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CHALLENGES OF IMPLEMENTING QUALITY MANAGMENT SYSTEM IN BGI-ETHIOPIA

BY
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Addis Ababa, Ethiopia

CHALLENGES OF IMPLIMENTING QUALITY MANAGEMENT SYSTEM IN BGI-ETHIOPIA

Institute of Quality and Productivity Management

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Acknowledgement

Declaration

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

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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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St. Mary's University, Addis Ababa   **June, 2019**

St. Mary's University

Institute of Quality and Productivity Management

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List of Acronyms

BPR- Business Process Reengineering

DMAIC- Define, Measure, Analyze, Improve and Control

FMEA- Failure Mode and Effects Analysis

HACCP-Hazard Analysis and Critical Control Points

ISO- International Organization of Standardizations

NEC- Nippon Electric Company

PDCA- Plan, Do, Check, and Act

PMC- process management council

QFD- Quality Function Deployment

QMS- Quality Management System

TQM- Total Quality Management

ZDP- Zero Defect Program

Abstract

The purpose of this study is to investigate the challenges of Quality Management Systems during implementation in BGI-Ethiopia's and to examine how the organization can overcome those barriers. Descriptive research method was applied. The research work has used primary and secondary data for identifying and analyzing barriers using questionnaire, interviews, personal observations and review of previous research works. The researcher have uses 400 total population size. Of the total population taken 200 respondents are selected using purposive sampling method.

This research work has reviewed the practice of the Quality Management System of the company and tried to identify major barriers. The research work has identified poor top management commitment, conflict between the new Quality Management System and the existing company processes, and lack of looking for ISO 9000 certification rated as extremely high barriers in the organization. In addition to that lack understanding of the purposes and benefits of ISO certification, lack awareness of ISO 9000 standards by the employees, lack of middle management commitment, and ineffective communication between departments, lack cross-functional cooperation, and lack of suitability organizational structure rated as high barriers to Quality Management System implementation in the organization. Whereas lack of employees commitment, resist change the existing system, and believing as additional workload from implementation of quality management system are mentioned as low barriers.

This study is a qualitative and descriptive research work which makes use of a case study focusing on BGI-Ethiopia, but the finding can be used by other breweries and also as very few studies conducted in this sector, it can also be used as an input for future research works in the sector. Finally, recommendations are forwarded to fill the gaps observed in the findings.

Chapter One

1. Introduction

1.1 Background and Justification of the Study

In today's highly competitive business environment, forward-thinking organizations are more committed than ever to continue refining their processes and procedures to improve their products and services. The development and implementation of a quality management system (QMS) is perhaps the best way to demonstrate this commitment. (Rivera, 2017)

A quality management system provides organizations with the opportunity to raise their competitive position by focusing on improvement efforts on those operational areas in the most in need of change. This in turn streamlines operations, increases efficiency and enables organizations to provide quality Products and more effective services to their customers. (Rivera, 2017)

Quality management system (QMS) provides generic guidance and requirements for establishing an appropriate quality management procedure, in order to lower cost, increase productivity, result in customer's satisfaction, and enhance the market share of the organization. (Neyestani, 2016)

Irrespective of the approach taken to Total Quality Management (TQM) and the quality management maturity of the organization, a business may need to demonstrate to customers that its processes are both effective and under control and that there is effective control over procedures and systems. The pressure for proof that systems and procedures are in place, and working in an effective manner, led to the demand for quality assurance based development of quality management system standards. (DALE, 2003)

Quality in the brewing industry is a matter that has to do with the entire supply chain and all the stakeholders involved from production to consumption. In the global market, companies engaged in beer production have reached massive sizes, while the competition between them has become very intense. Literature on the brewery industry mainly deals with issues related to production processes and beer storage and deals less with TQM issues regarding brewing companies. Most successful companies of the industry are those that manage to harmonize productivity with quality, while at the same time they maintain their market share by meeting consumers' demands (Vrellas & Tsiotras, 2013). So, there is a serious challenge in the implementation of QMS in this

industry.   Therefore; that is why the researcher decided to see the real challenges that are facing BGI-Ethiopia during the sustainable implementation of QMS.

1.2   Background of the Organization

BGI-Ethiopia is a large-scale brewery and beverage production wing of Castel Group operating internationally in more than 53 countries. BGI, operating in Ethiopia since 1998 as BGI Ethiopia PLC., has been engaged in the production and distribution of beer, wine and beverage products. BGI owns three breweries including the iconic St. George Brewery in Addis Ababa, the Kombolcha Brewery in Kombolcha city and the Hawassa Brewery in Hawassa city. This combined production capacity is 3.6 million hectoliters of bottled and draft beer annually. BGI-Ethiopia PLC also owns and operates the Castel Winery and Vineyard located in the town of Ziway.

St. George Brewery was established in 1922. It was nationalized in 1974/75 and had been operating as a state owned enterprise. Since December 1998, it became part of BGI Ethiopia through the privatization program. Its production Capacity was 200 to 300 bottles per day in 1923 and has now reached 550,000 hectoliters per annum. The known brands produced are St. George and Panach Beer brands in bottle and draught. At present, the company is providing jobs for 956 permanent and 58 contractual employees. (BGI-Ethiopia, 2019).

The Kombolcha Brewery, located in Kombolcha Town, Wollo, Amhara Regional State, 368 KM. from Addis Ababa, was established in November 1998. Its production capacity started with 450,000 hectoliters per annum in 2011 and grew to 780,000 hectoliters in 2013. After additional major upgrade and establishment of a second bottling line, the brewery is now capable of producing 1,500,000 hectoliters per annum. Currently, it is providing jobs for 449 permanent and 3 contractual employees. (BGI-Ethiopia, 2019)

The Hawassa Brewery, located in Hawassa Town, Southern Nations, Nationalities and Peoples' Regional State, 275 KM. from Addis Ababa, was established in June 2011. Its production capacity which started with 450,000 hectoliters per annum in 2011 grew to 780,000 hectoliters in 2013. After a major upgrade and a second bottling line, the brewery is now capable of producing 1,500,000 hectoliters per annum. Currently the company has employed 498 permanent and 13 contractual employees. (BGI-Ethiopia, 2019)

1.3   Statement of the Problem

Preparing comprehensive implementation plan is one of the critical first steps and an essential prerequisite for a successful QMS implementation. Vrellas & Tsiotras (2013) in their study showed that quality in the brewing industry is a matter that has to do with the entire supply chain and all the stakeholders involved from production to consumption.

On the other hand according to Osman (2016) the most important barriers facing QMS in an organization are insufficient resources allocation, lack of management commitment, lack employee's commitment and factors related to organization's internal systems such as inherited deficiencies in planning and preparatory phase, the nature and complexity of the project, lack of a total change in organizational focus and also lack new strategies that produced improving in operational processes at all levels. Hussein, Abou-Nassif, Aridi, Chamas, & Khachfe (2017) identified seven main challenging factors in the implementation of QMS. The seven identified factors are lack of awareness, the terminology used in ISO 9001, resistance to change, the existence of accreditation, and commitment of top management, time management, and resource availability. Based on the research finding by Ogany (2017) the implementation of QMS is greatly influenced by resource availability, staff training, top management skills, and information technology.

Even though developing and implementation of the Quality Management System/QMS/ in BGI-Ethiopia started a few years ago, it is not fully implemented at all levels and also in all departments. So, it is an area work researching. It is also necessary to successfully navigate through the development and implementation phase in the organization for identifying the challenges. A great part of the work has been designed to understand which of these challenges are confronted for effective QMS implementation.

1.4   The objective of the Study

1.4.1 The General Objective

The general objective of this study is to identify the challenges of Quality Management Systems implementation in BGI-Ethiopia.

1.4.2   Specific Objectives

The research has the following specific objectives:

I.   To assess how QMS has been developed and the challenges faced during the QMS formulation stage in BGI-Ethiopia.

II.   Identify the challenge areas in the QMS implementation exercise.

III. Identify the potential areas for improvement in the implementation of QMS.

IV.   Propose appropriate measures to improve the QMS implementation in BGI-Ethiopia.

1.5   Research Questions

The main questions below have been central interview areas for the research inputs at BGI-Ethiopia.

I.   How was QMS initiated and developed?

II. What is the status of QMS implementation?

III. What are the barriers during the implementation of QMS?

IV. Which areas need emphasis in the implementation of QMS?

V.   What appropriate measures should the leadership and top management take to have effective QMS?

1.6   Significance of the Study

The research study has been conducted in order to provide information about the challenges in the implementation of a Quality Management System in BGI-Ethiopia. The study could contribute to the Quality Management System in brewery Companies in the country. Moreover, it could also help investors in this sector on demonstrating the positive aspects of how to plan and implement a Quality Management System.

1.7   Scope and Limitation of the Study

This study is limited to the challenge of Quality Management System implementation in BGI-Ethiopia. It covers three factories functioning under BGI-Ethiopia, namely, St. George Brewery in Addis Ababa, the Kombolcha Brewery and the Hawassa Brewery. The experiences of other local beer companies have not been considered in addition to this the study does not include customers and suppliers of this company.

1.8   Organization of the Study

This study is divided into five chapters. The first chapter provides the background about the study problem and objectives. The second chapter discusses on relevant literature review on the topic to

gain understanding of the fundamental requirements, practices, benefits and challenges in the development and implementation quality management system. Chapter three gives an account of the research methodology description and justification of the design and research procedure followed in this study. Chapter four presents and analyses data to find out results which could answer the research questions. Chapter five focuses on drawing conclusions based on the findings, and making pertinent recommendations.

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Chapter Two

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2. Review of Literature

2.1   Introduction

The literature review incorporated some of the basic quality management system principles with purpose of identifying from where the points of implementation challenges could arise in the organization, BGI-Ethiopia.

2.2   Quality Concepts

In order to understand the sources of the challenges, definition and concepts need to be clear at the very start. So, the literature review scans through this concept. Broadly, definitions of quality fall into two categories: (Nanda, 2005)

I. Quality is about satisfying applicable specifications. Quality is a simple matter of producing products or delivering services whose measurable characteristics satisfy a fixed set of specifications that usually are numerically defined.

II. Quality is about satisfying the customer. Independent of any of their measurable characteristics, quality products simply is those that satisfy customer expectations for their use or consumption.

Different scholars define quality differently i.e. according to Joseph Juran, quality means "fitness for use". According to Philip Crosby, it means "conformance to requirements". (Diaz, 2014) Quality planning involves developing the products, systems, and processes needed to meet or exceed customer expectations. (Nanda, 2005)

2.3   Overview of Quality Management System

The world is changing and accordingly, the expectations of human beings are also changing. People want assurance of the quality and safety of the materials they procure. They need true quality which means that the product and services should not only meet the expectations of the customers but should also be safe and produced by ethical means. (Purushothama, 2015) A view on quality is changing, from the period before the year 1980 to today and Quality management is changing, too. (Sikora & Nowicki, 2012)

According to Osman (2016), many organizations are using different Models for Quality Improvement that cover product, process and/or people-based improvement, such as:

   I.   ISO: (International Organization of Standardizations) Guidance on use for process improvement and process capability determination

  II.   QFD: Quality Function Deployment, also known as the House of Quality approach, that focuses on customer wants or needs in the (re)design of a product or service

 III.   Kaizen: Japanese for change for the better; the common English term is continual improvement

 IV.   Zero Defect Program: created by NEC Corporation of Japan (Nippon Electric Company), based upon statistical process control and one of the inputs for the inventors of Six Sigma

  V.   Six Sigma: combines established methods such as statistical process control, the design of experiments and failure mode and effects analysis (FMEA) in an overall framework

 VI.   PDCA: Shewhart /Deming's plan, do, check, act cycle for quality control purposes. Six Sigma's DMAIC method (Define, Measure, Analyze, Improve and Control) may be viewed as a derivation of this.

