4.31 (mean score value of the organization form teams to solve problems) with standard deviation of 1.086 and 3.53 (mean score value of Quality-related training is given to managers and supervisors in your organization) with standard deviation of 0.690. From these findings Quality-related training is given to managers and supervisors in the organization has relatively the lowest mean score which indicates that trainings are not provided for managers and supervisors at the expected level.

Table 4.6 Descriptive statistics of process approach

Descriptive Statistics			
	N	Mean	Std. Deviation
Processes in the organization are designed to minimize the chances of errors	55	4.60	.852
The organization meets daily production schedule	55	4.29	.896
In the organization, production is stopped immediately for quality problems	55	3.95	.826
The organization provides clear process instructions	55	3.85	.848
The organization has adopted statistical process control	55	3.49	.717
Valid N	55		

Source: Result from data collected, 2020

Under process approach five statements were used to test the effect of process approach, as can be seen from table 4.6 above the mean score values of process approach ranges between 4.60 (mean score value of processes in the organization are designed to minimize the chances of errors) with standard deviation of 0.852 and 3.49 (mean score value of the organization has adopted statistical process control) with standard deviation of 0.717. From the results presented above one can understand that One Water Company designed processes to minimize chances of errors and meets

daily production schedules. Besides productions are stooped as quality problems are detected and there is also a clear process instruction.

Table 4.7 Descriptive statistics of Improvement

Descriptive Statistics			
	N	Mean	Std. Deviation
Continual improvement practiced in your organization is based on the PDCA cycle.	55	4.45	1.068
Top management is committed to continual improvement.	55	4.36	.729
There is emphasis of continual improvement of all operations and at all levels	55	3.91	1.059
The organization manages useful data pertaining to quality (such as error rates, defect rates, scrap, defects, cost of quality, etc.)	55	3.76	.719
In the organization, data are accessible to managers, supervisors, and engineers	55	3.47	.790
Valid N	55		

Source: Result from data collected, 2020

As it can be seen from table 4.7 above the mean score values of improvement ranges between 4.45 (mean score value of the organization manages useful data pertaining to quality) with standard deviation of 1.068 and 3.47 (mean score value of emphasis of continual improvement of all operations and at all levels) with standard deviation of .790. From these findings presence of emphasis of continual improvement of all operations and at all levels has relatively the lowest mean score which indicates that the organization does not give equal emphasis on all operations and at all levels regarding continuous improvement.

Table 4.8 Descriptive statistics of evidence-based decision making

Descriptive Statistics			
	N	Mean	Std. Deviation
The organization complies and record useful data pertaining to quality	55	4.67	.640
In the organization, data are accessible to managers, supervisors, and engineers	55	4.42	.738
The organization manages data timely	55	4.02	.652
The organization use data for managing quality	55	3.69	.742
The organization use data for evaluating supervisory as well as managerial performance	55	3.42	.809
Valid N	55		

Source: Result from data collected, 2020

As shown in the table above, evidence-based decision making was measured by five items the mean score of which ranged between respondents who said the organization complies and record useful data pertaining to quality and respondents who believed the organization use data for evaluating supervisory as well as managerial performance with a mean score of 4.67 and 3.42 respectively. The overall mean score of evidence-based decision making was calculated to be 4.04 with standard deviation of .61. Therefore, from the analyzed data it is possible to say that employees perceive that One Water Company compiles and records useful data and it is accessible to managers but it does not use the data for evaluating managerial and supervisory performance as expected.

Table 4.9 Descriptive statistics of relationship management

Descriptive Statistics			
	N	Mean	Std. Deviation
The organization believes in long-term relationships with suppliers and takes effort for the same	55	4.67	.668
The organization trusts on a small number of high-quality suppliers	55	4.40	.784
The organization evaluates suppliers based on parameters related to quality, delivery and price	55	4.18	.641
The organization has a systematic supplier rating system	55	3.82	.669
The organization is working with suppliers to ensure that expectations met	55	3.53	.790
Valid N	55		

Source: Result from data collected, 2020

As shown in the table above, relationship management was measured by five items the mean score of which ranged between respondents. The output of the sample statistics shows that the organization believes in long-term relationships with suppliers and takes effort for the same 4.67 and the organization is working with suppliers to ensure that expectations met of 3.53. The overall mean score of Relationship Management was calculated to be (Mean=4.12) with the standard deviation (0.54) which is the highest among the other dimensions.

Table 4.10 Descriptive statistics of all variables

Descriptive Statistics			
	N	Overall Mean	Std. Deviation
Customer Focus	55	3.93	0.59
Leadership	55	3.95	0.62
Engagement of People	55	3.94	0.56
Process Approach	55	4.04	0.58
Improvement	55	4.00	0.60
Evidence-Based Decision Making	55	4.04	0.61
Relationship Management	55	4.12	0.54
Organizational Performance (Dependent variable)	55	4.14	0.43
Valid N	55		

Source: Result from data collected, 2020

4.4 Correlation Analysis

The correlation between independent and dependent variables was analyzed using Statistical Package for Social Science (SPSS). The below correlation matrix shows the correlation between variables in the questionnaire with a Pearson Correlation coefficient. Table 4.11 shows the relationship among the variables considered in the questionnaire.

