



**American College of Technology  
Department of Business Studies**

**Effect of Total Quality management Practices on Competitive  
Advantage in Manufacturing Companies in Ethiopia: The case of  
Kality Steel Factory**

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**A THESIS SUBMITTED TO AMERICAN COLLEGE OF  
TECHNOLOGY, DEPARTMENT OF BUSINESS STUDIES IN  
PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE  
AWARD OF A MASTERS DEGREE IN BUSINESS ADMINISTRATION**

**DECEMBER, 2023**

**ADDIS ABABA, ETHIOPIA**

## **Declaration**

I hereby declare that this MA thesis entitled effect of Total Quality management practices on Competitive Advantage in Manufacturing Companies in Ethiopia: The case of Kality Steel Factory is my original work and has not been presented for a degree in any other university, and all sources of materials used for this thesis have been duly acknowledged.

**Name** Tigist Taye

**Signature**  \_\_\_\_\_

## Approval

This is to certify that the thesis” Effects of Total Quality management practices on Competitive Advantage in Manufacturing Companies in Ethiopia: The case of Kality Steel Factory” submitted in partial fulfillment of the requirements for the degree of Master’s in business administration has been carried out by Tigist Taye under my supervision. I recommend that the student has fulfilled the requirements and hence hereby can submit the thesis to the department for defense.

Name of Advisor----- Signature -----Date -----

## Acknowledgement

First and for most I would like to thank my advisor Asmamaw Mengiste, PhD for his unreserved guidance, constructive comments and kind and polite treatment to the realization of this study. I would also like to thank employees and managers of Kality Steel Factory for providing the necessary inputs during the data collection process that helped me for the successful completion of my thesis. Finally my deepest thank goes to my family and friends who have been devoting in sharing their knowledge, giving comments and suggestions on the work to conduct this thesis.

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## **Abbreviations and acronyms**

ANOVA= Analysis of Variance

JPRC= Jordan Petroleum Refinery Company

MOTAC= Ministry of Tourism and Culture

NKEA= National Key Economic Area

PDCA= Plan-Do-Check-Act

PLC= Private Limited Company

R&D= Research and Development

RBV= Resource based view

SPSS Statistical Package for Social Science

SQM= Service Quality Management

TQM= Total Quality Management

## Abstract

*The main objective of the study is to assess Effect of Total Quality management practices on competitive advantage in manufacturing companies in Ethiopia particularly on Kality Steel Factory. To achieve the objectives of the study and to answer the basic research questions of the study, the researcher used explanatory research design, mixed research approach. The main data collection tools were questionnaires and interviews. The main methods of data analysis were descriptive statistics (mean and standard deviation), Pearson correlation and multiple regressions. The researcher used purposive and random sampling techniques. The findings of the study indicated that TQM practices were implemented by Kality Steel Factory PLC but at varying degrees. For example, top management Commitment; teamwork and Employee Empowerment dimensions were adopted in a moderate level. While, Customer relationship management, Continuous Improvement and Employee Involvement dimensions were adapted to a low extent. Customer relationship management, Top management Commitment, Continuous Improvement, Teamwork, Employee Involvement and Employee Empowerment had positive and significant effect on competitive advantage. In addition the findings of the study indicated that the coefficient of determination (R Square) shows that 79.1 % of competitive advantage is determined by Top Management Commitment, Teamwork, Continuous improvement, employee empowerment, and Employee Involvement and Customer relationship management. The remaining 20.9% of competitive advantage is determined by other factors not included in this study. TQM practices like Customer relationship management, Top management Commitment, Continuous Improvement, Teamwork, Employee Involvement and Employee Empowerment had positive and significant correlation with competitive advantage at 1% level of significance. There is 88.9% of correlation between Top Management Commitment, Teamwork, Continuous improvement, employee empowerment, Employee Involvement and Customer relationship management and competitive advantage. This implies that Top Management Commitment, Teamwork, Continuous improvement, employee empowerment, Employee Involvement and Customer relationship management and competitive advantages goes hand in hand. The basic strategy used in to enhance competitive advantages in Kality Steel Factory PLC includes the implementation of total quality management practices like Customer relationship management, Top management Commitment, Continuous Improvement, Teamwork, Employee Involvement and Employee Empowerment. From the analysis we can concluded that project Top management Commitment and Continuous Improvement are the most significant factor that affect competitive advantage followed by Employee Empowerment, Customer relationship management, Teamwork and Employee Involvement. Conducting relevant training for the employees to inculcate in them the principles and practices of TQM in order to eliminate or reduce to the barest minimum resistance to change.*

**Key Words:** total quality management Practices, competitive advantage, Plan-Do-Check-Act, continuous improvement

# Chapter One

## Introduction

### 1.1. Background of the Study

Total quality management (TQM) is seen as marketing strategy by businesspersons, and considered as a best alternative for getting competitive priorities. TQM has become progressively predominant as one of the strategies to ensure improving products and service quality, customer satisfaction and promote continuous improvement (Olusanya and Adegbola, 2014).

Chaghooshi, et al (2015) agreed that TQM is the main approach for top management to gain and maintain competitive advantages and organizational performance which leading to sustainable competitive advantage. The main goal of (TQM) is improving quality beyond customer expectations and constantly striving for improvement. TQM was popularized by quality guru William Edwards Deming, who describes the organization as interconnecting systems that are designed to meet the needs of the consumer; in these systems, processes and activities are connected to each other and work with each other (Rawashdeh, 2018). Quality improvement is not a technique but an extremely well thought out philosophy whose essence is the cooperation of employees and their constant learning, in order to facilitate the adoption of business practices and theories that further enhance the business as a whole (Tomic, 2017).

Total quality management gives everyone in the company responsibility for delivering quality to the final consumers. TQM views each task in the organization as fundamentally a process aims at enhancing in competitive advantages. The aim at each stage is to define and meet the customers' needs in order to maximize their satisfaction and retain their patronage.

Total quality management involves total commitment on the part of an organization to satisfying customers through the use of an integrated system of tools, techniques and training (Silas and Ebrahimpour, 2015). It is geared towards increasing the production of better products and services at more competitive price. It involves the continuous improvement of organizational processes, resulting in the manufacture of high quality products and services. It is thus primarily a change in the technology of an organization and its way of carrying out its operations. In service organizations, this means the way clients are processed, the service

delivery methods applied by the enterprise and the ancillary organizational processes in place (Silas and Ebrahimpour, 2015).

Substantial and positive change can occur in an organization in three dimensions and that such change must be properly aligned in order to give value to the enterprise. Total quality management as a technological change will not be successful unless cultural and political dimensions are attended to as well. TQM results in a radical change in the culture and the way work is done in an organization. A system of TQM directs the effort of the entire firm towards higher customer satisfaction, continuous improvement, and employee involvement. TQM involves a system of management that involves all people in an organization delivering products or services that meet or exceed customer requirements (Heizer and Barry, 2015).

Garvin (2011) asserted that TQM is a preventive, proactive approach to doing business and as such it reflects strategic leadership, common sense, data-driven approaches to problem solving and decision making, employee involvement and sound management practice (Krajewski, Ritzman and Malharta, 2016).

Motwani (2014) noted that total quality management has been widely used in manufacturing, education, hospitals, call centers, government and service industries. It is a management approach for an organization, centered on quality, based on the participation of all its members and aimed at long-term success through customer satisfaction, and benefits to all members of the organization and to the society (Flyon, Schroder and Sakakibara, 2013).

It involves making constant effort to identify what the customers want from time to time and determining how to cater for them based on the recognition of the fact that customers' needs, desires and wants normally change over time, in relation to changes which may occur in the key aspects of the environment such as; social, political, economic and technological environments. TQM is a culture of continuous improvements based on continuous learning and adaptation to changes in consumer demand and product or operational methods (Powe, 2015). Therefore, the main purpose of this study is to assess the effects of total quality management practices on organizational performance in Kality Steel Factory . Therefore, this study is devoted to investigate the effect of TQM on competitive advantages.

## **1.2. Statement of the Problem**

Total quality management is the popular approach to improving quality. It involves the organizations long term commitment to the continuous improvement of quality, throughout

the organization and with the active participation of all members at all levels to meet and exceed customer's expectations (Nzuve and Bakari, 2012).

Nurhayati and Mulyani, (2015) also states that TQM as the state in which all the activities of all the functions are designed and carried out, in such a way that all external customers' requirements are met while reducing internal time and cost, thus enhancing the work place climate. Total quality management involves making constant effort to identify what the customer wants from time to time and determining how to cater for them. This is based on the recognition of the fact that customers need, desires, and wants normally changes overtime in relation with changes which may occur in key aspects of the environment such as social, political, economic and technological changes. TQM is a culture of continuous improvement based on continuous learning and adaptation to changes in customer demand and product or operational method.

Total quality management is a style of management that gives everyone in the company responsibility for delivering quality to the final consumers. Quality being described as a fitness for purpose or as a delight to the customers' needs. TQM views each task in the organization as fundamentally a process in a customer-supplier relationship with the next process. The aim at each stage is to define and meet the customer's requirements in order to maximize the satisfaction of the final consumer at the lowest possible cost (Omogbiya & Addah, 2016).