VII.   Taguchi Methods: statistical oriented methods including quality robustness, quality loss function, and target specifications

VIII.   Toyota Production System: reworked in the west into "Lean manufacturing"

 IX.   TQM: Total Quality Management is a strategy aimed at embedding awareness of quality in all organizational processes. First promoted in Japan with the Deming prize, it has been adopted in the U.S. as the Malcolm Baldrige National Quality Award and in Europe as the European Foundation for Quality Management award (each with their own variations)

  X.   BPR: Business Process Reengineering, a management approach aiming at 'clean slate' improvements (abandon existing practices) Several of these approaches have evolved as principle quality systems since they address the whole business and thus are more widely used. Some organizations also engaged a blend of quality philosophies and implementation methodologies to best align with their business goals and strategies.

According to Davis & Stanley (2014), a quality management system is defined as a management system to direct and control an organization with regard to quality. Quality is a dynamic state associated with products, services, people, processes, and environments that meets or exceeds expectations and helps produce superior value. The purpose of a quality management system is to

establish a framework of reference points to ensure that every time a process is performed the same information, methods, skills, and controls are used and applied in a consistent manner. In this way, it helps to define clear requirements, communicate policies and procedures, monitor how work is performed and improve teamwork. (DALE, 2003)

Quality management comprises all activities that are required to plan for quality in an organization and all activities that are required to satisfy quality objectives. Specifically, quality management comprises four elements i.e. Quality Planning, Quality Control, Quality Assurance, and Quality Improvement. (Nanda, 2005)

Quality management system should define and cover all facets of an organization's operation, from identifying and meeting the needs and requirements of customers to design, planning, purchasing, manufacturing, packaging, storage, delivery, installation, and service, together with all relevant activities carried out within these functions (DALE, 2003). A quality management system consists of the organizational structure, procedures, processes, and resources needed to implement quality management (Nanda, 2005).

Juran recommends the following ten-step quality improvement process to achieve continuous quality improvements: (Nanda, 2005). Part of the challeges for implementation will also emanate from those steps.

I. Build awareness of the need and opportunity for improvement.
II. Set goals for improvement.
III. Organize to meet the goals that have been set.
IV. Provide training throughout the organization.
V. Carry out projects to solve problems.
VI. Report progress.
VII. Give recognition.
VIII. Communicate results.
IX. Keep score.
X. Maintain momentum by building improvement into the company's regular systems.

2.4   Quality Management System ISO 9000 Standards

ISO 9000 is defined as a set of international standards on quality management and quality assurance developed to help companies effectively document the quality system elements needed to maintain an efficient quality system. They are not specific to any one industry and can be applied to organizations of any size (ASQ, 2019).

ISO 9000 can help a company satisfy its customers, meet regulatory requirements, and achieve continual improvement. It should be considered to be a first step or the base level of a quality system (Neyestani, 2016).

The ISO 9001:2015 standard is based on seven quality management principles that senior management can apply to promote organizational improvement. Those are customer focus, leadership, engagement of people, process approach, improvement, evidence-based decision making and relationship management (ASQ, 2019). Once again, these are areas for implementing potential challenging areas.

2.5   Benefits of Implementing a Quality Management System

ISO certification does have certain benefits to a given organization. These could be external to the organization or internal to this organization. The internal benefits are related to the process and structure of the organization like improvement in productivity, improvement in efficiency, reduction in cost and waste, better management control and others. Those benefits external to the organizations are: competitive advantage, increase in sale and market share, possible chance of getting into new market, good customer relation and identifying potential customers, increased customer satisfaction and the like. Besides the benefits of ISO certification, there are also certain disadvantages associated with gaining the certificate. Some of the disadvantages are extra cost of obtaining the certificate, increase in paper work load, and no attention for development of personnel. (Tulu, 2011)

Implementation of a QMS in an organization offers near-term and long term rewards (Nanda 2005). That is

1. Defined processes and supporting QMS documentation are the basis for repetition, and help reduce (and eliminate) variation within process execution. As variation is reduced, it results in improvements in operational efficiency.

2. With the implementation of corrective and preventive solutions that effectively address the root causes of quality problems, permanent solutions are implemented. This results in improvements in organizational effectiveness.

3. A QMS enables an organization to focus on how it executes its business processes. Such process focus and awareness are essential in order to be able to monitor and analyze process performance for continual improvement.

4. A QMS fosters continual improvement in the organization's productivity, rework costs, on-time delivery performance, and within budget project execution. This enables the organization to enhance its bottom-line revenue growth.

5. A QMS results in higher-quality products and services, as quality management practices are continually improved.

6. As an organization improves the quality of products and services, it improves customer satisfaction levels, which helps improve customer loyalty and customer retention.

7. A QMS enables the organization to gain a competitive advantage due to its being perceived as a "best-in-class" supplier by its customers. This enables the organization to retain customers, attract new ones, increase market share, and enhance top-line revenue growth.

8. A QMS enhances an organization's competitive position by allowing it to present itself as a viable supplier in situations where a customer requires its suppliers to have a formal QMS in place (although in certain cases customers also seek registration to a QMS standard, as discussed previously).

9. A QMS enhances customer confidence in the ability of a supplier to deliver products and services according to specified quality requirements (quality assurance).

10. A QMS reduces the organization's reliance on "heroes" to make projects a success because all employees are aware of the required quality management practices. In other words, it enhances an organization's ability to achieve quality requirements because employee competencies are augmented by a process infrastructure that helps achieve the identified requirements.

11. A QMS reduces (or eliminates) an organization's dependence on a few individuals for information regarding critical processes because such processes are now formally documented. This reduces organizational vulnerability to employee turnover.

12. A QMS reduces waste of resources and loss of reputation resulting from rejection and rework of inferior-quality products (referred to as Cost of Poor Quality). This enables the organization to shift from a reactive mode of operation (performing corrective action) to a proactive mode (performing preventive action).

13. A QMS promotes employee understanding that quality is everyone's responsibility. The realization that each employee contributes to the achievement of quality requirements helps institutionalize quality improvements across the organization, at all levels.

14. Employee morale and satisfaction improve as employees participate in defining their processes, and are empowered to own, monitor, and continually improve those processes.

15. A QMS results in improved communication both internally and externally, which results in improvements in efficiency and effectiveness, and improved customer-supplier relations.

Implementing QMS have the following benefits cccording to (Patel 2016)

I. Improve our organization.

II. Bring consistency and definition to processes, which will result in fewer defects and more efficient practices.

III. Meet a global requirement by the customers to fulfill their requirements and to be qualified as a supplier.

IV. Solve problems (Section 8 of the ISO 9001 standard).

V. Increase market share by freeing up financial resources.

VI. Reduce waste, scrap, and rework, and

VII. Increase customer confidence in our products and services.

2.6   Implementation of Quality Management System

The primary motivation or reason for implementing a QMS for most organizations is either management need or customer demand. Management's motivation for implementing a QMS usually originates from its need to improve productivity, improve product quality, and reduce time-to-market, thus gaining a competitive advantage. Sometimes, management's motivation for implementing a QMS is driven by competitive pressure, where the organization's competitors have established (or are in the process of establishing) a formal QMS with the goal of registration

to a recognized QMS standard, such as ISO 9000. In such cases, registration to a quality management system standard is perceived to be a valuable asset for marketing and soliciting new customers. Customer demands on an existing supplier (or a potential supplier) to implement a QMS is driven by the customer's need for an assurance that the supplier is capable of meeting the customer's quality requirements. Often, such a demand may be made in response to continued subpar performance of an existing supplier, or prior to approving a new supplier. In certain industries, customers (including government agencies) also go to the extent of inviting bids only from suppliers who have attained a particular quality registration (Nanda, 2005).

Nowadays, major brewers try to standardize equipment, automation systems, and engineering practices in order to further improve productivity and reduce production costs. However, the benefits of standardization and application of standards need time, because most of the purchasing decisions still remain at local operation levels (Vrellas & Tsiotras, 2013).

Inspection Body for Medicine and Food has announced the scheme for treating food enterprise quality system implementation with star marking. One star indicates that the enterprises has been trained and implement the food safety principle; Two stars indicate that enterprise has implemented Good Practice for food processing; Three stars indicate that enterprise has implemented HACCP standard; Four stars indicate that enterprise has implemented Quality Management System standard (ISO 9000) (Tulu, 2011).

In general, the food safety management system is needed for the companies that engaged in such businesses. Thus, beverage companies, including brewery companies, should comply with the international quality standards that certify their products are safe for human use. As the companies are operating in accordance with this standard their customers consume that product (Tulu, 2011).

The quality management system contains four main chapters which are Managements responsibility, resource management, product realization, and management analysis and improvements (LÖFGREN, 2012).

Business excellence models such as the Malcolm Baldrige National Award, the EFQM, and other quality management approaches are powerful tools for achieving consistency between strategy and best practices programs. However, in the brewing industry, these tools are few and they are confined in the assessment of lean manufacturing (Vrellas & Tsiotras, 2013).

Breweries are factories with multiple operations and the continuous batch production is done in production lines. This means that the concepts of lean production and lean-six sigma can find direct application in their operations. Lean manufacturing improves the execution time of a process, while six- sigma is a tool that brings the process under statistical control with greater accuracy than usual in the percentage of defective products. The combination of these two concepts aims at reducing costs and complexity of a process, thus it is a very powerful quality tool. Last but not least, QMS is necessary for the implementation of quality in every brewery (Vrellas & Tsiotras, 2013).

The beer market is at a turning point in Ethiopia. Its value has grown dramatically, reaching USD 620 million over the years, while consumption grew by 16 percent yearly, as studies show. While annual production hit as high as 7 million hectoliters, the number of breweries has almost doubled. Consumers have seemingly dozens of choices for beers. This has brought about many changes, from rethinking the marketing strategy and resource management in the retail trenches to mushrooming of products and services by the breweries to simplify, innovate and improve their operations (Mutesi, 2018).

The number of ISO 9000 Quality Management System (QMS) certifications in developing countries is increasing, particularly, in Africa. Most of the organizations are certified because of either internal motives or external pressure from international trade. Internally motivated companies' are those that demand continuous organizational improvement. However, there is still a debate on whether QMS increases organizational performance or not. In some cases, since organizations or nations may put certification as a prerequisite to their purchasing decision, those companies engaged in the certification process to fulfill the buyer's requirement are known as externally motivated (Beshah, Kitaw, & Alemu, January 2013).