Bivariate Correlation tests whether the relationship between two variables is linear (as one variable increases, the other also increases or as one variable increases, the other variable decreases). In addition to this the Pearson product moment correlation coefficient is a measure of the linear correlation between two variables X and Y, giving a value between +1 and -1 inclusive, where 1 is total positive correlation, 0 is no correlation, and -1 is total negative correlation (Pedhazur, 1982). To furthermore explain the Pearson's correlation; when Pearson's r is close to 1, this means that there is a strong relationship between the two variables. This means that changes in one variable are strongly correlated with changes in the second variable. When Pearson's r is close to 0, this means that there is a weak relationship between the two variables. This means that changes in one variable are not correlated with changes in the second variable (Malhotra 2007). The classification of the correlation coefficient (r) is as follows: - 0.1 – 0.29 is weak; 0.3 – 0.49 is moderate; and > 0.5 is strong (Field, 2005). On the other hand, when Pearson's r is positive (+), this means that as one variable increases

in value, the second variable also increases in value. Similarly, as one variable decreases in value, the second variable also decreases in value. This is called a positive correlation. When Pearson's r is negative (-), this means that as one variable increases in value, the second variable decreases in value. This is called a negative correlation (Field, 2005).

Sig (2-Tailed) value: -This value tells that whether there is a statistically significant correlation between two variables or not. If the Sig (2-Tailed) value is greater than 0.05, the researcher can conclude that there is no statistically significant correlation between two variables. That means, increases or decreases in one variable do not significantly relate to increases or decreases in the second variable. If the Sig (2-Tailed) value is less than or equal to .05, the researcher can conclude that there is a statistically significant correlation between two variables. That means, increases or decreases in one variable do significantly relate to increases or decreases in the second variable (Pedhazur, 1982).

Table 4.11 Pearson Correlation Matrix

Correlations									
		CF	LP	EP	PA	IP	ED	RM	OP
CF (Customer Focus)	Pearson Correlation	1	.480	.622	.572	.434	.649	.548	.759
	Sig. (2-tailed)		.000	.000	.000	.001	.000	.000	.000
	N	55	55	55	55	55	55	55	55
LP (Leadership)	Pearson Correlation	.480	1	.399	.554	.427	.595	.508	.676
	Sig. (2-tailed)	.000		.003	.000	.001	.000	.000	.000
	N	55	55	55	55	55	55	55	55
EP (Engagement of People)	Pearson Correlation	.622	.399	1	.727	.527	.684	.636	.787
	Sig. (2-tailed)	.000	.003		.000	.000	.000	.000	.000
	N	55	55	55	55	55	55	55	55
PA (Process Approach)	Pearson Correlation	.572	.554	.727	1	.500	.787	.779	.853
	Sig. (2-tailed)	.000	.000	.000		.000	.000	.000	.000
	N	55	55	55	55	55	55	55	55
IP (Improvement)	Pearson Correlation	.434	.427	.527	.500	1	.633	.589	.688
	Sig. (2-tailed)	.001	.001	.000	.000		.000	.000	.000
	N	55	55	55	55	55	55	55	55
ED (Evidence-Based Decision-Making)	Pearson Correlation	.649	.595	.684	.787	.633	1	.880	.920
	Sig. (2-tailed)	.000	.000	.000	.000	.000		.000	.000
	N	55	55	55	55	55	55	55	55
RM (Relationship Management)	Pearson Correlation	.548	.508	.636	.779	.589	.880	1	.873
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000		.000
	N	55	55	55	55	55	55	55	55
OP (Organizational Performance)	Pearson Correlation	.759	.676	.787	.853	.688	.920	.873	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	
	N	55	55	55	55	55	55	55	55
**. Correlation is significant at the 0.01 level (2-tailed).									

Source: Result from data collected, 2020

The above correlation matrix indicates that QMS principle variables were positively and strongly correlated with organizational performance. The highest strong coefficient of correlation in this research is between Evidence-Based Decision Making and organizational performance ($r = 0.920$, $n = 55$, $p \leq 0.01$). It connotes that there is a significant positive relationship between Evidence-Based Decision Making and organizational performance.

The second highest strong coefficient of correlation is between relationship management variable and organizational performance ($r = 0.873$, $n = 55$, $p \leq 0.01$). Hence, there is a significant positive relationship between relationship management and organizational performance. The third highest strong coefficient of correlation is between process approach variable and organizational performance ($r = 0.853$, $n = 55$, $p \leq 0.01$). Hence, there is a significant positive relationship between process approach and organizational performance. The fourth highest strong coefficient of correlation is between Engagement of People variable and organizational performance ($r = 0.787$, $n = 55$, $p \leq 0.01$). Hence, there is a significant positive relationship between Engagement of People and Organizational Performance.

The fifth highest strong coefficient of correlation is between Customer Focus variable and Organizational Performance ($r = 0.759$, $n = 55$, $p \leq 0.01$). Hence, there is a significant positive relationship between Customer Focus and Organizational Performance. The sixth highest strong coefficient of correlation is between Improvement variable and Organizational Performance ($r = 0.688$, $n = 55$, $p \leq 0.01$). Hence, there is a significant positive relationship between Improvement and Organizational Performance. The lowest strong coefficient of correlation is between Leadership variable and Organizational Performance ($r = 0.676$, $n = 55$, $p \leq 0.01$). Hence, there is a significant positive relationship between Leadership and Organizational Performance. Generally, the above correlation matrix shows that all independent variables are positively and strongly correlate with the dependent variable.

On the above correlation table, the numbers next to Sig. (2-tailed) shows that all are (.000). The convention implies that if this value is less than .05, then the correlation is considered to be significant (meaning that the researcher can be 95% confident that the relationship between variables is not due to chance). The researcher can connote that there is a significant correlation between QMS principles or pillars and overall organizational performance.