However, incompetence on the part of employees could result to poor quality output. This undermining of the product quality affects the standard, organization reputa, quality control and patronage. Organizations have witnessed different negative impacts because of substandard products or fake adulterated ones. If products are not of the required specifications, this could make the products un-competitive both at national and international markets, money spent in the production may not be recovered or waste of resources and returns on investments will fall drastically. Often, lives are lost as a result of the consumption of products produced below specifications or sub-standard. Also inferior products affect the customer health and satisfaction (Omogbiya & Addah , 2016).

The organizations corporate image and profitability are also affected negatively, due to non-adherence to total quality management principles. It is against this backdrop that this study seeks to x-ray the impact of total quality management on competitive advantages of Kality

Steel Factory. Therefore, the main purpose of this study is to assess the effects of total quality management practices on competitive advantage in Kality Steel Factory.

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

The study was intended to answer the following basic research questions

1. To what extent the principles of TQM are implemented at Kality Steel Factory?
2. What is the impact of TQM implementation on competitive advantage in Kality Steel Factory?
3. What is the relationship between TQM implementation and competitive advantage in Kality Steel Factory?
4. What are the strategies used to enhance competitive advantages in Kality Steel Factory?

### **1.4. Objectives of the study**

#### **1.4.1. General Objectives**

The main objective of the study is to assess the effects of Total Quality management practices on Competitive Advantage in Kality Steel Factory

#### **1.4.2 Specific Objectives**

Specifically, the study was intended to achieve the following objectives

1. To examine TQM principles of are implemented at Kality Steel Factory
2. To investigate the impact of TQM implementation on competitive advantage in Kality Steel Factory
3. To take stock the relationship between TQM implementation and competitive advantage in Kality Steel Factory
4. To examine the strategies used to enhance competitive advantages in Kality Steel Factory

### **1.5. Significance of the Study**

The findings of the study increased add to the body of knowledge, specifically in regard to TQM practices in light of the fast change of competition in manufacturing companies and hopefully rekindle the demand for further research notably looking into competition, technology, innovations, government support and risks and their effects on competitive advantage.

The study also supplements the existing literature, and is an invaluable tool for students, academicians, institutions, corporate managers and individuals who want to know more about the TQM management practices nexus.

This study is expected to increase body of knowledge to the scholars on the benefits of TQM practices adoption in manufacturing companies and especially make them in touch with the internal and external factors influencing service quality.

In essence, it also assists future scholars, researchers and practitioners in the area of manufacturing industry best practices and TQM adoption as they able to find materials besides areas where they can advance their research on the related subjects.

Policy makers would infer from the study on company initiatives especially manufacturing industries in promoting TQM practices to enhance efficiency. The study enables the policy makers to be aware of the effects of in efficiencies on performance on companies.

### **1.6. Scope of the Study**

In terms of concepts the study incorporates effect of total quality management practices on Competitive Advantage in Kality Steel Factory. The study variables includes independent variables of the study are (Top Management Commitment, Teamwork, Continuous improvement, employee empowerment, Employee Involvement and Customer relationship management ) and the dependent variable is (competitive advantages). In terms of geography, the study was conducted on Kality Steel Factory. The study used employees and managers of Kality Steel Factory.

Methodologically, the study utilized explanatory research design, mixed research approach, questionnaires and interviews, descriptive statistics (mean and standard deviation), Pearson correlation and multiple regressions, purposive and random sampling techniques.

### **1.7. Limitations of the Study**

During the data collection, process the reluctance of the respondents was the first limitation of the study. It is very important to note that these limitations did not have any significant interference with the outcome of the study. Because the reluctance of the respondents did not affect the completion of the study in the given time period. Another serious limitation of the study was lack of secondary data on total quality management practices and competitive advantage.



## **1.8. Organization of the Paper**

The thesis is consists of five chapters. The first chapter deals with background of the study, statement of the problem, general and specific objectives, research questions, significance, scope of the study, organization of the paper and definition of key words. The second chapter comprises review of related literature with theoretical framework, empirical framework and conceptual framework. The third chapter incorporates on the overall research methodology that follow research design and approach, population and sampling design, data sources, instruments of data collection, methods of data analysis, model specification, reliability and validity, instrumentations of variables and ethical issue consideration. The fourth chapters focus on data presentation, analysis, interpretation, and discussion. The final chapter addresses summary findings, conclusions and recommendations.

## CHAPTER TWO

### 2. REVIEW OF RELATED LITERATURE

#### Introduction

The importance of literature review is that, what the review should for the researcher, how it links to my research questions, my research methods, my theoretical framework and my findings. The review of related literature of this study encompasses four sections. The first part deals with theoretical literature on total quality management practices and competitive advantage. The second part, empirical studies on the effects of total quality management practices on competitive advantage. The third part incorporates with conceptual framework of the study that shows the relationship between independent variables (total quality management practices) and the dependent variable (competitive advantage).

#### 2.1. Theoretical Review

The debates on the TQM concept and its effect on the firms operations can be discussed in light of two theories in the subject area namely: systems theory, market based theory of competitive advantage and the resource based view (RBV).

##### 2.1.1 Systems Theory

This theory provides a comprehensive viewpoint for observing an organization as a structure with a set of distinct parts standing in inter-relations (Mele, Pels & Polese, 2010). The implication is that activities in an organization cannot be viewed in isolation but as a whole in order to create synergy, interdependence and interconnections internally within the organization and externally with the environment (Meadows, 2008). Thus, the emphasis lays on the connections and the associations between the elements in order to comprehend an organization's structure, how it works and results.

In addition, the theory is applicable in marketing and management and some applications of systems theory in Management target explicitly on education, worth, excellence, environment, relations, adaptation and complication (Mele, Pels & Polese, 2010). Some of the strengths of this theory are that it perceives: inter-connection of staff, influence of environment on firm's structure and effect of outside stakeholders on a firm (Mele, Pels & Polese, 2010).

TQM ensures that activities in an organization and in this case transport and logistics firm are viewed as a whole or managing the whole to achieve excellence. TQM is the organization culture of dedicated to satisfying customers through gradual and consistent improvement.

### **2.1.2 Market Based Theory of Competitive Advantage**

Porter (1998) in his book has described competitive advantage as pivotal to the success of an organization, implying that having low production costs or product differentiation as compared to other players in the industry or market. He also argues that competitive advantage is generated basically from the value a firm develops for its customers which surpasses the production cost. Value arises when products are priced at lower rates than the competitors for equivalent profit or generating unique benefits that counterbalances a higher price. The two basic types of competitive advantage are cost control and diversity/differentiation. This statement points to the need for transport and logistics firms to constantly come up with ways of adding value to customers by decreasing costs. This is the reason why TQM practices come into play to enhance efficiency of service delivery while minimizing costs of delivering the services or goods

### **2.1.3 Resource Based View (RBV)**

This theory proposes that competences are a significant contributor to organizational performance (Teece, 2010).

Competences are define as an organization's ability to accumulate, assimilate and utilize scarce resources; resources comprise assets, competences, processes, firms' traits, information and know how; categorized as human, physical or organizational capital. A pyramid of firm's capabilities, where specialized competences are assimilated into wider useful competences such as manufacturing, IT and marketing capabilities. Functional competences in turn assimilate to form cross functional abilities such as customer support, innovation, R&D capability, new product development capability among others (Barney, Ketchen & Wright, 2011).

In fact, Barney, Ketchen & Wright (2011) reiterate that RBV of the firm is the foundation upon which competitive advantage and performance can be forecasted. In this scenario, achieving competitive advantage through TQM depends on how well resources are assigned to several activities to address gaps in the market. The emphasis of RBV is on harnessing resources that are intangible particularly human resources to gain competitive advantage over rival firms.

### 2.1.4. Deming's Theory

Deming's theory of total quality management rests upon fourteen points of management. The author identified the system of profound knowledge, and the Shewart Cycle (Plan-Do-Check-Act). The author is known for his ratio-quality which is equal to the result of work effort over the total cost. If a company is to focus on cost reduction, the result may be that cost will reduce with deteriorating quality. Deming's system of profound knowledge consists of four points namely: (1) System Appreciation: About the way company's processes and systems work (2) Variation Knowledge: Variation occurring and the causes of the variation. (3) Knowledge Theory: Concerning what can be known (4) Psychology Knowledge: About human nature. By being aware of the different types of knowledge associated with an organization quality management can be understood better.

Fourteen points of Deming's theory of total quality management include; constancy of purpose, adopting new philosophy, stopping dependencies on mass inspections; less dependence on price, continuous production and service improvement, job training, effecting leadership, doing away with fear, breaking down departmental barrier, getting rid of quantity-based work goals, Supporting pride of craftsmanship and training and educating every worker. Plan-Do-Check-Act (PDCA) cycle enhances continuous improvement in the planning phase. Objectives and actions are outlined followed by doing action and implementing process improvement. Check to ensure quality against the original and determine what changes need to be made for continued improvement before returning to the plan phase. Deming's theory guides organizations in the step-by-step implementation of total quality management principles and practices.

### 2.1.5. Crosby's Theory

Philip Crosby is another author credited with starting the TQM movement. He made the point, much like Deming, that if you spend money on quality, it is money that is well spent. The author provided four absolute requirements of quality management which include; (i) looking at quality as adherence to requirements (ii) prevention to maintain quality (iii) maintaining zero defects for high quality and avoiding non-conformity in all processes. Crosby also provided fourteen steps to continuous quality improvement which include; total commitment from management; having quality improvement team; creating metrics for quality improvement activity, determining cost of quality and showing contribute of

improvement to results, training supervisors, encouraging employees how to fix defects timely, ensure proper understanding of quality steps by the workforce, demonstrate commitment by maintaining zero defects day, set short term goals, determine root causes of errors in the processes, create incentives programs for employees, create quality council and hold regular meetings.