One of the critical first steps and an essential prerequisite for a successful QMS implementation is detailed implementation planning. QMS implementation planning includes activities such as Identification and satisfaction of prerequisites for a successful implementation, Definition of an implementation strategy and process, Preparation of a formal implementation plan and establishment of mechanisms to monitor, control, and report implementation progress (Nanda, 2005).
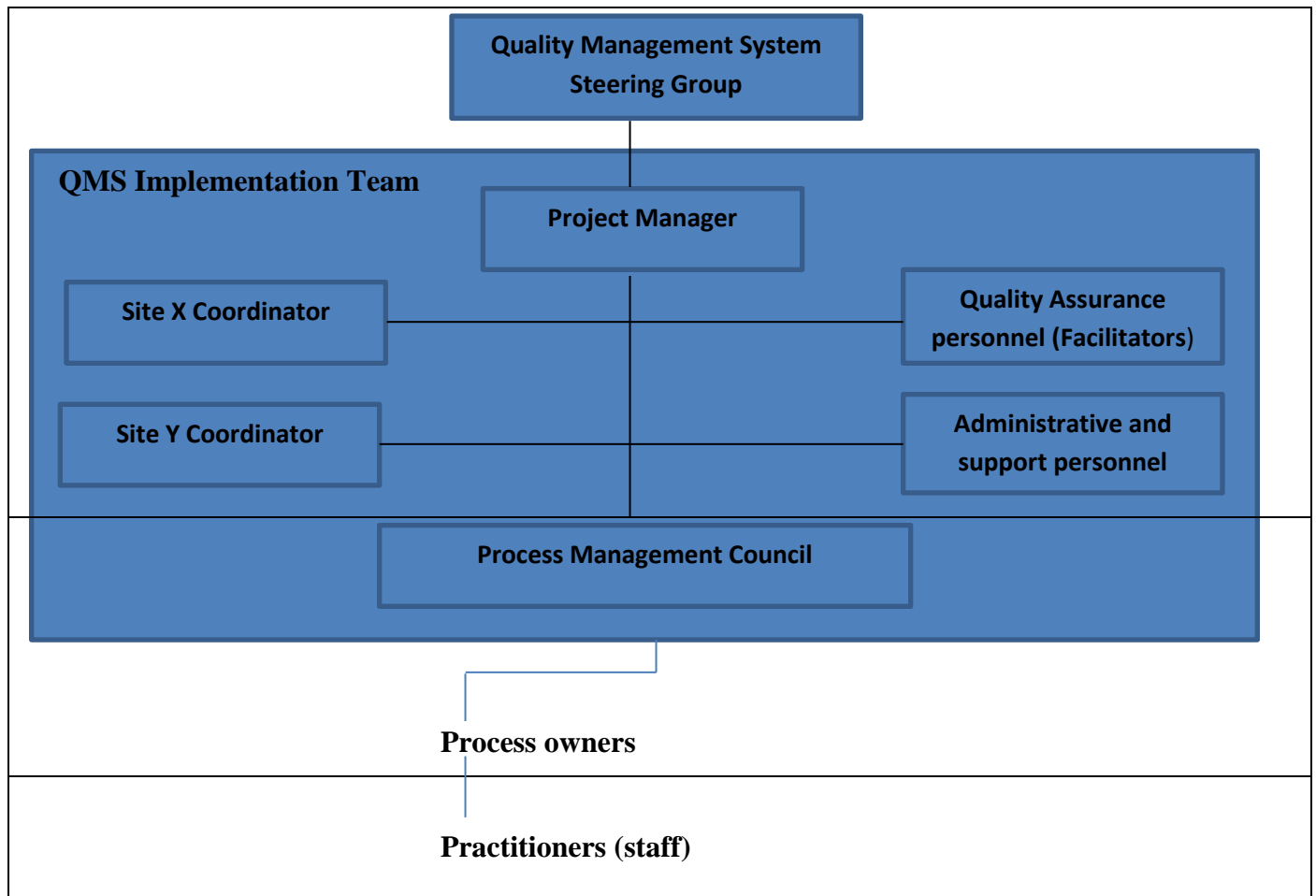
Figure 1 Organization Chart of QMS Implementation Team, Source: (Nanda, 2005)

Figure 1 shows that the QMS steering group comprises senior management personnel from all functional areas in the scope of the QMS being defined. It exercises management oversight over the QMS. Because no functional area legitimately can claim to be exempt from defining its processes and instituting quality practices, the steering group should comprise senior management from all functional areas in the organization. The senior management person who has overall responsibility for the organization (or business entity) for which the QMS is being established, and who is the project sponsor for the effort, generally heads the group. This body should be a permanent entity, which should remain intact even after QMS implementation.

One of the first tasks in planning a QMS implementation is the establishment of an implementation team (see Figure 1). The QMS implementation team plans and executes the QMS implementation project and is led and directed by a project manager who reports to the QMS Steering Group. Generally, the organization's management representative serves as the project

manager. The process management council (PMC) is an effective vehicle for this purpose. It is a cross-functional team comprising representatives from all functional areas in the scope of the QMS implementation.

In organizations where QMS implementation is across multiple sites, it generally is desirable to appoint a site coordinator. The site coordinator serves as the single point of contact for: Communications with the management representative (or PMC) Tracking and reporting QMS implementation progress for the site. Disseminating messages to the site personnel Arranging celebratory events at the site. Generally, one of the PMC members from the site or a member of the quality assurance department at the site may serve as a site coordinator.

The QMS implementation team may comprise administrative or support personnel to assist with ancillary tasks during QMS implementation. For example, support staff generally is required for definition and implementation of QMS documentation and metrics repositories, development of in-house tools to support the QMS, and other such tasks. The need for such support tasks generally is higher during the establishment of the QMS, and the need for such resources declines significantly once the QMS enters maintenance and continuous improvement phase after implementation. Therefore, it is preferable that the need for such support personnel be met by securing qualified resources on a part-time basis from the appropriate departments.

Finally, the QMS implementation team also consists of quality assurance personnel who are members of the organization's quality function. In essence, the project manager and the quality assurance personnel serve as the core team within the QMS implementation team. They formulate much of the implementation approach and exercise most of the tactical decision making (with active consultation and involvement of appropriate QMS implementation team members). Note that the responsibility for implementing the QMS does not belong to the QMS implementation team alone. Quality is after all the responsibility of every employee in the organization. The QMS implementation team is assisted by process owners and process practitioners who are called upon to contribute their expertise on an as-needed basis.

Every process has a designated process owner, generally a management person. Process ownership typically is assigned to the department in which most of the process activities are performed, or the department that has the maximum stake in the correct execution of a process. The responsibilities of process owner include but are not limited to: defining and documenting the

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process for which the person is responsible, requesting and securing needed resources (personnel), acting as the communication interface between the process and functional (or line) management, clarifying interfaces with other processes, establishing controls to monitor process execution, establishing measurement points in the process to measure process effectiveness against goals, providing employee education and training on the defined process, monitoring that the process continues to meet the needs of its customers (internal and external), taking timely corrective and preventive action, when required and continually seeking opportunities to improve the process.

Process practitioners are personnel who execute a particular process. Therefore, in essence, every employee of an organization is a process practitioner as well. During QMS implementation, they contribute their subject matter expertise (as needed) to assist the process owner and/or PMC member in performing their duties. For example, appropriate process practitioners should be invited to participate in the definition, documentation, and review of a process, when necessary. A process owner or PMC member also may delegate the task of writing a procedure to a suitable process practitioner.

There are two ways of mapping a business process. That is a top-down approach and a bottom-up approach to QMS implementation. A top-down approach to QMS implementation helps an organization develop a systems view of the organization by first looking at the business processes as a whole and then gradually peeling the onion and looking inside each process. The organization progresses from recognizing and examining interdepartmental processes and subprocesses (processes and sub-processes between departments) to intradepartmental processes and subprocesses (processes and subprocesses within departments). On the other hand, a bottom-up approach to QMS implementation entails identifying all the day-to-day tasks performed in the organization (within the scope of the QMS) and creating QMS documents to describe them. Such an implementation approach results in excessive and haphazard creation of processes and process assets because of the disjointed efforts of various personnel. This lack of coherence and well-reasoned creation of processes and process assets is due to inadequate understanding of the relevance of each process (or activity) in the overall context. This is because a bottom-up QMS implementation prevents an organization from seeing the big picture the overall value chain of the organization. That is, it inhibits the organization from developing a system-level view of its business processes a view that is essential to understanding and improving complex business operations. Instead, it promotes a functional view of the organization as each department attempts

to define its processes and process assets and begins optimizing such intradepartmental processes, often at the expense of interdepartmental and overall organizational performance. Because most business processes are cross-functional, implementation of significant improvements in an organization often involves analyzing and improving the interfaces between departments and business processes. (Nanda, 2005)

QMS deployment is essentially a three-step process: (Nanda, 2005)

2.6.1 Employee Training

Employees are provided QMS training relevant to their jobs and are then required to adhere to applicable QMS processes and procedures. QMS training is not a one-time event, nor is it performed only once the complete QMS has been defined. In fact, employee training on the QMS is ongoing because QMS definition is typically piecemeal, wherein parts of the QMS are gradually defined and incrementally rolled out; and QMS processes continually evolve; consequently, associated QMS documentation is revised, which results in a need for retraining. QMS training is not necessarily formal; it may, in fact, be as informal as self-study by employees of applicable QMS documentation.

2.6.2 Monitoring Process Adherence in Real Time

An organization's quality assurance department personnel participate in, observe, or assess process execution in real time, it provides them with valuable information on the extent of QMS deployment in different parts of the organization. The mere presence of quality assurance personnel during process execution, either as participants or as observers, usually serves as an excellent mechanism for forcing process adherence. Information gained from such firsthand experience can be utilized by the quality assurance department personnel for initiating appropriate corrective action, where needed.

2.6.3 Internal quality Audit Program

A rigorous internal quality audit program wherein all employees are cycled through the quality audit program over a period of time serves as an excellent way for promoting process awareness and process adherence among employees. Internal quality audits formally close the loop on QMS deployment by helping identify deficiencies in process execution or in defined processes and

supporting QMS documentation. These deficiencies then can be addressed by initiating appropriate corrective action.

The critical steps and an essential prerequisite for a successful QMS implementation is include the following stages.

2.6.4 QMS Implementation Planning

One of the critical first steps and an essential prerequisite for a successful QMS implementation is detailed implementation planning. If an organization embarks upon a QMS implementation with a well-thought out execution plan, it significantly simplifies the task of implementing a QMS, because the organization is able to tackle the goal of implementing a QMS in a piecemeal manner. Detailed implementation planning facilitates the decomposition of the final objective into smaller and achievable intermediate objectives. Consequently, implementation activities are purposeful and manageable during each phase of the implementation. QMS implementation planning includes activities such as:

A. Identification and satisfaction of prerequisites for a successful implementation
B. Definition of an implementation strategy and process
C. Preparation of a formal implementation plan
D. Establishment of mechanisms to monitor, control, and report implementation progress

In order to understand what prerequisites, need to be satisfied for a successful QMS implementation (in addition to the prerequisite of implementation planning), it is important to understand how success in this context may be defined. Simply stated, QMS implementation is successful if the defined QMS is adequate for the organization's needs, well deployed (adhered to) in the organization, effective, and continually improved.

Working backwards, one can identify the critical success factors that is, prerequisites for success. For example, if the QMS is to be adequate for the organization's needs, a critical success factor is that QMS processes be defined with input and review feedback from relevant employees. Here, relevant employees are those who execute a process and those who interface with the process. "Employee involvement" (or participation) therefore becomes an essential prerequisite for a successful QMS implementation.

Using the aforementioned approach, organizations may perform an exercise during implementation planning to identify prerequisites for success as per their unique needs. The most significant prerequisite of QMS implementation planning are;

2.6.4.1   Management Commitment

Management commitment is the extent to which management personnel, especially senior management, sponsor and support implementation and continual improvement of the QMS. Instituting a QMS in an organization is a significant undertaking that calls for significant investments of time, money, and effort from all involved. The need for these resources, coupled with the natural impediment of resistance to change, is significant enough an obstacle to undermine any QMS implementation effort without the full backing of senior management. Therefore, it is critically important that senior management's commitment to quality and to implementing a QMS be secured. Senior management's support during QMS implementation is also essential for securing the buy-in and cooperation of middle and lower management in the organization.

Senior management must visibly demonstrate its commitment to quality so that management's unwavering commitment to quality is known throughout the organization. Some ways in which senior management can demonstrate its commitment to quality include:

A. Emphasizing the need to meet and exceed customer expectations at company events and all-hands meetings
B. Establishing an organizational quality policy
C. Establishing quality objectives and including them as part of the performance objectives for all employees by tying them to employee (and department) recognition and reward incentives
D. Providing continuous management support to the quality management representative and quality assurance (and/or control) department
E. Requiring monitoring of customer satisfaction levels; this includes measurement of customer satisfaction, subsequent corrective action, and establishment of goals for continued customer satisfaction improvement.
F. Sponsoring quality improvement initiatives

G. Requiring assessment against (or registration to) a recognized quality management system standard, or application for local, state, or national quality awards (such as the Malcolm Baldrige National Quality Award)

Management's commitment to quality must not end with the successful implementation of a QMS. Sustained senior management commitment beyond implementation of the QMS is essential for an organization to continually improve itself. Keep in mind that a successful QMS implementation merely provides an organization with an infrastructure that must be utilized to realize benefits in terms of improved quality of product and services. Therefore, in order to reap the true benefits of implementing a QMS, which are long-term in nature, continued management support for the QMS is vital.

2.6.4.2   Quality Management Representative and Change Agents

The quality management representative (also called the management representative), as the name suggests, is a member of the management team of an organization, and has ultimate responsibility for the definition, deployment, and continuous improvement of the QMS. Typically, the organization's senior quality officer, such as Vice President of Quality or Director of Quality, fills such a role. During QMS implementation, the management representative leads and directs the QMS implementation team, while after QMS implementation the responsibility pertains to maintenance and continuous improvement of the QMS.