4.5 Regression Analysis of the variables

Regression is a technique used to predict the value of a dependent variable using one or more independent variables (Albaum, 1997). Regression analysis is a statistical tool for the investigation of relationships between variables. Usually, the investigator seeks to ascertain the causal effect of one variable upon another. To explore such issues, the investigator assembles data on the underlying variables of interest and employs regression to estimate the quantitative effect of the causal variables upon the variable that he/she influences. The investigator also typically assesses the “statistical significance” of the estimated relationships, that is, the degree of confidence that the true relationship is close to the estimated relationship (Malhotra, 2007).

4.5.1 Linear Regression Analysis

Meeting the assumptions of regression analysis is necessary to confirm that the obtained data truly represented the sample and that researcher has obtained the best results (Hair et al., 1998).

4.5.1.1 Multi-Collinearity

One should check for the problem of multicollinearity which is present if there are high correlations between some of the independent variables. The study checks this with the Variance Inflation Factor (VIF) which calculates the influence of correlations among independent variables on the precision of regression estimates. The VIF factor should not exceed 10 and should ideally be close to one. Tolerance is an indicator of how much of the variability of the specified independent variable is not explained by the other independent variables in the model and is calculated using the formula $1-R^2$ for each variable. If this value is very small (less than 0.10), it indicates that the multiple correlation with other variables is high, suggesting the possibility of multicollinearity. A good regression model must not have a strong correlation among its independent variables or must not have a multicollinearity problem and that the value of variance inflation factor (VIF) must have a value between 1 and 10 and the tolerance level should be more than 0.2 (SPSS Inc,2007).

Table 4.12 Multicollinearity Test

Coefficients ^a			
Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	Customer Focus	.500	2.001
	Leadership	.591	1.692
	Engagement of People	.377	2.651
	Process Approach	.272	3.682
	Improvement	.567	1.764
	Evidence-Based Decision making	.254	6.496
	Relationship Management	.200	4.993
a. Dependent Variable: Organizational Performance			

Source: Result from data collected, 2020

As shown on the table above, based on the coefficients output (Collinearity statistics), the obtained variance inflation factor (VIF) for all independent variables was found to be between 1 and 10, which means that there is no multicollinearity problem.

4.5.1.2 Homoscedasticity

Homoscedasticity is an assumption in regression analysis that the residuals at each level of the predictor variables have similar variances. That is, at each point along any predictor variable, the spread of residuals should be fairly constant. For a basic analysis the researcher first plot ZRESID (Y-axis) against ZPRED (X-axis) on SPSS because this scatter plot is useful to determine whether the assumptions of random errors and homoscedasticity have been met. The graph of ZRESID and ZPRED should look like a random array of dots evenly dispersed around zero. If this graph funnels out, then the chances are that there is heteroscedasticity in the data. If there is any sort of curve in this graph, then the chances are that the data have broken the assumption of linearity. As can be seen in the scatter plot below the data is in accordance with the assumptions of linearity.

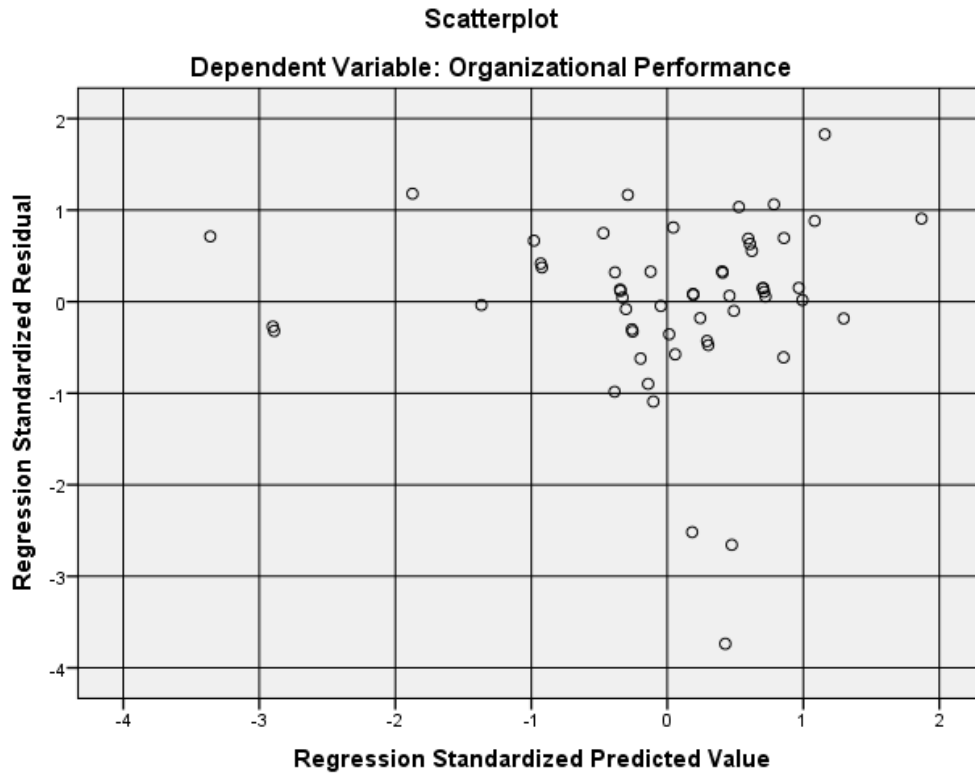


Figure 4.1 Scatter Plot
Source: Result from data collected, 2020

4.5.1.3 Linearity

The linearity of the relationship between the dependent and independent variable represented the degree to which the change in the dependent variable is associated with the independent variable (Hair et al., 1998). In a simple sense, linear models predict values falling in a straight line by having a constant unit change (slope) of the dependent variable for a constant unit change of the independent variable (Hair et al., 1998). The study checks for patterns in scatter plots of QMS principles against organizational performance whether they have linear relation and the assumption have met. From the graph above it can be seen that organizational performance and QMS principles have linear relation.