### **2.1.6. Joseph Juran's Theory**

Quality Trilogy invented by Joseph Juran is made up of quality planning, quality improvement and quality control. If a quality improvement project is to be successful, then all quality improvement actions must be carefully planned out and controlled. Juran also provided ten steps to quality improvement and they include; creating awareness of opportunities and needs for improvement, determination of goals, map out activities required for reaching the goal; proper training, determine projects, monitor progress, recognize performance, report result, track achievement and then repeat the process.

## **2.2 Total Quality Management Practices**

Based on past literature, the research will select on the following seven (7) main practices of TQM implementation for this study: commitment from top leadership and management commitment, learning organization, cooperation and worker commitment and customer focus, innovation, information and analysis, longstanding supplier relationship and focus on quality. These TQM aspects are discussed in the section below.

### **2.2.1 Leadership and Top Management Commitment**

Leadership based on TQM positions the organization way in front of the competition relating to profits, revenues and staff spirit. Leadership is a prerequisite to practicing TQM is that the senior management should firmly believe that TQM is the only way to do business and manage a firm. Leadership is a precondition to exercising TQM and that the higher level management should resolutely trust that TQM is the only way forward to manage and run a firm. Leadership is required to emphasize quality and innovation, to describe each team's role and responsibilities and to make final choices concerning resource allocation. Firms without strong governance can have antagonistic relations between functional parts and teams in charge of innovation (Govindarajan, Kopalle, & Danneels, 2011).

### **2.2.2 Learning Organization**

Literature on TQM labels knowledge acquisition as organizational task that increases aptitude and know-how of staff about ideas of quality and tools. Education and training are important

in providing staff with new skills and practices essential to apply TQM in the most effective manner. Additionally, being trained and educated is critical in teaching the ideology of TQM which requires behavioural and attitude adjustment in the employees. In line with this, Yusuf et al. (2007) observed that being trained in concepts related to quality such as TQM is viewed as the greatest element in developing capacity of employees', bringing out and finding solutions to challenges and endlessly enhancing quality.

### **2.2.3 Teamwork and Employee Commitment**

This exercise is about involving all the members of staff in designing and planning and valuing their input giving them greater independence in making decisions (Yildirim, 2012).

Empowerment of employees is a major key factor that affects the performance of an organization (Wehnert, 2009). They are of the view that influence and participation of personnel in implementing TQM increases their self-sufficiency, commitment and inventiveness which leads to the organization innovation.

Participation of employee in quality improvement is based on teamwork. Involving employees is supported through teams, which enhance employee gratification leading to higher efficiency and productivity (Ibid).

### **2.2.4 Customer Focus Effective**

TQM implementation involves firms moving away from examination towards methods that address prevention and focus on customers (Cravens & Piercy, 2013).

Clientele are simply the reason of success of an organization and a firm can't survive without them. To retain consumers, an enterprise should make an effort to discover the needs of their consumers, how much is needed, frequency of purchases and how their after-purchase satisfaction will be ascertained. In essence, customer focus is embedded in strategies driven by the market which are presently the most prevalent technique firms are using to address customer needs (Cravens & Piercy, 2013).

### **2.2.5 Innovation, Information and Analysis**

Teece (2010) advocates that there should be gradual and consistent development of the goods and services in order for customers to receive value for money. This is cumulative innovation and rotates research and development; nurturing ideas; new product innovation and installation of current IT infrastructure.

The opinion that being able to take advantage of present technology to conjure contemporary goods before global rivals, results in gaining benefits of first mover advantage, products success, and rise of market share, improve profits and ensuring survival. Innovation and invention has exploded from the digital world for example concurrence of social media, cloud, gadgets and upsurge in need of information (Ibid).

### **2.2.6 Long-Term Supplier Relationship**

This exercise involves forming close relationships and cooperating with suppliers to ascertain that they supply quality raw materials that address the desires of customers. Teece (2010) observe that enhancement of relationship with supplier's increases suppliers and buyers performance, which positively impacts on customer satisfaction. Firms who adopt TQM form close associations with their suppliers to enhance chances of procuring quality products at discounted rates, lowering costs of production in the long run. To raise levels of productivity and quality, relationship with supplier is crucial and should be well maintained.

### **2.2.7 Quality Focus**

Teece (2010) defined quality as a pair in production of goods matching requirement and addressing prospects of the final consumer. Addressing the requirements and anticipations of clients is an important element to TQM. In relation to this, quality of products and services as stressing on client desires and contentment. Production of excellent products enhances contentment of customers and allegiance to the product and firm in general. Furthermore, paying special attention to quality in production process, generally improve quality of end commodity, translating to better retainment and contended customers.

## **2.3. Competitive Advantage**

Competitive advantage means managing costs/cost leadership involving efficiency, time management, reduced wastage and differentiation (engage in numerous activities; develop new products) to increase income. The idea behind competitive advantage is to counter competition by offering superior products and services that adds value to customers (Bon & Mustafa, 2013).

Competitive advantage denotes the relative higher position in the market that leads to a firm to surpass its rivals in terms of revenues. Competitive advantage is the result of an approach that creates strategy that generates augmented value for an organization, compared to its

competition, and viability is there as long as the increased value remains when rivals quit attempting to mimic the advantage (Bon & Mustafa, 2013)

Competitive advantage is a huge and all-round concept, covering approaches as varied as infrastructure, labour skills, innovation in technology and quality, bureaucracy and others. Logistics and facilitation have a vital part to play in increasing an organization's competitiveness, by decreasing costs of transactions and increase the integration of a firm in country, regional and world trade. Achieving a seamless logistics process reduces import costs. It is also pivotal that suppliers are able to participate in worldwide production circles and finally expand into new ventures. Enhancing logistics includes several aspects: improvement of logistics capabilities, the advancement of the physical infrastructure, and the streamlining of trade related procedures (Ibid).

Although the literature in the field of strategic management has extensively identified the sources or determinants of competitive advantage (Andersén, 2011); surprisingly it does not provide any clear definition of competitive advantage (Sigalas et al. 2013).

However, definition of competitive advantage as above average performance as compared to the firm competitors, can be used to serve the purpose of the current study because it is a valid definition (the definition matches the concept and does not define competitive advantage by its sources or ignores the competitors in the definition); is clear (no figurative language is included); and reliable (can be consistently measured). This definition implies that there are two conditions that must be met for competitive advantage to have meaning: (1) competitors existence, (2) achieving above-average performance.

The definition of competitive advantage from Newbert that was modified by Sigalas et al. (2013) is selected as it fulfils two conditions that must be met for competitive advantage and stated as following: Competitive advantage is the above industry average manifested exploitation of market opportunities and neutralization of competitive threats.

#### **2.4. The Association between TQM and Competitive Advantage**

Vast of the social sciences databases found that the relationship between TQM and business performance (product quality, customer satisfaction, etc.) within hotel industries has received a considerable degree of attention in the extant literature but not in the aspect of competitive advantage (Baird et al., 2011).



This association between TQM and competitive advantage as well as performance started to be analysed academically and empirically in the 1990s, however, with conflicting conclusions (Calvo-Mora et al., 2014).

Evidently, some studies demonstrated a positive relationship between these variables and pointed out that such benefits are related to improved satisfaction among customers, employees and other interest groups, an improvement in operational results, improved efficiency, which in turn leads to an improved hotel image and differentiation from competitors (Alonso-Almeida et al., 2012) while others have pointed out that the relationship does not always exist or is a vague one (Junior, Lucato & Vanalle, 2014).

TQM is looked at as the foundation of competitive advantage. It lets firms to operate at a more competitive level and fulfil the needs of its consumers, while minimizing production costs and wastes hence increasing quality of the end product. This translates to happy and satisfied customers hence gaining competitive edge through a larger market share. Organizations should look to retain their customers through better quality products at a decent price to survive in the competitive market (Ibid).

Quality improvement has grown to become one of the most fundamental strategies for gaining competitive over rival firms. Consumer's tastes and preferences are ever changing, hence a firm needs to keep up with its environment to convey the quality required in the goods and services to the final consumer (Gharakhani, Rahmati, Farrokhi & Farahmandian, 2013).

Consistent improvement, attaining satisfaction of customers and open culture are the major goals of TQM and it enhances competitive advantage as well as overall organizational performance (Kim, Kumar, & Kumar, 2012). Due to this, the liaison between TQM and competitive advantage could regulate the success and downfall of an organization. Importance of the relationship between TQM practices emerges from the importance of TQM in creating and strengthening competitive advantage. It also affects customer satisfaction which is the main goal of organizations such as transport logistics firms (Mushtaq, et al., 2011).

## 2.5. Empirical Review

There are several studies conducted on the effects of total quality management practices on competitive advantages. These studies were used as empirical studies mainly to compare the findings of this study with previous studies.