A management representative should have a sound understanding of organizational processes (or knowledge from past experience with equivalent processes at another organization). He should have prior experience from having led QMS implementation successfully in other organizations (within the same industry). He should have expertise in quality, and sound project management and people management skills. The last includes an ability to lead and motivate staff members. He should have demonstrated ability to effect change in an organization by persuading and reasoning with the employees to explain the need for the change (and by explaining deficiencies in the current approach). He also should be able to represent the organization effectively in meetings with customers and other external parties.

The management representative is an organization's foremost change agent, and is assisted by other change agents, who may be full-time quality assurance personnel who are part of a dedicated

quality assurance department or a cross-functional team comprising representatives who are assigned part-time to facilitate implementation of the QMS. Typically, members of such a cross-functional team participate in a permanent body that meets regularly, with the initial mandate to facilitate the definition and deployment of a QMS, and the ultimate objective to facilitate continuous improvement of the QMS.

The change agents should possess many of the same attributes as the management representative, including adequate subject matter expertise, adequate knowledge of relevant processes of the QMS, and ability to persuade and effect change in their respective organizations without being obnoxious or confrontational.

2.6.4.3   *Employee Participation*

Employee participation is the extent to which employees participate in the implementation, maintenance, and continuous improvement of the QMS. It is essential to secure the participation of employees, because they are the practitioners who execute the processes in the organization and thus are intimately familiar with the processes and their strengths and weaknesses. They are the subject matter experts whose acceptance of the defined QMS is vital for its deployment, use, and continuous improvement.

In overcoming the improvement paradox emphasize that in any improvement program, management push, though essential, has severe limitations and is unable to sustain change over the long term. The ultimate objective is to attain a self-sustaining state in which complex challenges are tackled by competent and intrinsically motivated employees. This state can be attained only when employee pull is the operative sustaining force. In order to promote employee pull, it is necessary to involve employees in the definition of the QMS, as opposed to imposing on them a QMS that was defined in isolation, without eliciting their input. Such a QMS is perceived by employees to be alien and no representative of the actual work processes, thus increasing the odds against its acceptance.

Employee participation in QMS implementation helps secure the buy in of the employees and reduces resistance to change barriers during the deployment phase. By participating in the definition of the QMS, employees are able to review the QMS and offer their input during its

definition. A QMS founded on the collective expertise of the employees fosters a sense of ownership and commitment to the defined system, which is essential for its acceptance.

2.7 Barriers of Quality Management System Implementations

According to Fasika Betekitaw (2003) lack of strong quality sense, superficial of quality management activities instead of fundamentality, the focus of quality management is not for customer satisfaction are identified as a limitation of quality management initiatives in Ethiopia. In addition, as the result of poor management commitment in quality, most enterprises don't have their own business culture to support total employees involvement in quality improvement. When quality conflicts with quantity, quantity is above quality and short-term interest will override long term interest. Some managers have a misconception about ISO 9000. In many manufacturing companies in Ethiopia, because they don't have a systematic quality training program, people in quality and other departments are not familiar with quality tools and thus quality improvement cannot be achieved in a systematic way, and quality efforts in Ethiopia were initiated by the top-down approach.

Barriers to implementation of QMS are classified into external, organizational, organizational culture and technical barriers. The external barriers include the impact of government on the implementation of ISO 9000 standards in the country's organizations. The impact of the government represented in issues such as legislation, financial support. The external barriers include also the effect of the certification process fees such as consultancies and certification body fees and cost of training programs. Finally, it contains the role of the national standards body, consultants and the certification body. The organizational barriers, which include the lack of understanding the benefits of ISO 9000 certification, awareness of ISO 9000 standards, lack of top management commitment, leadership and involvement, lack of human resource management and lack of employees' involvement and empowerment. The organizational culture barriers include employee's resistance to change, the bureaucratic culture that is prevalent in organizations, wrong people in wrong positions, promotion of directors, managers and head of departments not based on qualifications and employee absenteeism. The technical barriers include ineffective communication, lack of information, the difficulty of access to test laboratories, controlling the documentation during the registration process, lack of understanding the requirements and implementing them. (Sharif, 2005)

Hussein, Abou-Nassif, Aridi, Chamas, & Khachfe (2017) identified seven main challenging factors to adopt and implementation of QMS ISO 9001. The seven identified factors are lack of awareness, the terminology used in ISO 9001, resistance to change, the existence of accreditation, and commitment of top management, time management, and resource availability.

The barriers identified during QMS implementation were lack of Human Resources Training (in a way that affects them to become an agent of change for resistance to change), inappropriate preparatory phase, lack of top management commitment, to develop and implement of QMS, and lack of employee's commitment, insufficient resources allocation (Lack of financial and Human Resources), lack of defining responsibilities and authorities to develop and implement of QMS were ranked the major first challenges. Besides to that poor accountability, difficult in co-operation among middle managers over quality problems, inappropriate team working environment in the company, poor cross-functional team communication and prevalence of bureaucratic culture in the company" as a second rank barrier. Finally, "Difficulties to interpret quality related procedures", "Conflict between new QMS processes and the existed company processes" and "In-sufficiency of project time" were considered as low severity barriers (Osman, 2016). Based on the research finding by Ogany (2017) the implementation of QMS is greatly influenced by resource availability, staff training, top management skills, and information technology.

Chapter Three

3. Researcher Methodology

This section defines research methods, research instruments and research tools. It also presents the instruments and tools selected for this study. The research plan and design was developed in the context of the study.

3.1   Research Design

The study is descriptive type of research. This research is designed to evaluate the challenges of QMS implementation in BGI- Ethiopia based on descriptive methods. Thus, the literature review was first carried out to understanding the topic, and the concepts of the study, in order to develop an appropriate survey questionnaire for obtaining data from the brewery companies. Both primary and secondary data sources are used for this study: The primary data was collected through questionnaires, interviews and observation. The questionnaire was developed to get information on the various objectives of the study. Interviews were conducted with some of the key personnel in the organizations. The secondary data include internally generated documents by the organizations like organizational profiles, Quality manuals, policies, process charts, and annual reports including customer complaints handling as well as external sources such as information from the internet, feasibility studies, books, periodicals, brochures, and other similar materials available.

3.2 Data Sources and Collection Instruments

The data sources are categorized into primary and secondary sources. Primary sources provide original data for this research. The purposive and convenience sampling method is used in choosing the respondents. Participants in the study are top management, middle management, and professionals within BGI-Ethiopia. The researcher used questionnaires as tools of primary data collection. The total population size is 400. Out of this total 200 sample sizes have taken based on equation number 1. 200 questionnaires were distributed and 141 (71.94%) usable questionnaires were collected. The secondary data obtained from review of literatures, recorded documents, published and unpublished, including relevant books, reports, and journals and relevant materials were used for the study.

The sample size is calculated as follow by considering the margin error of 5% as proposed by Pagoso, etal; (Matebu, 2017)

Equation 1: Sample Size calculation Formula

$$n = \frac{N}{1 + Ne2}$$

Where n= sample size

N= the size of population

e= the margin of error

3.3 Questionnaire survey

The questionnaire was used as the primary tool for collecting data. Using the questionnaire can help the researcher/s to collect data faster and cheaper than any other instrument. In this study, the survey questionnaire is divided into three main parts: Part one will be related to the general information (demographic characteristics) of the respondents. Part two will focus on the evaluation of the effectiveness of QMS implementation on vital factors of BGI-Ethiopia and Part three focused on the challenges of QMS implementation in BGI-Ethiopia. The questions were including a closed-ended, a five-point Likert rating scale, and open-ended questions. In addition, the questionnaires were personally distributed and the completed questionnaires retrieved by the researcher to and from target respondents. Besides to that the confidentiality and anonymity of the participants was protected.

3.4 Data analysis

The data was analyzed based on descriptive statistics, the designed questionnaire could let the respondents give their responses according to their personal experiences and opinions, to the different variables by point Likert scale (e.g. a scale from 1 to 5, strongly disagree = 1, to strongly agree = 5). Likert scales are proper and widely used in opinion measurement with scale ranging. The results of the questionnaires also analyzed using Micro Soft Excel.

3.5 Direct Observation

In this research direct observation is used as a means to assess the techniques used in the production processes as well as the existing facilities of the company. I am privileged to known

have the company on a daily basis since I am staff in the company. I have visited the production process, visited each department, and reviewed important documents such as company strategic documents, QMS development and implementation documents, annual reports, procedure manuals and inspection data.

3.6 Ethical Considerations

The researcher maintained scientific objectivity throughout the study, recognizing the limitations of competence. Every person involved in the study was entitled to the right of privacy and dignity of treatment, and no personal harm was caused to subjects in the research. Information obtained was held in strict confidentiality by the researcher. All assistance, collaboration of others and sources from which information was drawn is acknowledged.

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Chapter Four

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4. Data Analysis, Presentation, and Interpretation

4.1 Introduction

In this chapter, the findings of the study are analyzed; detailed analysis is done in accordance with the research objectives of identifying the effectiveness of QMS implementation and challenges on QMS implementation in BGI-Ethiopia. Data was summarized and presented in the form of tables, figures, proportions, and percentage.

4.2 Profile about the Respondent

The respondents have intentionally classified in to three levels based on their knowledge and engagement on QMS development and implementation. Namely, top management, this category includes manager from grade 12th and above, middle management, this category incudes from grade 9th to 11th and Professionals, includes from grade7th to 8th.

Figure 2: Response Rate

Site or Factory	Addis Ababa	Kombolcha	Hawassa	Total Questionnaires Distributed	Total Questionnaires usable collected	Response Percentage
Top Management	20	10	10	40	16	40.00
Middle Management	35	15	15	65	37	56.92
Professionals	47	24	24	95	88	92.63
Grand Total				200	141	70.50

Source: Own survey, 2019

Figure 3: Career of Respondents

Career	Addis Ababa	Kombolcha	Hawassa	Total	%
Top Management	8	4	4	16	11.35
Middle Management	20	9	8	37	26.24
Professionals	43	23	22	88	62.41
Grand Total				141	100.00

Source: Own survey, 2019

Concerning occupation or career of the respondents Figure 3 show that 62.41% participants are professional; 26.24% are middle management and the rest 11.35% of the respondents are top management. This shows that majority of the respondents i.e. 62.41% of the respondent are professionals.

Figure 4: Educational Background

Educational Background	Addis Ababa	Kombolcha	Hawassa	Total	%
MA/MSC	12	6	3	**21**	**14.89**
BA/BSC	60	22	24	**106**	**75.18**
Diploma	8	4	2	**14**	**9.93**
Others	0	0	0	**0**	**0.00**
Grand Total				**141**	**100.00**

Source: Own survey, 2019

Figure 4: concerning the educational background of the respondent's show that 14.89% of the respondents are MA/MSC holder, 75.18% of the respondents are BA/BSC holders, and 9.93% of the respondents are diploma holders. This shows that majority of the respondents are above first-degree holders which implies also they have prior known how on QMS theoretical aspects.

Figure 5: Work Experience

Work Experience	Addis Ababa	Kombolcha	Hawassa	Total	%
Less than three Year	20	10	10	**40**	**28.37**
3-5 Years	17	8	6	**31**	**21.99**
6-10 Years	27	8	8	**43**	**30.50**
Above 10 Years	16	6	5	**27**	**19.15**
Grand Total				**141**	**100.00**

Source: Own survey, 2019

Regarding the working experience Figure 5 shows that 28.37% have less three years of experience, 21.99% have from 3 to 5-year experience, 30.50% have from 5 to 10 years of experience and 19.15% of the respondents have more than 10 years of experience. This shows that majority of the respondent have more than three years of experience.

4.3 QMS Practices and Effectiveness in BGI-Ethiopia

To know the opinion of the respondent the researcher applied five Likert's i.e. 5 implies for strongly agreement with idea or question raised to the respondent, 4 stands for agreement, 3 implies for partial agreement, 2 indicates for disagreement and 1 implies for strongly disagreement.