4.5.1.4 Independent errors

For any two observations the residual terms should be uncorrelated (or independent). This eventuality is sometimes described as a lack of autocorrelation. This assumption can be tested with the Durbin–Watson test, which tests for serial correlations between errors. Specifically, it tests whether adjacent

residuals are correlated. The test statistic can vary between 0 and 4 with a value of 2 meaning that the residuals are uncorrelated (Field, 2005). In the Table 4.15 Durbin–Watson test result value is 1.675, which is so close to 2 meaning that the residuals are uncorrelated (or independent).

4.6 Multiple Linear Regression Analysis

Linear regression estimates the coefficients of the linear equation, involving one or more independent variables that best predict the value of the dependent variable (Field, 2005). Multiple linear regression was conducted in order to determine the explanatory power of the independent variables (Customer Focus, Leadership, Engagement of People, Process Approach, Improvement, Evidence-Based Decision making, Relationship Management) to identify the relationship and to determine the most dominant variables that influenced the organizational performance. The significance level of 0.05 with 95% confidence interval was used. The reason for using multiple regression analysis was to assess the direct effect of QMS variables on the overall organizational performance. The table 4.13 shows the model summary of the regression analysis.

Table 4.13 Model Summary for organizational performance

Model Summary ^b										
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.983 ^a	.966	.961	.08433	.966	193.035	7	47	.000	1.789
a. Predictors: (Constant), Relationship Management, Leadership, Customer Focus, Improvement, Engagement of People, Process Approach, Evidence-Based Decision Making										
b. Dependent Variable: Organizational Performance										

Source: Result from data collected, 2020

The above regression model presents how much of the variance in the measure of Organizational Performance is explained by the underlying QMS variables. Furthermore, to explain R, R², adjusted R² and Durbin–Watson in detail: -

R – Indicates the value of the multiple correlation coefficient between the predictors and the outcome, with a range from 0 to 1, a larger value indicating a larger correlation and 1 representing an equation that perfectly predict the observed value (Pedhazur, 1982). From the model summary (R = 0.983) indicates that the linear combination of the seven independent variables (Customer Focus, Leadership, Engagement of People, Process Approach, Improvement, Evidence-Based Decision

making, Relationship Management) strongly predict the dependent variable (organizational performance).

R Square (R^2) – indicates the proportion of variance that can be explained in the dependent variable by the linear combination of the independent variables. In another word R^2 is a measure of how much of the variability in the outcome is accounted for by the predictors. The values of R^2 also range from 0 to 1 (Pedhazur, 1982). The linear combination of QMS variables or predictors' i.e Customer Focus, Leadership, Engagement of People, Process Approach, Improvement, Evidence-Based Decision making, Relationship Management explains 96.6 % of the variance in organizational performance and the remaining 3.4 % is explained by extraneous variables, which have not been included in this regression model.

Adjusted R Square (R^2) – The adjusted R2 gives some idea of how well the model generalizes and its value to be the same, or very close to the value of R^2 . That means it adjusts the value of R^2 to more accurately represent the population under study (Pedhazur, 1982). The difference for the final model is small (in fact the difference between R^2 and Adjusted R^2 is $(0.966 - 0.9661 = 0.005)$ which is about 0.5%. This shrinkage means that if the model were derived from the population rather than a sample it would account for approximately 0.5% less variance in the outcome.

Durbin-Watson- the Durbin–Watson statistic expresses that whether the assumption of independent errors is acceptable or not. As the conservative rule suggested that, values less than 1 or greater than 3 should definitely raise alarm bells (Field, 2005). So that the desirable result is when the value is closer to 2, and for this data the value is 1.789, which is so close to 2 that the assumption has almost certainly been met.

Table 4.14: ANOVA of Organizational Performance

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	9.609	7	1.373	193.035	.000 ^b
	Residual	.334	47	.007		
	Total	9.943	54			
a. Dependent Variable: Organizational Performance						
b. Predictors: (Constant), Relationship Management, Leadership, Customer Focus, Improvement, Engagement of People, Process Approach, Evidence-Based Decision Making						

Source: Result from data collected, 2020

The next part of the SPSS output reports an analysis of variance (ANOVA). The summary table shows the various sum of squares described in the table above and the degrees of freedom associated with each. From these two values, the average sums of squares (the mean squares) can be calculated by dividing the sums of squares by the associated degrees of freedom. The most important part of the table is the F-ratio, which is a test of the null hypothesis that the regression coefficients are all equal to zero. Put in another way, this F statistics tests weather the R^2 proportion of variance in the dependent variables accounted for by the predictors is zero and the table also shows the associated significance value that F-ratio (Field,2007). For this data, F is 193.035, which is significant at $P<.0001$ (because the value in the column labeled *Sig.* is less than 0.001). This result tells us that there is less than a 0.1% chance that an F-ratio this large would happen. If the null hypothesis proposed about F- ratio were true. Therefore, we can conclude that our regression model results in significantly better prediction of organizational performance and that the regression model overall predicts organizational performance significantly well.

The regression coefficient

This study intends to identify the most contributing independent variable in the prediction of the dependent variable. Thus, the strength of each predictor (independent variable) influencing the criterion (dependent variable) can be investigated via standardized Beta coefficient.

The regression coefficient explains the average amount of change in the dependent variable that is caused by a unit change in the independent variable. The larger value of Beta coefficient an independent variable has, brings the more support to the independent variable as the more important determinant in predicting the dependent variable.