Nair (2006) examined the impact of SQM practices on employees' work-related attitudes. The results of their empirical study indicated that training and education have a significant positive effect on job involvement, job satisfaction, and organizational commitment. Empowerment and teamwork significantly enhance job involvement. Job satisfaction, career satisfaction, and organizational commitment. Finally, continuous improvement and problem prevention significantly enhance customer satisfaction and organizational performance. Numerous researchers also recognized that successful implementation of SQM and the scale of the potential benefits that can be obtained through this approach depend on several factors. Kim, Kumar, & Kumar, (2012) argued that SQM approach requires focus on employee behavior, attention to organizational culture, management practices, and organizational structures and systems.

In another study Samson and Terziovski (2006) tested the impact of company size on the strength of the relationship between SQM and organizational operational performance. They confirmed that SQM has a significant and positive relationship with most of the dimensions of operational performance, but also concluded that larger companies tend to gain greater benefits from SQM than smaller firms. Some authors focused on the relationship between SQM implementation and specific type of operational performance: for example, confirmed the positive relationship between the length of SQM adoption and financial performance, while other theorists proved the positive impact of SQM implementation on the long-run stock price performance.

Rula (2017) conducted a study on the impact of TQM implementation on organizational performance. The study was conducted in Jordan Petroleum Refinery Company (JPRC), the study sample size was (103) managers from different levels. The researcher depended on primary and secondary data. The results show that TQM has positive impact on organizational performance. In light of these findings, the study provided a set of recommendations.

Ehsan & Najla (2019) conducted a study on Total Quality Management Practices and competitive. The findings of the study a quantitative approach has been used via a self-administrated questionnaire. The result of investigation on the level of TQM implementation amongst 22 hotels indicated that Malaysian hotels have an acceptable level of TQM implementation. In addition, based on the regression analysis, it is concluded that all of the selected TQM practices (continuous improvement, customer focus, and employee involvement) are significantly correlated with organizational performance of hotels. In this process continuous improvement was considered as the most important TQM factor in terms of affecting organizational performance.

Sin, Muhammad, & Noormaizatul (2018) conducted a study the Impact of Total Quality Management (TQM) On Competitive Advantage: A Conceptual Mixed Method Study in the Malaysia Luxury Hotel Industries. The findings of the study indicated that hotel industries may face a wide variety of saturated and uncertain TQM practices available for their organization nowadays. As there is a lack of comprehensive knowledge regarding TQM issues in hotel industry, there is an urgent need for a process which will assist hotel industries in Malaysia to evaluate these TQM practices and select the most appropriate one in order to provide the ideal management practices for the entire organization. As such, this study will propose a mixed method study where 10 hotel managers are initially interviewed, followed by a quantitative study of 122 additional managers. The aim of this study is to assist the hoteliers for identifying the proper TQM practices and then evaluating the available practices that best fitted the hotel industry in Malaysia which could concomitantly help the Ministry of Tourism and Culture (MOTAC) to achieve its National Key Economic Area (NKEA) and contributing towards high nation income in 2020.

Nejra & Ensar (2020) conducted a study on The Effects of Quality Management Practices and Organizational Learning on Organizational Performance: A Proposed Research Framework. In a rapidly developing IT business environment, quality management practices in various forms are inevitable. Information Technology industry is experiencing the fastest growth in the Bosnian economy over the past five years. Therefore, they are constantly adapting to meet the challenges of digital transformation and to satisfy the expectations of today's customers. The best way in which an organization undertakes business activities is through quality management practices and organizational learning, which improves product

quality and reduce product returns and the cost of servicing dissatisfied customers. This approach ultimately leads to an improvement in the company's performance. This study proposes a research model based on extensive literature review. This model may serve as a good basis to investigate interrelationships between TQM practices, organizational learning, and organizational performance. It may also help to determine if organizational learning fosters plays a mediating role between TQM practices and performance in IT Sector. Further validation of the model is strongly recommended to future researchers.

Naiyf (2018) conducted a study on The Effect of Total Quality Management Practices on Competitive Priorities of Telecommunication Companies in Qatar. The findings of the study indicated that both companies are highly implementing TQM and competitive priorities variables, and there are strong relationships between TQM and competitive priorities variables. The results of multiple regressions show that there is a significant effect of TQM on competitive priorities of Telecommunication companies in Qatar. The results also show that employee empowerment, reward, recognition, and customer focus have positive significant effect on competitive priorities of Telecommunication companies in Qatar. However, top management commitment, employee training, employee involvement and continuous improvement do not show significant effect on competitive priorities of Telecommunication companies in Qatar.

Rawashdeh (2018) conducted a study on Total Quality Management Practices and competitive advantage. The findings of the study indicated that the test of hypotheses revealed that TQM has significant effect on competitive advantage as the P2 Value was found to be less than 0.05 occasioning the rejection of the null hypothesis. The test also revealed that TQM has positive effect on customer satisfaction. The paper recommended that top management of organizations should make TQM practices top priority in their operations in the interest of sustainable performance.

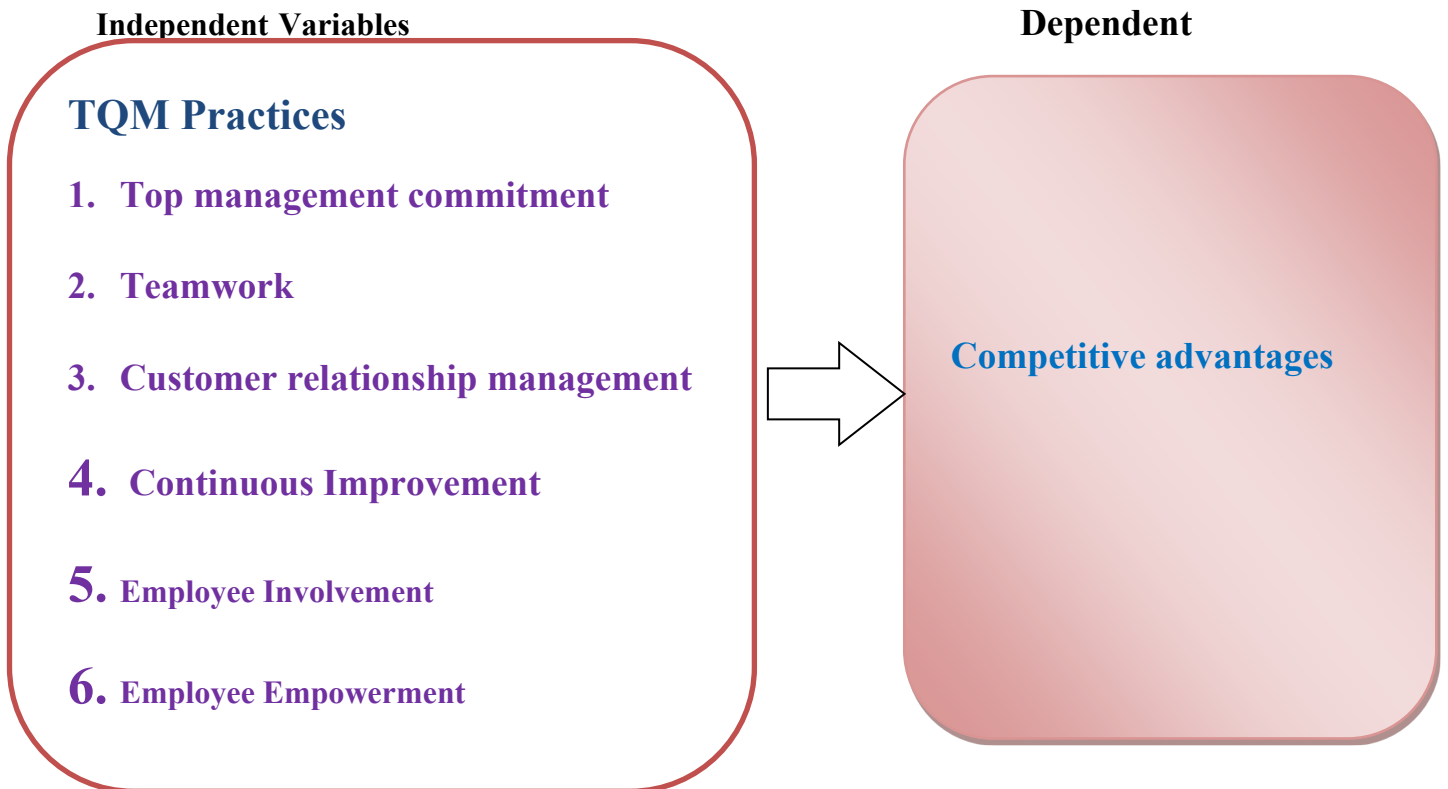
Omogbiya & Addah (2016) conducted a study on Effect of Total Quality Management on the Performance of Brewery Industry in Nigeria: An Empirical Study of Selected Breweries in Lagos State, Nigeria. The findings of the study indicated that positive and significant relationship exists between the application of total quality management in increasing organizational return on investment, lowering the level of product wastage and increases in customer satisfaction. It was concluded that adopting and implementing TQM principles

enhanced the organizations overall performance. The study, however, recommended the training of employees in building of total quality management philosophy, continuous TQM education to be undertaken at all levels, commitment of total quality management to be backed by action and a host of others for effective total quality management in the Brewery industry in Nigeria.