Figure 6: QMS is too difficult to learn, develop and implement
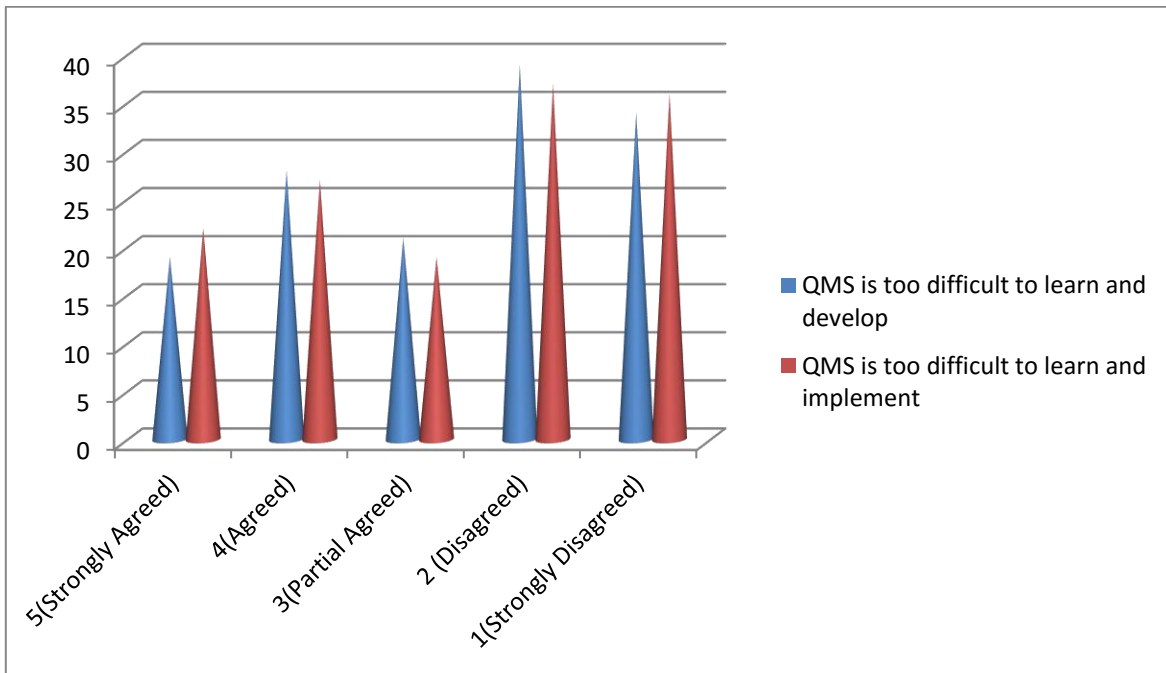
Source: own survey, 2019

Figure 6 The extent of agreement on whether the QMS is too difficult to learn and develop, 13.48% of the respondents strongly agreed, 19.86% of the respondent agreed, 14.89% of the respondents are partially agreed, whereas, 27.66% and 24.11% of the respondents disagreed and strongly disagreed respectively. This shows that majority of the respondents, 51.77%, are disagreed agreed with the idea which implies majority of them believes QMS is not difficult to learn and develop.

Figure 6 on whether QMS is too difficult to learn and implement replied that 15.60% of the respondent have strongly agreed, 19.15% of the respondents have agreed, 13.48 of the respondents have partial agreed, 26.24 of the respondents have disagreed and 25.53 of the respondents have strongly disagreed. This shows that majority of the respondent reflects QMS is not difficult to learn and implement.

Figure 7: QMS implementation is associated with extensive changes and high cost
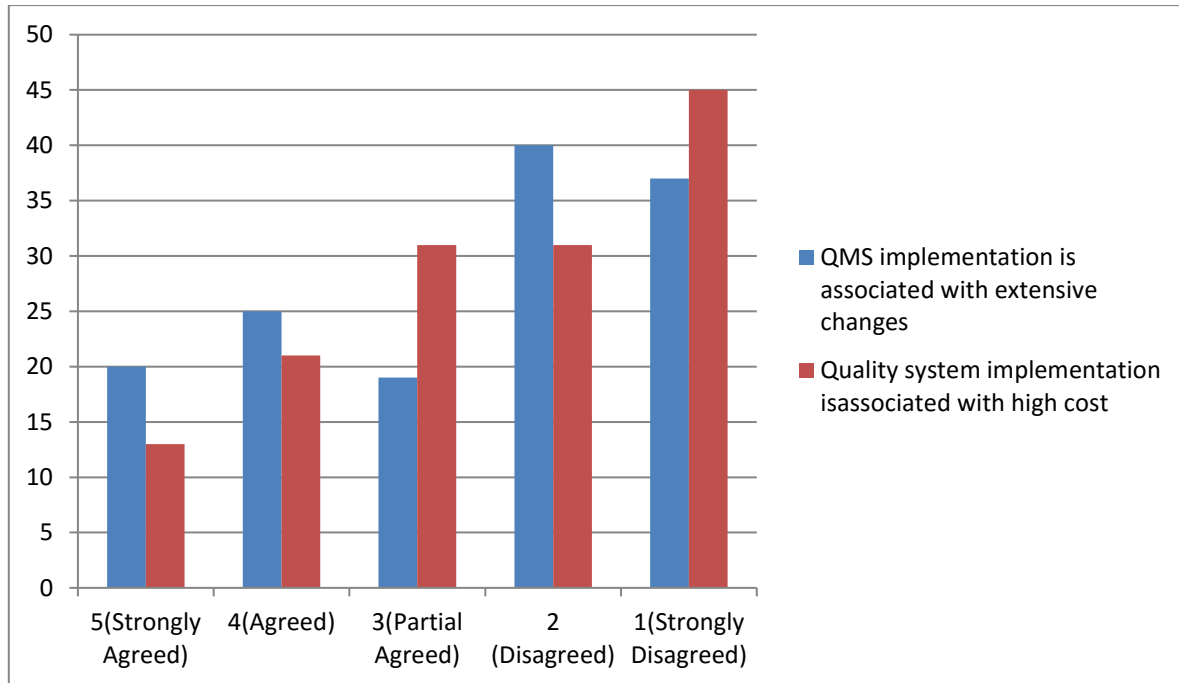
Source: Own survey, 2019

Figure 7 on the QMS implementation is associated with extensive changes, the respondent replied that 14.18% have strongly agreed, 17.73% have agreed, 13.48% of the respondent have partial agreed, 28.37% of the respondents have disagreed and 26.24% of the respondents have strongly disagreed.

Besides to that regarding the Quality system implementation is associated with high cost figure 7 show that 9.22% of the respondents have strongly agreed, 14.89% of the respondents have agreed, 21.99% have partial agreed, 21.99% of the respondents have disagreed and 31.91% have strongly disagreed.

Figure 8: QMS Implementation success is a top management responsibility only
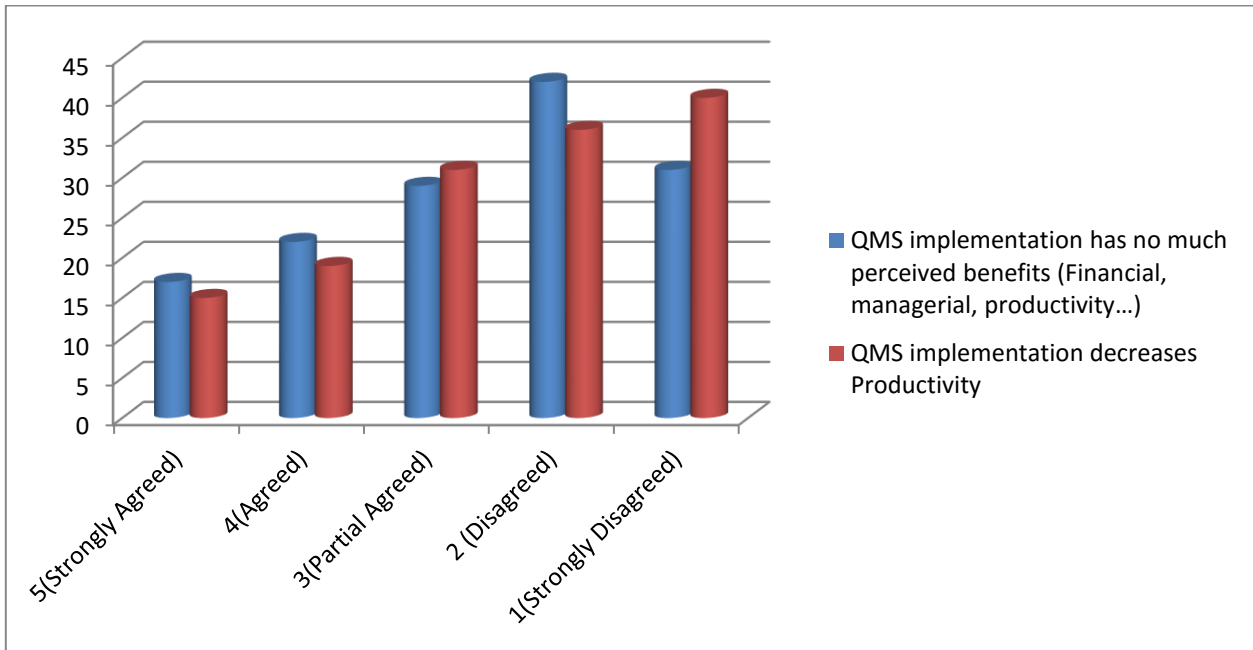
Source: Own survey, 2019

Figure 8 shows that 9.22% of the respondent strongly agreed that QMS implementation success is a top management responsibility only, 13.48% respondent have agreed, 22.70% respondent have partially agreed, 26.95% respondent have disagreed and 27.66% respondent have strongly disagreed.

As Figure 8 shows as the respondent opinion on QMS is a managerial luxury is 14.18% respondents have strongly agreed, 20.57% respondents have agreed, 19.86% respondents have partially agreed, 24.11% respondents have disagreed, and 21.28 respondents have strongly disagreed.

Figure 9: QMS Implementation and Organizational Changes

Questions	5 (Strongly Agreed)		4 (Agreed)		3 (Partial Agreed)		2 (Disagreed)		1 (Strongly Disagreed)	
	F	%	F	%	F	%	F	%	F	%
QMS implementation inflates the Organizational structure	20	14.18	23	16.31	22	15.60	36	25.53	40	28.37
QMS implementation creates functional Conflicts	37	26.24	41	29.08	25	17.73	18	12.77	20	14.18
QMS implementation does not depend in employees training and education	19	13.48	22	15.60	26	18.44	33	23.40	41	29.08
QMS implementation increased workload	24	17.02	38	26.95	22	15.60	35	24.82	22	15.60
QMS implementation is associated with increase and complex paper work	16	11.35	25	17.73	25	17.73	38	26.95	37	26.24
QMS implementation does not match the existing working culture the company	10	7.09	24	17.02	37	26.24	43	30.50	27	19.15
QMS is not suitable for Brewery factory	10	7.09	13	9.22	23	16.31	44	31.21	51	36.17

Source: Own survey, 2019

In figure 9 the reply from respondent regarding the QMS implementation inflates the organizational structure. 14.18% respondents have strongly agreed, 16.31 respondents have

agreed, 15.60 respondents have partial agreed, 25.53% respondents have disagreed and 28.37 respondents have strongly disagreed.

In figure 9 the reply from respondent regarding the QMS implementation creates functional conflicts is 19.15% of the respondents have strongly agreed, 22.70 of the respondents have agreed, 17.73 of the respondents have partial agreed, whereas, 19.86% respondents have disagreed and 20.57% of the respondents have strongly disagreed.

In figure 9, 13.48% of the respondent have strongly agreed on the QMS implementation does not depend in employees training and education, 15.60% of the respondents have agreed, 18.44% of the respondents have partial disagreed, while, 23.40% of the respondent have disagreed and 29.08 of the respondents have strongly disagree with the idea.