Table 4.15: Summary of Coefficient on organizational performance

Coefficients ^a								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	.600	.108		5.552	.000	.383	.817
	Customer Focus	.145	.028	.199	5.264	.000	.090	.200
	Leadership	.102	.024	.146	4.203	.000	.053	.151

Engagement of People	.110	.034	.142	3.266	.002	.042	.177
Process Approach	.114	.038	.154	3.004	.004	.038	.191
Improvement	.088	.026	.123	3.449	.001	.037	.140
Evidence-Based Decision Making	.153	.048	.220	3.221	.002	.058	.249
Relationship Management	.169	.047	.214	3.577	.001	.074	.264
a. Dependent Variable: Organizational Performance							

Source: Result from data collected, 2020

The marked column B is the value for the intercept (a) in the regression equation on the first row, labeled (constant). The numbers below the column “beta” are the values for the regression coefficients for Customer Focus, Leadership, Engagement of People, Process Approach, Improvement, Evidence-Based Decision making, Relationship Management. In the multiple regression, this standardized regression coefficient Bate (β) is useful, because it allows you to compare the relative strength of each independent variable's relationship with the dependent variable (Pedhazur, 1982).

The above coefficient table shows the constant beta value (β) and p-value of the variables to examine the significance of the hypothesis. The significance level of each variable (P-value) is: .000, .000, .000, .002, .004, .001, .002, .001 and their standardized coefficients are .199, .146, .142, .154, .123, .220 & .214 respectively. The p-value of all the independent variables is below 0.05 which implies all have a significant relationship with the dependent variable (organizational performance).

Based on these results, the regression equation that predicts overall organizational performance customer satisfaction based on the linear combination of Customer Focus, Leadership, Engagement of People, Process Approach, Improvement, Evidence-Based Decision making, Relationship Management is as follows:

Leadership results in 14.6 percent increase in Organizational performance, others factors remaining constant. Thus, the hypothesis is accepted.

Hypothesis 3: There is a significant and positive relationship between Engagement of People and Organizational Performance in the case of ONE water manufacturing.

The third hypothesis which states that there is a significant and positive relation between Engagement of People and Organizational performance is also supported because the P-value of Engagement of People which is ($P < 0.05$; $\beta = 0.142$) hence Engagement of People has a significant and positive relationship with Organizational performance, the value of beta ($\beta = 0.142$) implies that a one percent increase in Engagement of People results in 14.2 percent increase in Organizational performance, others factors remaining constant. Thus, the hypothesis is accepted.

Hypothesis 4: There is a significant and positive relationship between Process Approach and Organizational Performance in the case of ONE water manufacturing.

The fourth hypothesis which states that there is a significant and positive relation between Process Approach and Organizational performance is also supported because the P-value of Process Approach which is ($P < 0.05$; $\beta = 0.154$) hence Process Approach has a significant and positive relationship with Organizational performance, the value of beta ($\beta = 0.154$) implies that a one percent increase in Process Approach results in 15.4 percent increase in Organizational performance, others factors remaining constant. Thus, the hypothesis is accepted.

Hypothesis 5: There is a significant and positive relationship between Improvement and Organizational Performance in the case of ONE water manufacturing.

The sixth hypothesis which states that there is a significant and positive relation between Improvement and Organizational performance is also supported because the P-value of Improvement which is ($P < 0.05$; $\beta = 0.123$) hence Improvement has a significant and positive relationship with Organizational performance, the value of beta ($\beta = 0.123$) implies that a one percent increase in Improvement results in 12.3 percent increase in Organizational performance, others factors remaining constant. Thus, the hypothesis is accepted.

Hypothesis 6: There is a significant and positive relationship between Evidence-Based Decision making and Organizational Performance in the case of ONE water manufacturing.

The fifth hypothesis which states that there is a significant and positive relation between Evidence-Based Decision making and Organizational performance is also supported because the P-value of Improvement which is ($P < 0.05$; $\beta = 0.220$) hence Evidence-Based Decision making has a significant and positive relationship with Organizational performance, the value of beta ($\beta = 0.220$) implies that a one percent increase in Evidence-Based Decision making results in 20 percent increase in Organizational performance, others factors remaining constant. Thus, the hypothesis is accepted.

Hypothesis 7: There is a significant and positive relationship between Relationship Management and Organizational Performance in the case of ONE water manufacturing.

Finally there is a significant and positive relation between Relationship Management and Organizational performance is also supported because the P-value of Relationship Management which is ($P < 0.05$; $\beta = 0.214$) hence Relationship Management has a significant and positive relationship with Organizational performance, the value of beta ($\beta = 0.214$) implies that a one percent increase in Relationship Management results in 21.4 percent increase in Organizational performance, others factors remaining constant. Thus, the hypothesis is accepted.

4.8 Interview Question Analysis

Including the case company's top management members, there were 8 different people from the middle management and experts as key informants which were interviewed for the purpose of this study. The questions were 8 as depicted in Appendix B.

According to the interviewees, the reason why the company implemented the Quality management system was to increase the quality of the product, reduce defects, increase quality information communication, increase market performance and boost customer satisfaction. The top management members were all had the ambition to achieve the reputability of the company there by increasing the sales and market performance of the company through the implementation of the management system.

For the question, "How long you take to implement the QMS in Your Company?" the answer of all the interviewees was similar and it was nearly one and half years. With this understanding, the interviewer has also asked them the mandatory procedures that should be followed in the course of implementing ISO 9001:2015 QMS. Here, there were some variations to explain the procedures as perceived by their roles and responsibility and deep understanding of the subject matter. From their

reply, the major process which were mentioned by all of the interviewees were, awareness creation, gap analysis, document preparation, putting the document into action (implementation), recording, analyzing and reporting to the management and conducting surveillance, internal, and external quality audits and registration for certification and acquiring ISO 9001:2015 QMS certificate.