Hagos & Pramila (2020) conducted a study on Effects of Total Quality Management Practices on Operational Performance of Ethiopian Plastic Industry. The result of investigation on the level of TQM practices indicated that case industry has an acceptable level of TQM implementation. In addition, based on the regression analysis, it is concluded that two out of five of the selected TQM practices (training and supplier quality management) are significantly correlated with operational performance of plastic industry. In this process supplier quality management was considered as the most important TQM factor in terms of impacting operational performance

## **2.6. Conceptual Framework**

A conceptual framework is the researcher's explanation of how the research problem would be explored by integrated way of looking at a problem under study and describing the relationship between the main concepts of a study. It is arranged in a logical structure to aid provide a picture or visual display of how ideas in a study relate to one another (Grant & Osanloo, 2014). On the other hand, conceptual framework shows the series of action the researcher intends carrying out in a research study to easily specify and define the concepts within the problem of the study and conceptual frameworks can be 'graphical or in a narrative form showing the key variables or constructs to be studied and the presumed relationships between them (Luse, Mennecke & Townsend, 2012). The conceptual framework of the study is draw based on the relationship between independent variables (Top Management Commitment, Teamwork, Continuous improvement, employee empowerment, Employee Involvement and Customer relationship management) and the dependent variable (competitive advantages).



**Source: Hilmy (2016)**

**Figure: 1. The relationship between TQM Practices and competitive advantages**

## CHAPTER THREE

### 3. RESEARCH METHODOLOGY

#### INTRODUCTION

Research methodology is a procedure by which researcher go about his work of describing, explaining and predicting phenomena. It provides a piece of research with its philosophy, the values and assumptions that drive the rationale for the investigation as well as the standards that will utilize for the interpretation of information and the drawing of conclusions (Plastow, 2016). This section describes research design, research approach, data sources, population and sampling design, sampling techniques, sample size, instruments of data collection, methods of data analysis, reliability and validity test, model specification and ethical consideration.

#### 3.1. Research Design

Research design as organization of rules that must be followed in order to collect and analyze data that will help to achieve the aim of the research and have acceptable outcome within cost limit or a master plan for the determined methods, structure, and strategy of a research to find out alternative tools to solve the problems, and to minimize the variances (Creswell, 2014).

The aim of research design is to enable a researcher efficiently tackles the research problem with utmost clarity. To this end, the researcher utilized explanatory research design. In explanatory research design, first the researcher collected –quantitative data in a first instance followed by qualitative data collection (Creswell, 2014).

The reason to use explanatory research design is explanatory research design combines the strengths of quantitative data and qualitative data. Similarly, the Primary focus of explanatory research design is to explain quantitative results by exploring certain results in more detail or helping explain unexpected results (e.g., using follow up interviews to better understand the results of a quantitative study). Explanatory research design relatively straight forward due to clear, distinct stages and easier to describe than concurrent strategies (Fernando, 2018).

#### 3.2. Research Approach

The researcher used mixed research approach by combining both quantitative and qualitative data. Quantitative data allows us to get numerical representation and manipulation

observation for the purpose of describing and explaining the phenomena that those observations reflect are involved, whereas, qualitative research involves non-numerical examination and interpretation of observation (Plastow, 2016). In quantitative research, variables and relationships are the main concern. In quantitative research, detailed planning prior to data collection and analysis is required, because it provides tools for measuring concepts, planning design stages and for handling population and sample issues (Ibid).

The researcher combined both approaches to permits a more complete and synergistic utilization of data than do separate quantitative and qualitative data collection and analysis (Creswell, 2014). Combining the two approaches helps overcome deficiencies in one method only. To triangulate data collected from both interview and questionnaires (Creswell, 2014). In addition to the researcher used mixed approach to get deeper information by triangulating data gathered through questionnaires and interview. The researcher mainly triangulates results that collected from questionnaires and interviews to mix both the qualitative (interviews) and quantitative (questionnaires) data's.

### **3.3. Data Sources**

#### **3.3.1. Primary Sources of Data**

The primary sources of the study are questionnaires and interview gathered from employees and directors of Kality Steel Factory in Addis Ababa. Because primary sources is that primary sources are original information and not ready-made sources of data and can provide current and factual information about the study, they are fresh and collect for the first time, and these sources are original both in time and in their space.

#### **3.4. Research Population and Sampling Design**

(Plastow, 2016) define population as the total number of units which data can be collected, such as individuals, events, artifacts or organizations and it can also be described as all the elements that meet the criteria for inclusion in a study. Therefore, the target population of the study was employees and managers of Kality Steel Factory in Addis Ababa.

#### **3.5. Sample Size Determination**

There is no one accepted formula to determine the sample size of the given population; Different researchers used different formula to determine sample size based on their situation and population characteristics. The selection of sample size is depending on nature of the



research design, the level of accuracy, the level of confidence and the nature of target population the researcher needs to study.

According to the human resource department of Kality Steel Factory. The total population of the study is 375. Therefore, the researcher used (Yemane, 1967) formula. This formula used when the population is less than 10,000 by considering 95 % level of confidence and 5% level of margin of error. The target populations of this study are 375.

$n = \frac{N}{1+N(e)^2}$  Where: n= desired size (sample size) N= total population size e=limit of error tolerance 5% (0.05).

$$N=375, e=0.05, \quad \text{Thus } n = \frac{375}{1+375(0.05)^2}$$

$$n = \frac{375}{1+375(0.0025)} \gg \frac{375}{1.9375} = 194.$$

### 3.6. Sampling Techniques

Both probability and non-probability sampling design to get information about the larger study of population. From non- probability, purposive sampling was used to conduct interview with managers of Kality Steel Factory. Purposive sampling technique refers to the one in which the person is selecting from the sample who tries to make the sample representative, depending on his/ her opinion or purpose, thus being the representation the subjective. Because using purposive sampling has the following merits. To select respondents across a broad spectrum relating to the topic of the study, the idea behind purposive sampling is to concentrate on people with particular characteristics who were better to assist with the relevant research and to look at a subject from all available angles, thereby achieving a greater understanding. The researcher also utilized random sampling technique from probability sampling method to select 194 respondents. This method provides study participants with equal chance of being included in the sample and avoids bias of selection during sample selection.

### 3.7. Instruments of Data Collection

Data collection is the process of gathering and measuring information on variables of interest in an established systematic fashion that enables one to answer stated research questions, test hypotheses, and evaluate the outcomes (Plastow, 2016). The main data gathering tools in this study are questionnaires and interviews.

### **3.7.1. Questionnaires**

Questionnaires were specifically design to meet the objectives of the study. Questionnaires total quality management practices (Top Management Commitment, Teamwork, Continuous improvement, employee empowerment, Employee Involvement and Customer relationship management) and the dependent variable (Competitive Advantages) designed in Likert scale of 1-5; with 1 representing strongly disagree, 2 disagree, 3 neutrals, 4 agree and 5 strongly agree and administered to respondents in the study area. The respondents into a statement that describes the effects of total quality management practices on competitive advantage select Likert scale for this study because it is flexible in measuring the degree of agreement. Most of the questions were close ended. The questions were divided into three sections. The first section covers with demographic variables such as age, sex, educational background, work experience and position of respondents. The second, section of the questionnaire covers with total quality management practices independent variables (Top Management Commitment, Teamwork, Continuous improvement, employee empowerment, Employee Involvement and Customer relationship management) and the third section deals with questions related to the dependent variable (competitive advantage).

### **3.7.2. Interviews**

Face-to- face interviews is suitable when the target population can communicate through face-to-face conversations better than they can communicate through writing or phone conversations. The researcher conducted interview mainly to generate primary data through semi-structured questions. Managers were participated in the interview program of the study.

### **3.8. Procedures of Data Collection**

First, the researcher prepared questionnaires and interview questions for respondent have to collect the data from the target population. Then, the researcher distributed questionnaires to the participant of the study according to the schedule. The researcher collected questionnaires in person mainly to minimize ambiguity during the data collection process. Then the researcher administered the data collection process by arranging half a day for one department. After then questionnaires carefully filled, the researcher collected and organized the completed questionnaire for analysis. After data analysis, the results of the data were reported to the advisor.

### **3.9. Data Processing and Analysis**

Data analysis is the process of editing and reducing accumulated data to a manageable size, developing summaries, seeking for patterns and using statistical methods as described by Almalki (2016). The questionnaires were coded before entering the data into Statistical Package for Social Sciences (SPSS) for analysis.

The data analysis involved frequencies, percentage means and standard deviations analysis of variances and bi-variate correlation analysis in form of cross tabulation to explore the relationships between the variables of the current study. The main data analysis for quantitative data is descriptive and inferential statistical techniques.

Pearson's correlation and multiple regression analysis used to explore the relationships between independent and dependent variables as per the research questions of the study. The researcher used Pearson correlation mainly to test the relationship between independent variables and dependent variable. The researcher also utilized multiple regressions mainly to test the effects of independent variables on the dependent variable.

Qualitative data obtain from interviews was analyzed through content analysis. These approaches involve recording the verbal discussions then interpreting the recorded information into meaningful smallest units of information, subjects and tendencies and were presented in a text form. The researcher collected –quantitative data in a first instance followed by qualitative data collection.

### **3.10. Reliability and Validity Test**

Reliability is the degree to which the measure of a construct is consistent or dependable. Internal consistency reliability is a measure of consistency between different items of the same construct (Almalki, 2016). Reliability is the extent with which findings repeat/consistent. Reliability refers to the accuracy and consistency of information attained in a study. Reliability is the consistence of a score from one occasion to the next occasion Almalki (2016).