In figure 9, 17.02% of the respondents have strongly agreed with the idea of QMS implementation increased workload, 26.95 of the respondents have agreed with the idea, 15.60 of the respondents have partial agreed, while, 24.82% of the respondent have disagreed and 15.60% of the respondents have strongly disagreed with the idea.

In figure 9, 11.35% respondents have strongly agreed with the idea QMS implementation is associated with increase and complex paper work, 17.73% respondents have agreed with idea and 17.73% of the respondents have partially agreed. Whereas, 26.95% of the respondents have disagreed and 26.24% of the respondents have strongly disagreed.

In figure 9, 7.09% of the respondents have strongly agreed with the idea QMS implementation does not match the existing working culture the company, 17.02% of the respondents have agreed and 26.24% of the respondents have partially agreed. Whereas, 30.50% of the respondent have disagreed and 19.05% of the respondent have strongly disagreed.

In figure 9, 7.09% of the respondents have strongly agreed with the idea QMS is not suitable for Brewery factory, 9.22% of the respondent have agreed, and 16.31% of the respondents have partially agreed. Whereas, 31.21% of the respondents have disagreed and 36.17% of the respondents have strongly disagreed.

Figure 10 QMS Implementation and Productivities
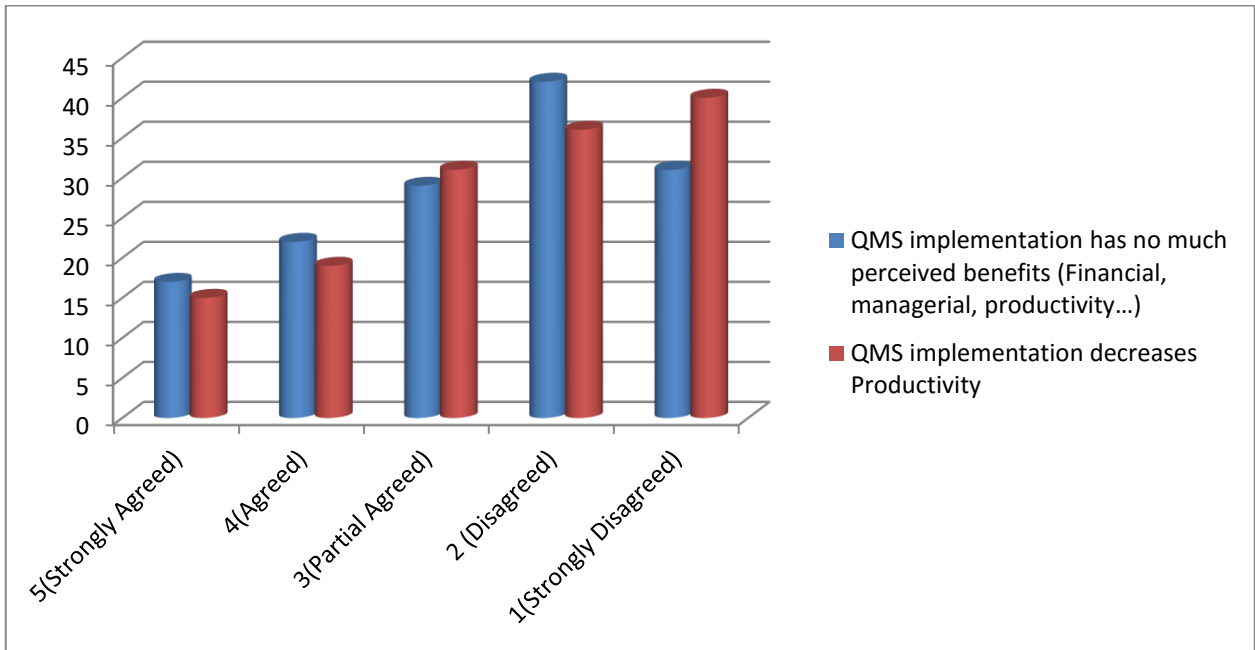
Source: Own survey, 2019

In figure 10, 10.64% of the respondents have strongly agreed with the idea of QMS implementation decreases productivity, 13.48% of the respondents have agreed, and 21.99% of the respondents have partially disagreed. Whereas, 25.53% of the respondents have disagreed and 28.37% of the respondents have strongly disagreed.

In figure 10, 12.06% of the respondents have strongly agreed with the idea of QMS implementation has no much-perceived benefits (Financial, managerial, productivity…), 15.60% of the respondents have agreed, and 20.57% of the respondents have partially agreed. Whereas, 20.57% of the respondents have disagreed and 21.99% of the respondents have strongly disagreed.

4.4 Barriers during QMS implementation in BGI-Ethiopia

To know the opinion of the respondent on the barriers of QMS implementation in the organization the researcher applied five Likert's i.e. 5 implies extremely high barriers to QMS implementation, 4 stands for high barrier, 3 implies for Medium or moderate barrier, 2 stands for low barrier and 1 for very low barrier to QMS implementation.

Figure 11: There is inadequacy understanding of the purposes, benefits and awareness

Questions	5(Extremely High)		4(High)		3(Medium)		2(Low)		1(Very Low)	
	F	%	F	%	F	%	F	%	F	%
There is lack understanding of the purposes of ISO certification	35	24.82	37	26.24	22	15.60	24	17.02	23	16.31
There is lack understanding the benefits of ISO 9000 certification	35	24.82	41	29.08	24	17.02	20	14.18	21	14.89
There is lack awareness of ISO 9000 standards by the employees of the organization	36	25.53	41	29.08	17	12.06	26	18.44	21	14.89

Source: Own survey, 2019

Figure 11, about there is lack understanding of the purposes of ISO certification 24.82% of the respondents rate extremely high barrier of QMS implementation, 26.24% of the respondents rate as high barrier, 15.60% of the respondents rate medium, 17.02% of the respondents rate low and 14.89% of the respondents rate very low barrier.

Figure 11, about there is lack understanding the benefits of ISO 9000 certification 24.82% of the respondents rate extremely high barrier of QMS implementation, 29.08% of the respondents rate

as high barrier, 17.02% of the respondents rate medium, 14.18% of the respondents rate low and 14.89% of the respondents rate very low barrier.

Figure 11, about there is lack understanding of the purposes of ISO certification 25.53% of the respondents rate extremely high barrier of QMS implementation, 29.08% of the respondents rate as high barrier, 12.06% of the respondents rate as medium, 18.44% of the respondents rate low and 14.89% of the respondents rate very low barrier.

Figure 12: There is lack of top management, middle management and employee commitment

Questions	5(Extremely High)		4(High)		3(Medium)		2(Low)		1(Very Low)	
	F	%	F	%	F	%	F	%	F	%
There is a lack of top management commitment to develop and implement of QMS in BGI-Ethiopia	51	36.17	41	29.08	19	13.48	17	12.06	13	9.22
There is a lack of middle management commitment to develop and implement of QMS in BGI-Ethiopia	44	31.21	37	26.24	23	16.31	18	12.77	19	13.48
There is a lack of employees commitment towards the QMS in BGI-Ethiopia	17	12.06	21	14.89	32	22.70	41	29.08	30	21.28

Source: Own survey, 2019

Figure 12, about there is lack of top management commitment to develop and implement of QMS in BGI-Ethiopia 36.17% of the respondents rate extremely high barrier of QMS implementation, 29.08% of the respondents rate as high barrier, 13.48% of the respondents rate as medium, 12.06% of the respondents rate low and 9.22% of the respondents rate very low barrier.

Figure 12, for the barrier of the lack of middle management commitment to develop and implement of QMS in BGI-Ethiopia, 31.21% of respondents have rate extremely high barrier of QMS implementation, 26.24% of the respondents have rate as high barrier, 16.31% of the respondents have rate as medium, 12.77% of the respondents have rate low and 13.48% of the respondents have rate very low barrier.

Figure 12, for the barrier of lack of employees commitment towards the QMS in BGI-Ethiopia, 12.06% of respondents have rate extremely high barrier of QMS implementation, 14.89% of the respondents have rate as high barrier, 22.70% of the respondents have rate as medium, 29.08% of the respondents have rate low and 21.28% of the respondents have rate very low barrier.

Figure 13: Ineffective communication and No cross-functional cooperation between departments in BGI-Ethiopia
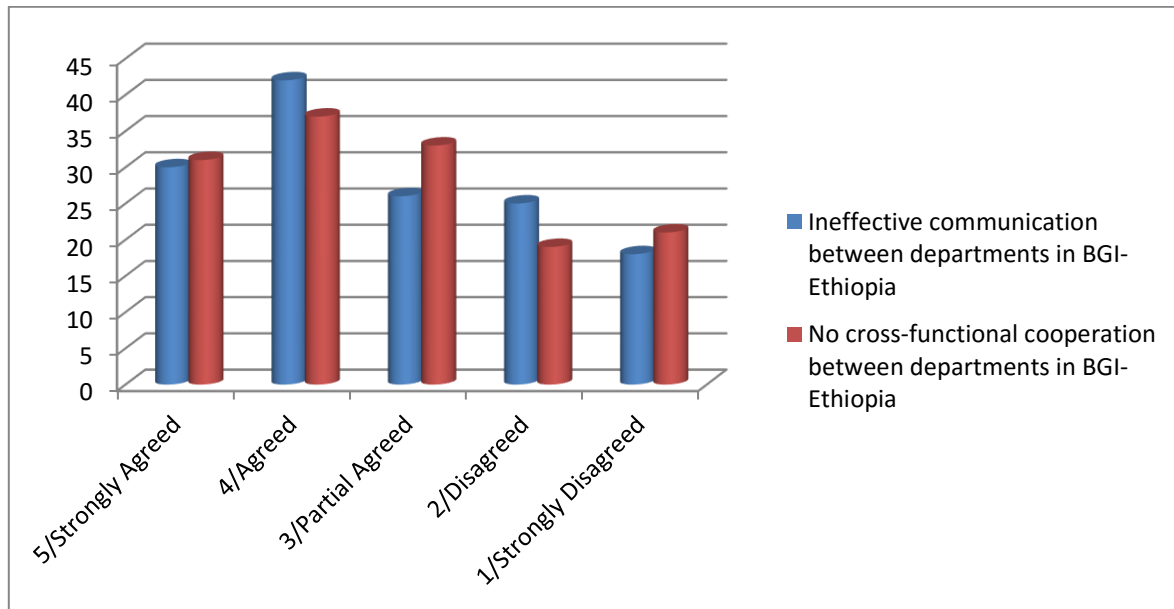
Source: Own survey, 2019

Figure 13, for the barrier of ineffective communication between departments in BGI-Ethiopia, 21.28% of respondents have rate extremely high barrier of QMS implementation, 29.79% of the

respondents have rate as high barrier, 18.44% of the respondents have rate as medium, 17.73% of the respondents have rate low and 12.77% of the respondents have rate very low barrier.

Figure 13, for the barrier of no cross-functional cooperation between departments in BGI-Ethiopia, 21.99% of respondents have rate extremely high barrier of QMS implementation, 26.24% of the respondents have rate as high barrier, 23.40% of the respondents have rate as medium, 13.48% of the respondents have rate low and 14.89% of the respondents have rate very low barrier.