The interviewees' perception on the benefits of the implementation of the ISO 9001:2015 QMS were mainly the increase on the sales performance of the company. They had also perception on the improvement of organizational performance in terms of business performance and operational performance. In implementing the QMS principles, there was some misunderstanding among the interviewees. Five of them mainly the top management members and quality experts and heads replied that the implementation of the QMS was based on the ISO 9001:2015 QMS conceptual model developed by the ISO organization and the framework was perceived to be relevant to come up with the expected level of achievements from the system implementation. The principles are imbedded in the conceptual model of the ISO 9001:2015 QMS. Starting from awareness creation to that of being certified and maintaining the implementation status, the principles need to be implemented adequately so that continuous performance improvement would be experienced.

The experience of the interviewees on the steps to be followed while implementing ISO 9001:2015 QMS was learnt by asking them the question "What steps have you taken to implement quality management systems in your organization?" there reply was more or less similar among them. After the commitment from the management, there were subsequent awareness creation programs at the different level of the organization, beginning from the top management, then middle and lower management, experts and employees. Conducting gap analysis and preparation of the quality manual, quality procedures and specifications took the subsequent step. Implementation and follow-up of the implementation process, reporting the implementation performance, and finally, auditing and get certified were the major implementation steps in the process.

When the interviewees asked the question "What steps have you taken to implement quality management systems in your organization?" almost all of them replied that 'yes we do have.' The QMS manual was the master guiding document containing, quality objective, quality policy, quality procedures, instructions and specifications and the QMS map which depicted the processes and their interaction leading to customer satisfaction.

The interviewees were also asked to identify their understanding about how they could identify the existing gap from the standards requirements. Their response for the question “How do you conduct the required gap analysis of your Organization?” were also similar. They first identified the process and resources, identify criteria and specific key performance indicators, and made sure whether the appropriate measurement, monitoring, analyzing and controlling performance tools and techniques were in place or not. These would indicate that they have a relatively good understanding on how to conduct gap analysis.

On the exact process of certification the interviewees also asked “What exactly is the certification process in accordance with ISO 9001?” majority (6 out of 8) of them said that the certification process comprises preliminary audit, preliminary assessment, gap analysis, certificate audit and recertification.

4.9 Discussion of the Result

This section discusses the main findings of the research and makes comparisons with findings of previous researches.

The current research finding show that there is significant and positive relationship between customer focus and overall organizational performance supports Al-Rawahi & Bashir (2011) findings that the major reasons why organizations need to implement ISO quality management systems include the motive to comply with customer requirements, meet government demands, improve marketing internationally, improve product/service quality, improve productivity and reduce costs. Customer focus approach is evaluated based on measuring customer requirements, making it a basis for quality, let employees be aware of the customers, collect customers’ feedback and let them visit your plant.

The finding of the current research that there is a significant and positive relationship between Leadership and overall organizational performance supports Al-abedallat, (2012) findings that a positive relationship exists between the QM practices and organizational performance specifically QMS with quality management dimensions (leadership, strategic planning, customer focus, and employee relation). The strength of this relationship with leadership, measured in terms of top management assuming responsibility for quality performance, participate in the quality improvement

process, review “Quality issues” in meetings, view quality performance as a major objective develop quality policy themselves.

The finding that there is significant and positive relationship between engagement of people and overall organizational performance also supports ISO, (2008) which states that better involvement of people help to furthering the organization's objectives and people being accountable for their own performance and eager to participate in and contribute to continual improvement. The relationship between engagement of people and overall organizational performance which is measured in terms of forming teams, providing feedback to employees on their quality performance, involve employees in quality decisions and supervise & encourage teamwork.

The finding that there is significant and positive relationship between process approach and overall organizational performance also supports ISO, (2008) which states that “Process approach” is the “application of a system of processes within an organization, together with the identification and interactions of these processes, and their management to produce the desired outcome”. The relationship between process approach and overall organizational performance which is measured in terms of designing processes to minimize the chances of errors, maintain daily production schedule, providing clear process instructions, stopping production immediately for quality problems and adopting statistical process control.

The finding that there is significant and positive relationship between improvement and overall organizational performance also supports Jang and Lin (2008) findings that efficient and effective management systems would able to create better quality products and services, assure cost reasonableness , minimize defects rates and enhance customer satisfaction by applying the concept of continuous improvement, The relationship between improvement and overall organizational performance which is measured in terms of conducting internal audits, control of Non-conforming products, practice of PDCA cycle and finally top management commitment to continual improvement.

The finding that there is significant and positive relationship between Evidence-Based decision making and overall organizational performance also supports ISO (2012) evidence based and data driven decision-making, promotes employee learning and development, increases the dissemination

of knowledge among employees and their commitment to quality and help to decrease process variation, scrap and rework. The relationship between Evidence-Based decision making and overall organizational performance which is measured in terms of compiling and recording useful data pertaining to quality, making data accessible to managers, supervisors, and engineers, managing data timely using data for managing quality and finally using data for evaluating supervisory as well as managerial performance.

The finding of the current research that there is significant and positive relationship between Relationship management and overall organizational performance also supports Dr. Robert Gitau (2016) findings that there is a strong linking positive relationship between supplier relationship management and organizational performance which clearly acknowledged the fact that organizational performance depended on good supplier relationship management. The relationship between Relationship management and overall organizational performance which is measured in terms of believing in long-term relationships with suppliers & takes effort for the same, trusting on a small number of high-quality suppliers, having a systematic supplier rating system evaluating suppliers based on parameters related to quality, delivery and price.