Cronbach alpha with acceptable cut off points 0.7 demonstrate that all attributes are internally consistent the reliability test for the instrument used for the study which were conducted using SPSS the results shows that the items used are reliable. Therefore, in this study, in order to test the reliability of the research instruments, a pilot study was carried out before the final research was conducted from 19 (10%) of the sample size. On the other hand, the

researcher carried out validity test. According to Almalki, validity means the extent to which a measure adequately represents the underlying construct that it is supposed to measure. It is concerned with how well the concept is defined by the measure. The researcher used content validity of instruments; initially the researcher develops questionnaires and interview questions under close guidance of advisor. In addition, the researcher asks experts in the field to ensure that the instrument contains all the aspects of the subject matter validated the instrument.

**Table 3.1 reliability test of measurement items**

Variables	Number of items	Cronbach alph value
Top Management Commitment	6	0.929
Teamwork	5	0.881
Continuous Improvement	5	0.873
Employee Involvement	6	0.810
Employee Empowerment	6	0.802
Customer Relationship Management	6	0.822
Competitive Advantage	7	0.871
Composite Reliability Score	41	0.855429

**Source: SPSS Output, 2023**

Therefore, the Cronbach alpha value for top management commitment, teamwork, continuous improvement, employee involvement, employee empowerment, customer relationship management and competitive advantage is (0.929, 0.881, 0.873, 0.810, 0.802, 0.822 and 0.871) respectively. This shows that top management commitment, teamwork, continuous improvement, employee involvement, employee empowerment, customer relationship management and competitive advantage has a very good reliability. The composite reliability test for all measurement items used in this study is 0.855429. This means that there is a very good internal consistency among measurement items used in this study.

### **3.11. Model Specification**

A model that incorporates more than one independent variable is known as multiple regression models. Regression according to Creswell (2014) helps to estimate the value of one variable from the value of other variables. The underlying importance of regression is to

determine whether changes in one variable influence change in another. The purpose of using multiple regressions in this study is to determine the contribution that total quality management practices (Top Management Commitment, Teamwork, Continuous improvement, employee empowerment, Employee Involvement and Customer relationship management) which constitute the independent variables in this model formulation made to the change in competitive advantage which is the dependent variable. Moreover, multiple regressions are preferred when there are more than one independent variables influencing the dependent variable. This allows the individual independent variable to have its coefficient which is a measure of its influence on the dependent variable.

The regression equation for this study is  $Y = A_0 + A_1X_1 + A_2X_2 + A_3X_3 + A_4X_4 + A_5X_5 + A_6X_6 + \Sigma$

Where Y = Dependent variable (competitive advantage)

$A_0$  = Constant (point of interception). This become competitive advantage level if the values of

$X_1, X_2, X_3, X_4, X_5, X_6$  are zero.

$X_1, X_2, X_3, X_4, X_5, X_6$  are zero = Coefficient for  $X_1, X_2, X_3, X_4, X_5, X_6$  are zero

$X_1$  = Measured value for Employee Involvement

$X_2$  = Measured value for Top Management Commitment

$X_3$  = Measured value for Teamwork

$X_4$  = Measured value for Customer Relationship Management

$X_5$  = Measured value for Continuous Improvement

$X_6$  = Measured value for employee empowerment

$\Sigma$  = Error term describes the effect on Y of all other factors other than Top Management Commitment, Teamwork, Continuous improvement, employee empowerment, Employee Involvement and Customer relationship management. The implication of this equation is that as  $X_1, X_2, X_3, X_4, X_5$  and  $X_6$  change, competitive advantage (Y) equally changes.

### 3.12. Ethical Consideration

All the research participants going to include in this study were appropriately informed about the purpose of the research and their willingness and consent were secured before the commencement of distribute questionnaires. The right to privacy of the respondents, the study maintains the confidentiality of the identity of each participant. In all cases, names are kept confidential thus collective names like those that respondents were not used. The researcher consciously considers ethical issues in seeking consent, avoiding deceptions,

maintaining the confidentiality, respecting the privacy and protecting the anonymity of respondents that encounter during the study. Generally, the researcher duly practices ethical standards of the research.

## CHAPTER-FOUR

### DATA PRESENTATION, ANALYSIS AND DISCUSSION

#### 4.1 Introduction

The main purpose of this study is to investigate effect of total quality management practices on competitive advantage in manufacturing companies in Ethiopia particularly on Kaliti Steel Factory. To analyze the collected data in line with the objective of the research undertaking, statistical procedures were carried out by using SPSS. The chapter is divided into six sections. The first section covers the questionnaires administration or response rate of respondents of the study. The second section deals with the demographic characteristics of respondents which includes age of respondents, sex of respondents, educational level of respondents, work experience and position of respondents using frequency and percentage.

The third part covers the descriptive statistics analysis using mean, standard deviation, maximum and minimum values. The fourth section deals with the Pearson correlation analysis mainly to show the relationship between total quality management practices and competitive advantage. The fifth section covers the multiple regression analysis that shows the effects of total quality management practices on competitive advantage. The sixth section covers the discussion of the study that compares the findings of the study with theoretical and empirical framework of the study.

#### 4.1. Questionnaires Administration

Mugenda and Mugenda (2013) noted that a response rate of 50% is adequate, 60% is good and above 70% is excellent response for data analysis. Accordingly, 194 sets of questionnaires were distributed to respondents out of which 177 or 91.2% were returned. The remaining 14 or 8.8% questionnaires were not returned. 6 or 3% of the questionnaires were discarded. Usable questionnaires for data analysis were 171 or 88.2 % reflecting valid response rate.

**Table.4.1. Survey Response**

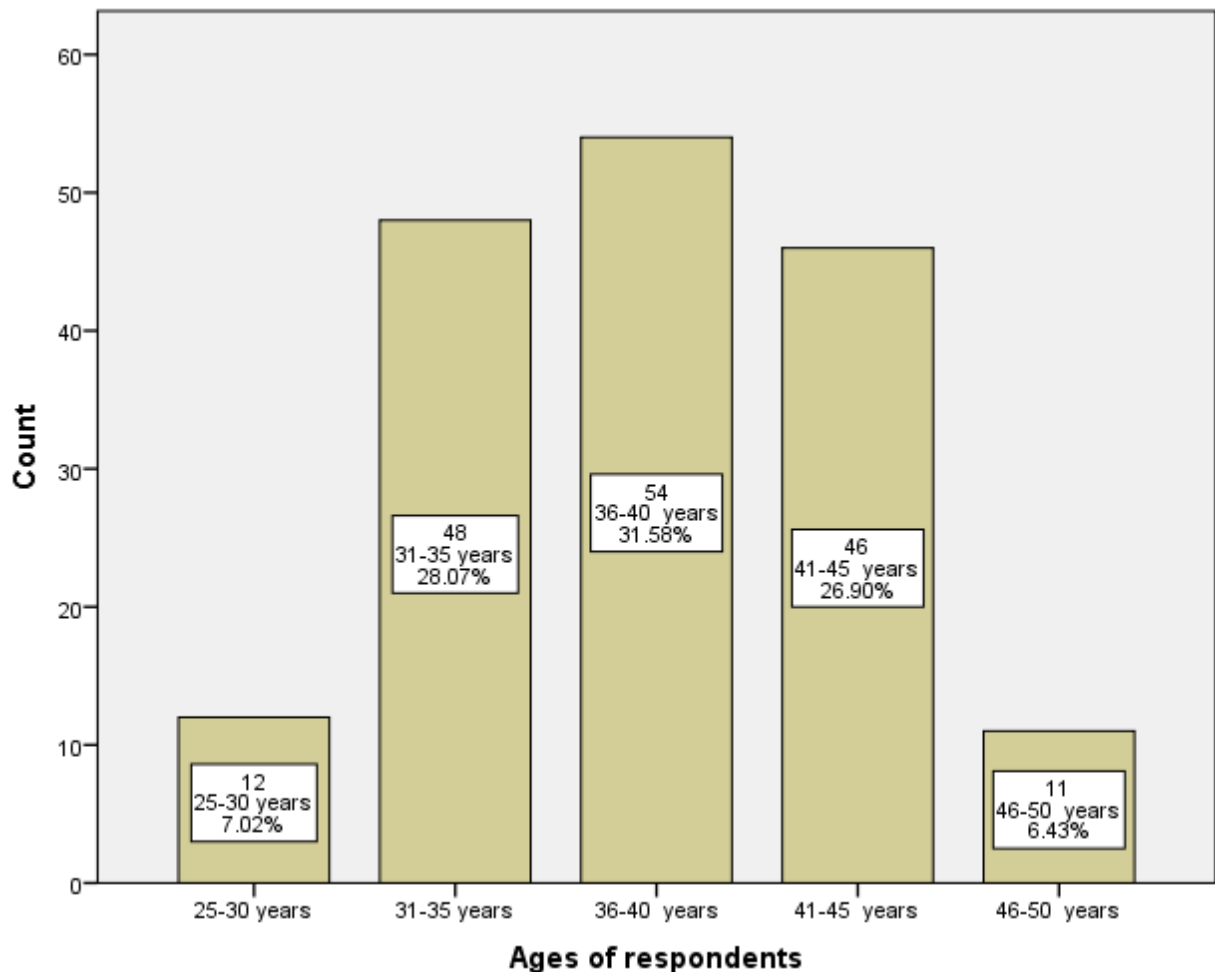
	Total	%
Questionnaires distributed	194	100%
Collected Questionnaires	177	91.2%
Discarded Questionnaires	6	3%
Not returned Questionnaires	14	8.8%
Usable Questionnaires	171	88.2%

**Source: field survey, 2023**

## 4.2. Profile of Respondents

In order to observe the profile of sample respondents a set of basic questions were asked. Frequencies were used to determine how often respondents made a certain response in answering the respective questions, and these gave background information about the sample respondents general characteristics. The demographic detail shows gender, age, educational status, position and work experience of respondents.