Figure 14: No employee's engagement and empowerment and employees did resist change to the existing system
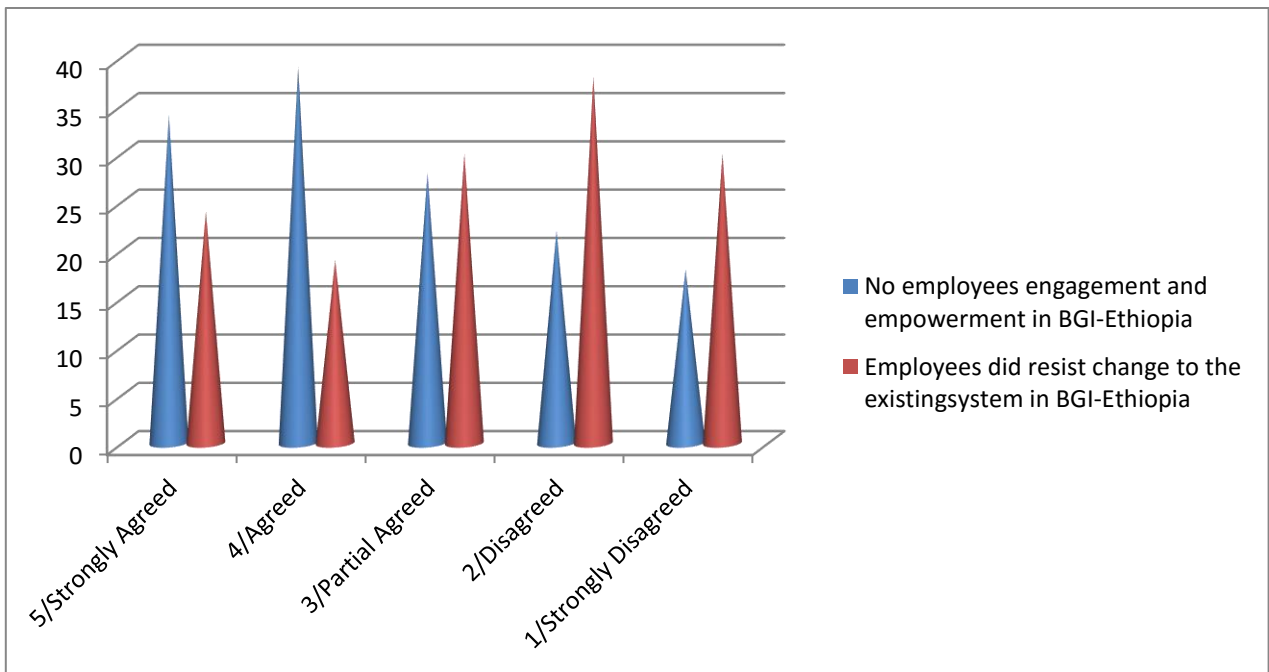
Source: Own survey, 2019

Figure 14, for the barrier of No employees engagement and empowerment in BGI-Ethiopia, 24.11% of respondents have rate extremely high barrier of QMS implementation, 27.66% of the respondents have rate as high barrier, 19.86% of the respondents have rate as medium, 15.60% of the respondents have rate low and 12.77% of the respondents have rate very low barrier.

Figure 14, for the barrier, Employees did resist change to the existing system in BGI-Ethiopia, 17.02% of respondents have rate extremely high barrier of QMS implementation, 13.48% of the

respondents have rate as high barrier, 21.28% of the respondents have rate as medium, 26.95% of the respondents have rate low and 21.28% of the respondents have rate very low barrier.

Figure 15: Seeking ISO 9000 certification not as further quality improvement in BGI-Ethiopia

Questions	5(Extremely High)		4(High)		3(Medium)		2(Low)		1(Very Low)	
	F	%	F	%	F	%	F	%	F	%
Seeking ISO 9000 certification not as a further Quality improvement in BGI-Ethiopia	36	25.53	40	28.37	25	17.73	21	14.89	19	13.48

Source: Own Survey, 2019

Figure 15, for the barrier, Seeking ISO 9000 certification not as a further Quality improvement in BGI-Ethiopia, 25.53% of respondents have rate extremely high barrier of QMS implementation, 28.37% of the respondents have rate as high barrier, 17.73% of the respondents have rate as medium, 14.89% of the respondents have rate low and 13.48% of the respondents have rate very low barrier.

Figure 16: Additional work load, Conflict between new and existing, properness of the developed organization

Questions	5(Extremely High)		4(High)		3(Medium)		2(Low)		1(Very Low)	
	F	%	F	%	F	%	F	%	F	%
Additional workload from implementation of quality management system in BGI-Ethiopia	19	13.48	22	15.60	26	18.44	39	27.66	35	24.82

Conflict between the new QMS processes and the existed company processes	31	21.99	44	31.21	23	16.31	26	18.44	17	12.06
There is lack of properness of the developed organizational structure in BGI Ethiopia	33	23.40	34	24.11	30	21.28	21	14.89	23	16.31

Source: Own survey, 2019

Figure 16, for the barrier, additional workload from implementation of quality management system in BGI-Ethiopia, 13.48% of respondents have rate extremely high barrier of QMS implementation, 15.60% of the respondents have rate as high barrier, 18.44% of the respondents have rate as medium, 27.66% of the respondents have rate low and 24.82% of the respondents have rate very low barrier.

Figure 16, for the barrier, conflict between the new QMS processes and the existed company processes, 21.99% of respondents have rate extremely high barrier of QMS implementation, 31.21% of the respondents have rate as high barrier, 16.31% of the respondents have rate as medium, 18.44% of the respondents have rate low and 12.06% of the respondents have rate very low barrier.

Figure 16, for the barrier, there is lack of properness of the developed organizational structure in BGI Ethiopia, 23.40% of respondents have rate extremely high barrier of QMS implementation, 24.11% of the respondents have rate as high barrier, 21.28% of the respondents have rate as medium, 18.44% of the respondents have rate low and 16.31% of the respondents have rate very low barrier.

Figure 17: There is lack of periodic management review of QMS in BGI-Ethiopia.

Questions	5(Extremely High)		4(High)		3(Medium)		2(Low)		1(Very Low)	
	F	%	F	%	F	%	F	%	F	%
There is a lack of periodic management review of QMS in BGI-Ethiopia	31	21.99	39	27.66	29	20.57	22	15.60	20	14.18

Source: Own Survey, 2019

Figure 17, for the barrier, there is a lack of periodic management review of QMS in BGI-Ethiopia, 21.99% of respondents have rate extremely high barrier of QMS implementation, 27.66% of the respondents have rate as high barrier, 20.57% of the respondents have rate as medium, 15.60% of the respondents have rate low and 14.18% of the respondents have rate very low barrier.

Figure 18: The organization has lack of recording of management review results

Questions	5(Extremely High)		4(High)		3(Medium)		2(Low)		1(Very Low)	
	F	%	F	%	F	%	F	%	F	%
The organization have a lack of recording of management review results	37	26.24	38	26.95	27	19.15	22	15.60	17	12.06

Source: Own survey, 2019

Figure 18, for the barrier, the organization have a lack of recording of management review results, 26.24% of respondents have rate extremely high barrier of QMS implementation, 26.95% of the respondents have rate as high barrier, 19.15% of the respondents have rate as medium, 15.60% of the respondents have rate low and 12.06% of the respondents have rate very low barrier.

Figure 19: No outside pressure to make the organization implement the standards

Questions	5(Extremely High)		4(High)		3(Medium)		2(Low)		1(Very Low)	
	F	%	F	%	F	%	F	%	F	%
No outside pressure to make the organization implement the standards	35	24.82	37	26.24	22	15.60	24	17.02	23	16.31

Source: Own survey, 2019

Figure 19, for the barrier, no outside pressure to make the organization implement the standards, 24.82% of respondents have rate extremely high barrier of QMS implementation, 26.24% of the respondents have rate as high barrier, 15.60% of the respondents have rate as medium, 17.02% of the respondents have rate low and 16.31% of the respondents have rate very low barrier.

Figure 20: The employees see the quality management system as punch tool in BGI-Ethiopia

Questions	5(Extremely High)		4(High)		3(Medium)		2(Low)		1(Very Low)	
	F	%	F	%	F	%	F	%	F	%
The employees see the quality management system as a punch tool in BGI-Ethiopia	20	14.18	23	16.31	26	18.44	38	26.95	34	24.11

Source: Own survey, 2019

Figure 20, for the barrier, the employees see the quality management system as a punch tool in BGI-Ethiopia, 14.18% of respondents have rate extremely high barrier of QMS implementation, 16.31% of the respondents have rate as high barrier, 18.44% of the respondents have rate as medium, 26.95% of the respondents have rate low and 24.11% of the respondents have rate very low barrier.

Figure 21: There is lacks of training programs relating to QMS in BGI-Ethiopia

Questions	5(Extremely High)		4(High)		3(Medium)		2(Low)		1(Very Low)	
	F	%	F	%	F	%	F	%	F	%
There is lack of training programs relating to quality management system in BGI-Ethiopia	35	24.82	41	29.08	24	17.02	20	14.18	21	14.89

Source: Own survey, 2019

Figure 21, for the barrier, there is lack of training programs relating to quality management system in BGI-Ethiopia, 24.82% of respondents have rate extremely high barrier of QMS implementation, 29.08% of the respondents have rate as high barrier, 17.02% of the respondents have rate as medium, 14.18% of the respondents have rate low and 14.89% of the respondents have rate very low barrier.

4.5 Interviews Outcome

The data collected through the interviews was done with three relevant mangers which have the responsibility to lead the Quality Management System development and implementation in BGI-Ethiopia. Based on the leading question the response is summarized as follow;

 A. How were QMS developed in BGI-Ethiopia and what are the drivers?

The entire respondent agreed the QMS development was not covered all department from end to end whereas the necessary preparation done during the development like identifying the gaps, defining the steps for each process, defining the terminology, and documentations. On the other hand, there were problem in provided enough training to employees and managers. In addition to that the respondent agreed the driver for developing QMS is to improve process and satisfy the customers.

B. What is the status of QMS implementation in BGI-Ethiopia, what resource are ready to implement, what about commitment of top management?

The status of QMS implementation is not full and effective. There was not enough human resource assigned to implement as well as there were financial resource constraint for implementation of QMS. In addition, there were resistances from some managers. On the other hand, the top management commitment was good but lack of follow up on the implementation of QMS.

C. What are the barriers during the implementation of QMS in the BGI- Ethiopia?

The main barriers mentioned by all respondents are as follows:
*   Insufficient resources allocation. All respondent agreed as one of the key barriers.
*   Lack of top management commitment. Majority respondent agreed as one of the key barriers.
*   Ineffective cross-functional communication and lack co-operation among middle managers over quality problems.
D. Which areas need improvements and what are the appropriate measures that help to have effective QMS in BGI-Ethiopia?

The entire respondent agreed for successful implementation of QMS the following need to be considered:
  o Commitment at all level specially the top management
  o Effective communication and cooperation with in and outside the organization

4.6   Observation of the researcher

Based the personal observation documentation was done in good manner, process are identified in all the process, quality policy are prepared, reviewed mechanisms are also established, responsibilities and authority are defined, quality objectives, requirements for products also prepared, and new section was established to lead the Quality Management System development and implementation in BGI-Ethiopia. On the other side the implementation is not coverage all the departments, even the department start implementation are not effectively, there are gaps in implementations.

<center>**Chapter Five:**</center>

5. Conclusion and Recommendations

5.1   Introduction

In this chapter, summary of the findings and conclusions based on the objectives of the study, namely, the challenges of Quality Management Systems implementation in BGI-Ethiopia's were discussed.

5.2   Conclusion

5.2.1   QMS Practices and Effectiveness in BGI-Ethiopia

1. The majority of the 75.18% have above first-degree holders which implies also prior know how on theoretical aspects of QMS. In addition to that the majority of the respondents i.e. 62.41% are professionals and have more than three working experience i.e. 71.64%.

2. Majority of the respondent disagreed with the idea of the QMS is too difficult to learn and develop and implementation.

3. Majority of the respondent disagreed with idea QMS implementation creates extensive changes and associated with high cost.

4. Majority of also dis agreed with the idea QMS implementation success is a top management responsibility, QMS is a managerial luxury, and with the idea QMS implementation inflates the organizational structure,

5. Majority of the respondent agreed with the idea QMS implementation creates functional conflicts.

6. Majority of the respondent disagreed with the idea QMS implementation does not depend in employees training and education.

7. Majority of the respondents strongly agreed with the idea of QMS implementation increased workload and with the idea QMS implementation is associated with increase and complex paper work.

8. Majority of the respondents disagreed with the idea QMS implementation does not match the existing working culture the company.