UNIT FIVE: SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

In this chapter of the study, summary of findings, conclusion and recommendations are stated. The purpose of this study was to examine the effect of implementation of QMS on overall organizational performance. The factors that affect the overall organizational performance are Customer Focus, Leadership, Engagement of People, Process Approach, Improvement, Evidence-Based Decision making, Relationship Management.

5.1 Summary of Major Findings

The study has investigated about the effect of implementation of QMS on overall organizational performance. Based on this, the overall findings of the research summarized and concluded as follows: -

- The average descriptive statistics for organizational performance (dependent variable) result has shown that, the mean score was above the midpoint (3.00) i.e. 4.13 of the likert scale, which means respondents responded that overall organizational performance, came from the company's Implemented QMS variables. Namely Customer Focus, Leadership, Engagement of People, Process Approach, Improvement, Evidence-Based Decision making, Relationship Management were accumulated above the midpoint & inclined to agree.
- The result of independent variable of descriptive statistics has shown that, the mean score of QMS variables i.e Customer Focus, Leadership, Engagement of People Customer Focus, Leadership, Engagement of People ,Process Approach, Improvement, Evidence-Based Decision making and Relationship Management has been 3.93, 3.95, 3.94, 4.04, 4.00, 4.04 & 4.12 respectively. The result indicated that, the highest mean score from the independent variable is 4.12 for relationship management. Therefore, the company had better long-term relationships, trustworthy small number of high-quality suppliers, systematic supplier rating system and evaluates suppliers based on parameters related to quality, delivery and price. The result also indicated that, the lowest mean score from the independent variable is 3.93 for

customer focus. Hence the company needs to strive to meet and go beyond customers' requirement.

- The correlation matrix indicates that the seven QMS variables: “Customer Focus, Leadership, Engagement of People Customer Focus, Leadership, Engagement of People, Process Approach, Improvement, Evidence-Based Decision making and Relationship Management” were positively and strongly correlated with overall organizational performance with interval & at 0.01 p-value 2tailed, by scoring a Pearson Correlation Coefficient “R-value” of .759**, .676**, .787**, .853**, .688**, .920** and .873**. In this case relatively Evidence-Based Decision making had a higher strong relationship with overall organizational performance ($r = 0.920$, $N = 55$, $p \leq 0.01$) than the other six independent variables.
- The last major finding of the regression analysis result is, the seven independent variables (Customer Focus, Leadership, Engagement of People Customer Focus, Leadership, Engagement of People, Process Approach, Improvement, Evidence-Based Decision making and Relationship Management) contribute to statistically significant level at ($p\text{-value} = 0.001$). The score of the coefficient correlation determination (R^2) is 0.966 which indicate, 96.6% of the variability of organizational performance was explained by the seven independent variables. The Beta weight score indicated that the effect of evidence-based decision making is greater than that of other QMS variables. The other variables that were not considered in this study contribute about 3.4% of the variability of overall customer satisfaction level. As the p- value of Customer Focus, Leadership, Engagement of People Customer Focus, Leadership, Engagement of People, Process Approach, Improvement, Evidence-Based Decision making and Relationship Management is less than 0.05, the researcher can accept the hypothesis and all the QMS dimensions.

5.2 Conclusion

The main purpose of the study was to investigate the effect of physical distribution service on overall organizational performance. The study was conducted on ONE water manufacturing. All selected QMS variables / dimensions have significant effect on organizational performance.

Concerning the demographics of the respondents, majority of the respondents were males which were 52.5 % and female respondents were 16.3%. Their education status has also shown that most of the respondents were degree holders.

Correlation analysis was conducted to analyze the relationships between variables the correlation matrix revealed that all coefficient of correlation independent variables were positive and strongly correlate with the dependent variable. Further regression analysis was also conducted and results revealed that all the three independent variables contribute to statistically significant level at (p-value = 0.001). The score of the coefficient correlation determination (R^2) is 0.966 which indicate, 96.6% of the variability of organizational performance was explained by the seven independent variables. The Beta weight score indicated that the effect of evidence-based decision making is greater than that of other QMS variables.

Based on hypothesis testing the p- value of Customer Focus, Leadership, Engagement of People Customer Focus, Leadership, Engagement of People, Process Approach, Improvement, Evidence-Based Decision making and Relationship Management is less than 0.05, thus the researcher can accept the hypothesis on all the QMS dimensions.

The company is currently in a position that it can perform its production processes in a better way than before and as a result achieve better organization performance in terms of business performance and operational performance.

5.3 Recommendation

There is a significant positive correlation between QMS dimensions and organizational performance. ISO quality management systems implementation has been considered as a means for the improvement of organization performance by several researchers. This research has also assured that the implementation of ISO 9001:2015 Quality management systems have positive effects on the organization performance as observed in the case company. The descriptive analysis has shown that the agreement of respondents that QMS practices improve the performance of the organization. The researcher forwards the following recommendations based on the research findings and the conclusion drawn in the previous sections.

Most of the mean score of the dependent & independent variable has been accumulated above the midpoint & inclined to agree. In order to have a progressive level of organizational performance, the company should have better practice of QMS principles to improve organizational performance by improving productivity, input material utilization, capability of producing variety of products, cycle

time, ability to have access to new domestic and foreign markets, Sales of the company product, Process variability and market share.

Though the findings of this research claims that implementation of QMS has positive effects on organizational performance of the case company but there is always room for improvement and the following are some recommendations that are derived from the interview results to improve the current practice of QMS principles in the case company.