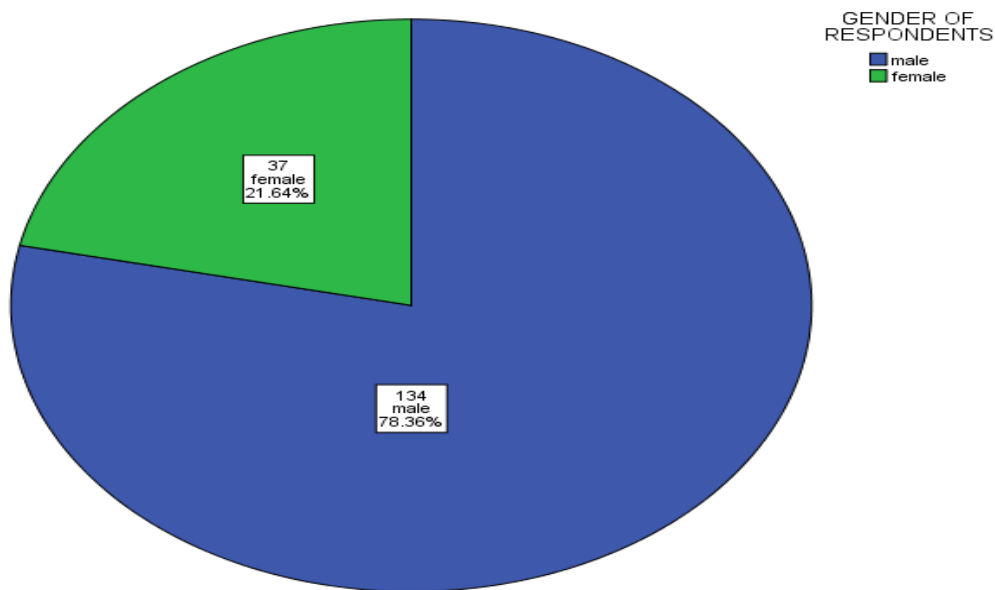
**Figure 4.1 Ages of Respondents**



Age was among of the variable considered in a study taking into account that performance ability of human being is determined by age (Habtamu, 2018). Respondents were asked to indicate their age. Accordingly, 54(31.58%) of the respondents were between the ages of 36-40 years, 48(28.07%) between 31-35 years, 46(26.9%) between 41-45 years, 12(7.02%) of the respondents were between 25-30 years and 11(6.43%) were between the ages of 46-50 years. The result of the study implies that all ages above 25 years old were significantly represented in the study. In addition the result of the study indicated that the data were collected from all age groups mainly to get relevant data.

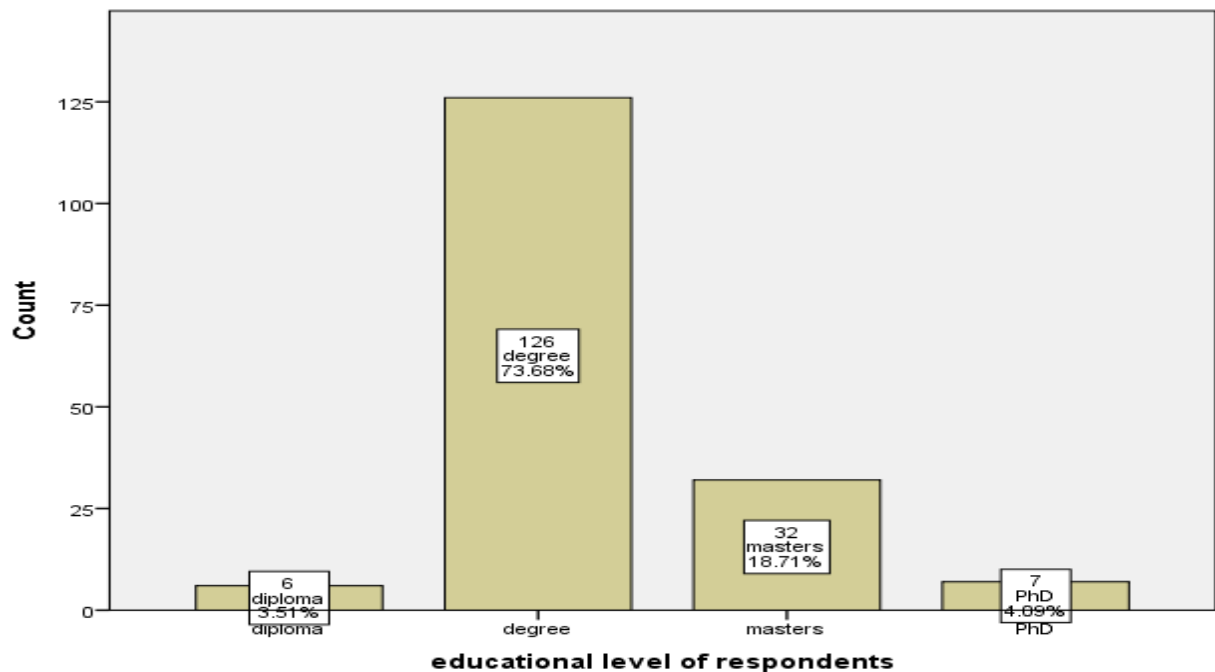


**Figure 4.2. Gender of Respondents**



Respondents were asked to indicate their sex. Accordingly, 134(78.36%) of the respondents were male respondents and 37 (21.64%) were female respondents. The result of the study implies that all sexes were significantly represented in the study mainly to collect relevant data. The majority of respondents were female.

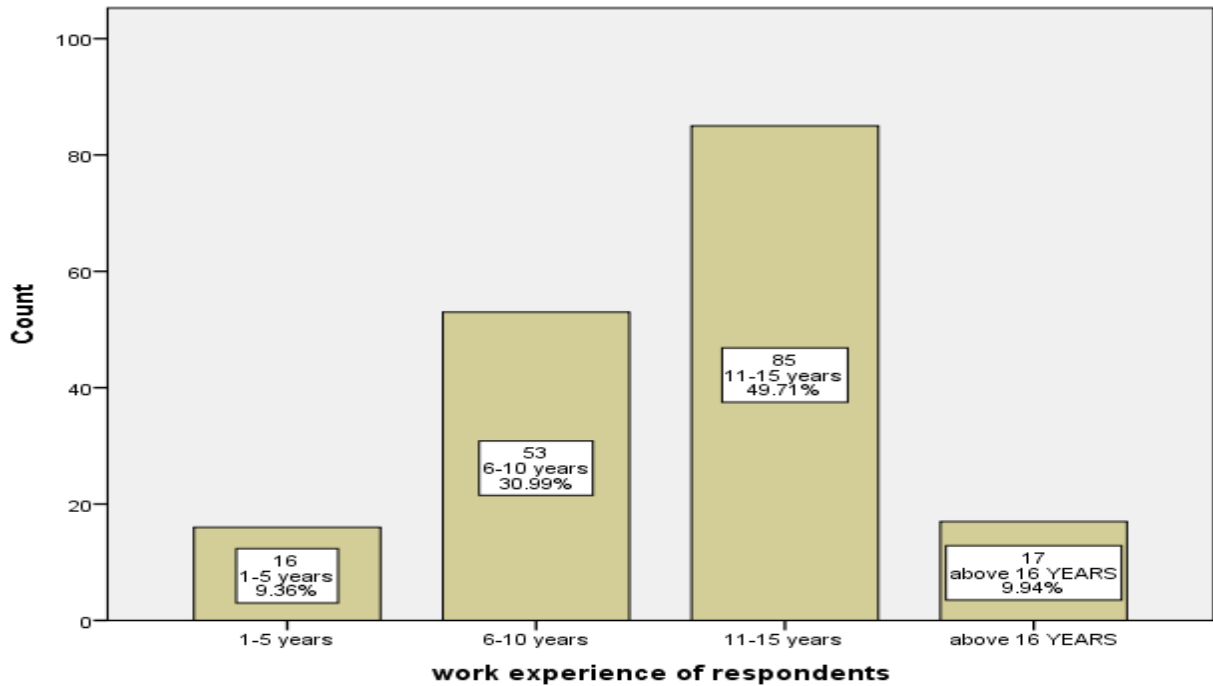
**Figure 4.3. Educational Level of Respondents**



Concerning the level of education 126(73.68%) of the respondents were degree holders, 32(18.71%) were masters in their level of education, 7(4.09%) of the respondents were PhD holders and 6(3.51%) were diploma holders. The result of the study implies that most of all of the respondents were educated and can explain total quality management practices on

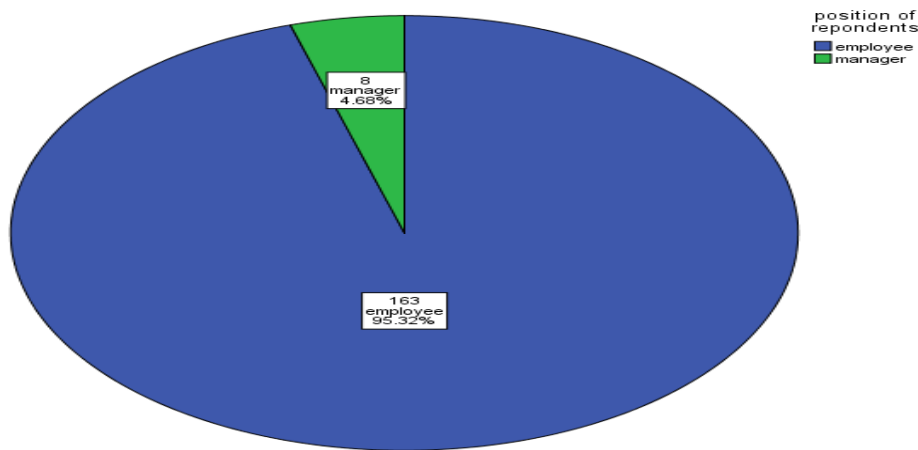
competitive advantage in manufacturing companies in Ethiopia particularly on Kality Steel Factory.