9. Majority of the respondents strongly disagreed with the idea QMS is not suitable for Brewery factory.

10. Majority of the respondents disagreed with the idea of QMS implementation decreases productivity and with the idea of QMS implementation has no much-perceived benefits (Financial, managerial, productivity…)

5.2.2   Barriers during QMS implementation in BGI-Ethiopia

1. Most of the respondent rate as high QMS implementation barrier for inadequacy in the understanding of the purposes and benefits of ISO certification and also for inadequacy in the awareness of ISO 9000 standards by the employees of the organization. Whereas seeking ISO 9000 certification not as a further Quality improvement in BGI-Ethiopia was rated as extremely high barrier to QMS implementation.

2. Most of the respondents rate extremely high barrier for poor top management commitment to develop and implement of QMS in BGI-Ethiopia. In addition to that most of the respondent also rate as high barrier for the lack of middle management commitment to develop and implement of QMS in BGI-Ethiopia. While most of the respondent's rate as low barrier for lack of employee's commitment towards the QMS in BGI-Ethiopia.

3. Ineffective communication between departments in BGI-Ethiopia and no cross-functional cooperation between departments also rate as high barrier for QMS implementation in BGI-Ethiopia.

4. On the other side no employee's engagement and empowerment in BGI-Ethiopia rated as extremely high barrier to QMS implementation in BGI-Ethiopia. While employees did resist change to the existing system in BGI-Ethiopia were rated as low barrier to QMS implementation in organization.

5. The additional workload from implementation of quality management system and the employees see the quality management system as a punch tool in BGI-Ethiopia rated low.

6. The conflict between the new QMS processes and the existed company processes and no outside pressure to make the organization implement the standards were rated extremely high barrier of QMS implementation and lack of properness of the developed organizational structure in BGI Ethiopia rated as high barrier.

7. Lack of periodic management review of QMS and the organization have a lack of recording of management review results rated as extremely high barrier to QMS implementation in BGI-Ethiopia

5.3   Recommendations

Based on the finding the following recommendation can be made;

1. Awareness creation program should be prepared on the purposes, benefits of ISO certification and ISO 9000 standards to employers and managers.

2. The management should be giving emphasis on the advantage of ISO 9000 certification as a further Quality improvement in in the organization.

3. Top management and middle management have to be visibly and explicitly committed to quality management system implementation. Much more attention, have to be paid to the quality implementation in both human and financial resources.

4. Top management should be giving focus in improving the communication between departments and cooperation between cross-functional departments

5. The employee's engagement and empowerment in BGI-Ethiopia should also need to improvement for effective implementation of QMS.

6. Management should to prepared awareness creation activities in all level to tackle the misunderstanding between new QMS processes the existing company processes and on the benefit of QMs certification.

6. Bibliography

Aberdeen, F. L. (2019, 01 04). *FQM Ltd Aberdeen*. Retrieved from FQM Ltd Aberdeen: https://fqmltd.com/services/management-systems/benefits-of-qms-2/

ASQ. (2019, 01 08). Retrieved from ASQ: https://asq.org/quality-resources/iso-9000

Beshah, B., Kitaw, D., & Alemu, N. (January 2013). Significance of ISO 9000 Quality Management System for Performance Improvement in the Developing Countries. *KJBM Vol. 5 Issue No. 1*, 44. Retrieved from Academia Education: http://www.academia.edu/9570343

BGI-Ethiopia, B. (2019, 05 21). *BGI-Ethiopia*. Retrieved from BGI Ethiopia: http://bgiethiopia.com/brewery/

BGI-Ethiopian. (2018, December 30). *BGI-Ethiopia*. Retrieved from BGI-Ethiopia: http://www.bgiethiopia.com

DALE, B. G. (2003). *Managing Quality.* Berlin,: Blackwell Publishing Ltd.

Davis, D. L., & Stanley, G. (2014). *Quality Management for Organizational Excellence: Introduction to Total Quality.* Harlow, England: Pearson Education Limited.

Diaz, E. (2014, août 19). *Geneva Business News*. Retrieved from Geneva Business News: https://www.gbnews.ch/what-is-your-definition-of-quality/

Fasika BeteKitaw, D. (2003). QUALITY MANAGEMENT: EFFORTS AND PROBLEMS IN ETHIOPIAN MANUFACTURING INDUSTRIES. *Journal afEEA, VoL20*, pp. 62-63.

Hussein, B., Abou-Nassif, S., Aridi, M., Chamas, M., & Khachfe, H. (2017, October 30). Challenges and Prospects of Implementing ISO 9001:2015 in Lebanese Higher Education Institutions. *ISSN 2422-8397, Vol.33*, p. 43.

LÖFGREN, V. (2012). *Developing and implementing a quality management system in a startup company.* Göteborg, Sweden: Chalmers University of Technology.

McKinley, K. (2016). *ISO 9001:2015 for Small Enterprises What to do ?* Geneva: Published in Switzerland.

Mutesi. (2018, August 08). Retrieved from Mutesi : https://mutesi.net/the-evolution-of-ethiopias-beer-industry/

Nanda, V. (2005). *QUALITY MANAGEMENT SYSTEM HANDBOOK for PRODUCT DEVELOPMENT COMPANIES.* Boca Raton London New York Washington, D.C.: CRC PRESS.

Natarajan, D. (2017). *ISO 9001 Quality Management System.* Bangalore: Springer International Publishing.

Neyestani, B. (2016). Effectiveness of Quality Management System (QMS) on Construction Projects. *Munich Personal RePEc Archive*, 13.

Neyestani, B. (2016). Effectiveness of Quality Management System (QMS) on Construction Projects. *Munich Personal RePEc Archive*, 13.

Ogany, D. A. (2017). Factors Influencing Implementationof QMS in Technical Vocational Education and Training Institutions in Nairobi, Kenya. 68-69.

Osman, A. M. (2016). Barriers affecting of the implementation of. 10-11.

Patel, S. (2016). *THE Global Quality Management System: I m p r o v e m e n t T h r o u g h Sy st e m s T h i n k i n g.* Boca Raton: CRC Press.

Purushothama, B. (2015). *Implementing ISO 9001:2015.* New Delhi : Woodhead Publishing India Pvt. Ltd.

Ramdass, K., & Nemavhola, F. (August 2018). COST IMPLICATIONS OF THE ISO 9001 QUALITY MANAGEMENT SYSTEM IN SOUTH AFRICAN MANUFACTURING ORGANISATIONS. *South African Journal of Industrial Engineering*, 18.

Rivera, B. (2017). How to develop a QMS.

Sharif, I. M. (2005). *The Barriers Affecting the Implementation of Quality Management System-ISO 9000 in Libyan Manufacturing Public Sector Organisations.* UK: University of Salford.

Sikora, T., & Nowicki, P. (2012). Challenges of Quality Management. (p. 1). Cracow: PTTZ Publishing House.

Tulu, D. (2011). Impact of ISO 9001 Certification on Companies‟ Performance- The Case of Ethiopian Brewery Companies. 26.

Vrellas, C. G., & Tsiotras, G. D. (2013). Quality management in the global brewing industry. *International Journal of Quality & Reliability Management*, 45.

Annex I: Questionnaires

St. Merry University

Institute of Quality and Productivity Management

Challenges of Implementing Quality Management System in BGI-Ethiopia

Dear Respondent

Thank you for contributing your valuable time to completing this survey. Your reply will provide beneficial information to identify and investigate the Challenges of Implementing Quality Management System in BGI-Ethiopia which hopefully can provide valuable information to enhance the quality management practices in this organization.

Results will be presented as a summary of all respondents. All responses will be strictly confidential. Should there be any questions, concerns or suggestions regarding this study, please feel free to contact me at mobile # +**251910669610** or by e-mail at:

azebgebregergs7@gmail.com

Thank you in advance for your response.

Sincerely,

Azeb Gebregergis

I.   Profile about the respondent: please tick one of the options from each question.

A. Site or Factory

   Addis Ababa ☐   Kombolcha ☐   Hawassa ☐

B. Occupation/Career

   Top Management ☐   Middle Management ☐   Professionals ☐

C. Educational background

   Master's ☐   Degree ☐   Diploma ☐   Others ☐

D. Work Experience

   Less than three year ☐   3-5 years ☐   6-10 years ☐

   Above 10 years ☐

II.   QMS Practices and Effectiveness

Please mark with a cross (x) in the applicable box to rate your level of agreement or disagreement for the following Statements. The five Likert's scale stand as follow; 5 for Strongly Agreed, 4 for agreed, 3 for partial agreed, 2 for disagreed and 1 for strongly disagreed.   Please mark one box only.

S/NO	QMS implementation in BGI-Ethiopia	5	4	3	2	1
1	QMS is too difficult to learn and develop					
2	QMS is too difficult to learn and implement					
3	QMS implementation is associated with extensive changes					
4	Quality system implementation is associated with high cost					
5	QMS implementation success is a top Management responsibility only					
6	QMS implementation decreases Productivity					
7	QMS implementation inflates the Organizational structure					
8	QMS implementation creates functional Conflicts					
9	QMS implementation does not depend in employees training and education					
10	QMS implementation increased workload					
11	QMS is a managerial luxury					
12	QMS is not suitable for Brewery factory					
13	QMS implementation is associated with increase and complex paper work					
14	QMS implementation has no much perceived benefits (Financial, managerial, productivity…)					
15	QMS implementation does not match the existing working culture the company					

III.   QMS Barriers

Please tick with a cross (x) in your appropriate option in the right hand columns, where 5 for Extremely High, 4 for High, 3 for Medium, 2 for Low, and 1 for Very Low. Your selected answer must represent your opinion about what is present in overall consortium. If the organization faced other barriers, please write them in the last page of this questionnaire or if you want to write some comments about your answers.

S/NO	Barriers during implementation of QMS in the BGI-Ethiopia	5	4	3	2	1
1	There is inadequacy understanding of the purposes of ISO certification					
2	There is inadequacy understanding the benefits of ISO 9000 certification					
3	There is inadequacy awareness of ISO 9000 standards by the employees of the organization					
4	There is a lack of top management commitment to develop and implement of QMS in BGI-Ethiopia					
5	There is a lack of middle management commitment to develop and implement of QMS in BGI-Ethiopia					
6	There is a lack of employees commitment towards the QMS in BGI-Ethiopia					
7	Ineffective communication between departments in BGI-Ethiopia					
8	No cross-functional cooperation between departments in BGI-Ethiopia					
9	No employees engagement and empowerment in BGI-Ethiopia					
10	Employees did resist change to the existing system in BGI-Ethiopia					
11	Seeking ISO 9000 certification not as a further Quality improvement in BGI-Ethiopia					
12	Additional workload from implementation of quality management system in BGI-Ethiopia					
13	Conflict between the new QMS processes and the existed company processes					
14	There is lack of properness of the developed organizational structure in BGI Ethiopia					

15	There is a lack of periodic management review of QMS in BGI-Ethiopia					
16	The organization have a lack of recording of management review results					
17	No cross-functional cooperation between departments in BGI-Ethiopia					
18	The employees see the quality management system as a punch tool in BGI-Ethiopia					
19	There is lack of training programs relating to quality management system in BGI-Ethiopia					

Q: Please list any other barriers you think affecting the QMS implementation in the company?

_____

Notices, comments and any addition from the respondent:

_____

Thank you very much for your time and energy!!!

Annex II: Interview Questions

A. How were QMS developed in BGI-Ethiopia and what are the factors?

B. What is the status of QMS implementation in BGI-Ethiopia, what resource are ready to implement, what about commitment of top management?

C. What are the barriers during the implementation of QMS in the BGI- Ethiopia?

D. Which areas need improvements and what are the appropriate measures that help to have effective QMS in BGI-Ethiopia?

Annex: III The comparison between the clauses of ISO 9001:2008 & 2015

Clause	ISO 9001:2008 ISO 9001:2015	ISO 9001:2008 ISO 9001:2015
1	Scope	Scope
2	Normative references	Normative references
3	Terms and definitions	Terms and definitions
4	Quality Management System	Context (Environment) of the organization
5	Management Responsibility	Leadership
6	Resource Management	Planning
7	Product Realization	Support
8	Measurement, Analysis and Improvement	Operation
9		Evaluation
10		Improvement

Source: (Neyestani, 2016)