- Prior to implementation of ISO QMS, companies should adequately train their employees about the process of implementation so as to acquire the necessary knowledge and experience.
- It is also necessary to gain the workforce commitment in the course of implementation. As a result, the companies implementing ISO QMS should motivate their employees with appropriate means of motivation scheme.
- To sustain this operational and production effectiveness it should further maintain the continuous assessment and consequent revision and update of the QMS implementation process.

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Appendix A

St. Mary's University
School of Graduate Studies
Institute of Quality and Productivity Management

Dear Respondents,

The purpose of this survey question is to collect data related to ISO 9001:2015 quality management system implementation and its effect on organizational performance for the completion of Master Degree from St. Mary's University. Your voluntary collaboration & accurate information is vital to complete this research.

The collected data will be used for academic purpose only and will be kept confidential.

Sincerely,

Name: Getenet Entele

Tel.:0911574230

A. Demographic Characteristics

Highest Qualification: Diploma <input type="checkbox"/>	BA/BSC <input type="checkbox"/>	Masters & above <input type="checkbox"/>	
Work experience [year] 1-2 <input type="checkbox"/>	3-4 <input type="checkbox"/>	5-7 <input type="checkbox"/>	26-40 <input type="checkbox"/>
Sex: Male <input type="checkbox"/>	Female <input type="checkbox"/>		

B. Management and Employees Opinion Measurement

The following items which are related to your organizations performance as measured from the contribution of ISO 9001 QMS implementation. It is based on your degree of agreement as rated from 1 to 5 from strong disagreement to strong agreement. Accordingly, please rate on the scale 1 to 5, with 1= *strongly disagree*; 2= *disagree*; 3= *neither agree nor disagree*; 4= *agree*; 5= *strongly agree*, and please **tick "" sign** in the corresponding cell provided.

Code	Items	Measurement scale				
		1	2	3	4	5
<i>I</i>	<i>Customer focus</i>					
CF1	Your customers provide feedback on quality and delivery performance					
CF2	Your organization measures customer satisfaction of external customer					
CF3	Customer requirements are used as the basis for quality in your organization					

CF4	Your employees are aware about your customers					
CF5	Your customers visit your plant					
II	<i>Leadership</i>					
LP1	The top management of your organization (i.e. top executives and major department heads) assumes responsibility for quality performance					
LP2	In your organization, major department heads participate in the quality improvement process					
LP3	In your organization, “Quality issues” are reviewed in top management meetings					
LP4	In your organization, top management views quality performance as a major objective					
LP5	In your organization, quality policy is developed by top management					
III	<i>Engagement of people</i>					
EP1	Your organization form teams to solve problems					
EP2	Your organization provides feedback to employees on their quality performance					
EP3	Employees are also involved in quality decisions in your organization					
EP4	Supervisors encourage teamwork in your organization					
EP5	Quality-related training is given to managers and supervisors in your organization					
IV	<i>Process approach</i>					
PA1	Processes in your organization are designed to minimize the chances of errors					
PA2	Your organization meets daily production schedule					
PA3	In your organization, production is stopped immediately for quality problems					
PA4	Your organization provides clear process instructions					
PA5	Your organization has adopted statistical process control					
V	<i>Improvement</i>					
IP1	Your organization plan and conduct internal audits					
IP2	Your organization has control of Non-conforming products.					
IP3	Continual improvement practiced in your organization is based on the PDCA cycle.					
IP4	Top management is committed to continual improvement.					
IP5	There is emphasis of continual improvement of all operations and at all levels					
VI	<i>Evidence-based decision-making</i>					
DM1	Your organization compiles and record useful data pertaining to quality					
DM2	In your organization, data are accessible to managers, supervisors, and engineers					
DM3	Your organization manages data timely					
DM4	Your organization use data for managing quality					

D5	Your organization use data for evaluating supervisory as well as managerial performance					
VII	<i>Relationship management</i>					
RM1	Your organization believes in long-term relationships with suppliers and takes effort for the same					
RM2	Your organization trusts on a small number of high-quality suppliers					
RM3	Your organization evaluates suppliers based on parameters related to quality, delivery and price					
RM4	Your organization has a systematic supplier rating system					
RM5	Your organization is working with suppliers to ensure that expectations met					
VIII	<i>Organizational performance</i>					
OP1	There was labor productivity improvement observed after the implementation of ISO 9001:2015 QMS in the company.					
OP2	There was input material utilization rate improvement observed after the implementation of ISO 9001:2015 QMS in the company.					
OP3	The production process was capable of producing variety of products after establishments					
OP4	Cycle time (from receipt of raw materials to shipment of finished products) has decreased in your organization over the past three years					
OP5	The implementation of QMS increased Company's ability to have access to new domestic and foreign markets					
OP6	Sales of the company product improved after the implementation of ISO 9001:2015					
OP7	Process variability in your organization has decreased after implementation of ISO QMS.					
OP8	Your company Market share increased after implementation of ISO 9001:2015					
OP9	The implementation of ISO 9001:2015 Increased Profits of the company					

Appendix –B

Interview Questions

1. Why you are interested to implement ISO 9001:2015 QMS in your Company?
2. How long you take to implement the QMS in Your Company? Could you please explain to me the Mandatory procedures required by ISO 9001:2015?
3. What are the main benefits of implementing ISO 9001:2015 QMS?
4. How do you implement the seven principles of quality management systems?
5. What steps have you taken to implement quality management systems in your organization?
6. Do you have Quality Manual? And if so what items it contains?
7. How do you conduct the required gap analysis of your Organization?
8. Can a Company actually become efficient using ISO 9001 Certification?