**Figure 4.4. Work experience of Respondents**



Concerning work experience of respondents 85(49.71%) of the respondents had 11-15 years of work experience, 53(30.99%) 6-10 years, 17(9.94%) had above 16 years of work experience and 16(9.36%) 1-5years. The findings of the study can therefore deduce that all of the respondents were experienced workers and able to explain more about Total Quality management practices on competitive advantage in manufacturing companies in Ethiopia particularly on Kality Steel Factory.

**Figure 4.5. Position of Respondents**



Concerning position of respondents 163(95.32%) of the respondents were experts and 8(4.68%) were managers. The result of the study implies that most of the respondents were experts.

**4.3. Descriptive statistics of measurement items**

Under the description of study variables, summary of total quality management practices (Top Management Commitment, Teamwork, Continuous improvement, employee empowerment, Employee Involvement and Customer relationship management) and competitive advantage are discussed. The questionnaire asked to mention the degree to which the highlighted TQM practices have been adopted by their companies. This was measured on a Likert scale ranging from 1 to 5; where 1 represents a very low extent increasing to 5 representing a very high extent. The results are came as shown in table 4.2 which representing the degree of for implementation of TQM practices in the firms surveyed.

**Table 4.2. Descriptive Statistics of measurement items**

	N	Minimum	Maximum	Mean	Std. Deviation
Customer relationship management	171	1.00	5.00	2.9265	.90258
Top management Commitment	171	1.00	5.00	3.1703	.97167
Continuous Improvement	171	1.00	5.00	2.9886	.98695
Teamwork	171	1.00	5.00	3.0633	1.15050
Employee Involvement	171	1.00	5.00	2.9648	.90112
Employee Empowerment	171	1.00	5.00	3.2313	1.11793
Competitive Advantage	171	1.00	5.00	2.9176	.87653

As shown in table 4.2, the study found out that Customer relationship management had an overall mean of 2.9265. This shows that the firms had adopted Customer relationship management to a low extent.

Additionally, when factors under Top management Commitment were analyzed, leadership proactively pursues continuous improvement ranked moderate with a mean of 3.1703. Continuous Improvement dimension was found to be 2.9886 (Std. .97167). It indicates that the majority respondents inclined to disagree on the practice of Continuous Improvement in the company. The standard deviation indicates considerable variation of the respondents in regards to the Continuous Improvement dimension.

As shown in table 4.2, the study found out that teamwork had an overall mean of 3.0633. This shows that the firms had adopted teamwork practice to a moderate extent. The research also looked to establish the degree to which Employee Involvement had been adopted in the firms. As shown in table 4.2, the mean score was 2.9648 which imply that Employee Involvement had been adapted to a low extent.

The study also looked to establish the scope to which the firms had adopted Employee Empowerment. As indicated in table 4.2, the overall mean score was 3.2313 which show that the firm had adopted Employee Empowerment to a moderate extent.

The mean score value for Competitive Advantage is 2.9176. The result implies that there is a low level of Competitive Advantage in Kality Steel Factory.

#### **4.4. Pearson Correlation Analysis**

Pearson correlation analysis was used to establish the strength and significance of the relationship between dimension of TQM (Top Management Commitment, Teamwork, Continuous improvement, employee empowerment, Employee Involvement and Customer relationship management) and the dependent variable (competitive advantage). Correlation coefficients values of independent variables are less than 0.9. This suggests that results will be close to true value, and their multicollinearity does not have an undue effect on the regression models (Asher, 1983). Alwadael (2010) value of coefficient and relation between variables as the absolute value of  $r$ : 0.70 – 1.00 has a very strong association, 0.50 – 0.69 has a strong association, 0.30 – 0.49 has a moderate association, 0.10 – 0.29 has a low association and 0.01 – 0.09 has a negligible association.

**Table 4.3. Pearson Correlation Analysis of the Study**

		CRM	TMC	CI	T	EI	EE	CA
CRM	Pearson Correlation	1						
	Sig. (2-tailed)							
	N	171						
TMC	Pearson Correlation	.677**	1					
	Sig. (2-tailed)	.000						
	N	171	171					
CI	Pearson Correlation	.577**	.724**	1				
	Sig. (2-tailed)	.000	.000					
	N	171	171	171				
T	Pearson Correlation	.430**	.604**	.668**	1			
	Sig. (2-tailed)	.000	.000	.000				
	N	171	171	171	171			
EI	Pearson Correlation	.554**	.557**	.559**	.444**	1		
	Sig. (2-tailed)	.000	.000	.000	.000			
	N	171	171	171	171	171		
EE	Pearson Correlation	.490**	.764**	.772**	.772**	.466**	1	
	Sig. (2-tailed)	.000	.000	.000	.000	.000		
	N	171	171	171	171	171	171	
CA	Pearson Correlation	.708**	.755**	.713**	.570**	.483**	.639**	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	
	N	171	171	171	171	171	171	171

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

The findings of the study shows that Customer relationship management has positive, significant and strong correlation with competitive advantages at  $r=0.708$ ,  $P < 0.01$ . This means that all things being equal, when the other independent variables (Top Management Commitment, Teamwork, Continuous improvement, employee empowerment, Employee Involvement) are held constant, competitive advantage would increase by 70.8% if there is 100% improvement in competitive advantage. There was statistically significant ( $0.00 < 0.05$ ) i.e. the variable (Customer relationship management) is making a significant unique contribution to the prediction of the dependent variable (competitive advantage).

The findings of the study shows that Top Management Commitment has positive, significant and strong correlation with competitive advantage at  $r=0.755$ ,  $P < 0.01$ . This means that all things being equal, when the other independent variables (Teamwork, Continuous improvement, employee empowerment, and Employee Involvement and Customer

relationship management) are held constant, project performance would increase by 75.5% if there is 100% improvement in Top Management Commitment. There was statistically significant ( $0.00 < 0.05$ ) i.e. the variable (Top Management Commitment) is making a significant unique contribution to the prediction of the dependent variable (competitive advantage).

The findings of the study shows that Continuous improvement has positive, significant and moderate correlation with competitive advantage at  $r=0.713$ ,  $P < 0.01$ . This means that all things being equal, when the other independent variables (Top Management Commitment, Teamwork, employee empowerment, Employee Involvement and Customer relationship management) are held constant, competitive advantage would increase by 71.3% if there is 100% improvement in Continuous improvement,. There was statistically significant ( $0.00 < 0.05$ ) i.e. the variable (Continuous improvement,) is making a significant unique contribution to the prediction of the dependent variable (competitive advantage).

The findings of the study shows that teamwork has positive, significant and moderate correlation with competitive advantage at  $r=0.570$ ,  $P < 0.01$ . This means that all things being equal, when the other independent variables (Top Management Commitment, Continuous improvement, employee empowerment, Employee Involvement and Customer relationship management) are held constant, competitive advantage would increase by 57% if there is 100% improvement in teamwork. There was statistically significant ( $0.00 < 0.05$ ) i.e. the variable (teamwork) is making a significant unique contribution to the prediction of the dependent variable (competitive advantage).

The findings of the study shows that Employee Involvement has positive, significant and strong correlation with competitive advantage at  $r=0.483$ ,  $P < 0.01$ . This means that all things being equal, when the other independent variables (Top Management Commitment, Teamwork, Continuous improvement, employee empowerment and Customer relationship management) are held constant, competitive advantage would increase by 48.3% if there is 100% improvement in Employee Involvement. There was statistically significant ( $0.00 < 0.05$ ) i.e. the variable (Employee Involvement) is making a significant unique contribution to the prediction of the dependent variable (competitive advantage).

The findings of the study shows that employee empowerment has positive, significant and strong correlation with competitive advantage at  $r=0.639$ ,  $P < 0.01$ . This means that all things being equal, when the other independent variables (Top Management Commitment, Teamwork, Continuous improvement, Employee Involvement and Customer relationship management) are held constant, competitive advantage would increase by 63.9% if there is 100% improvement in employee empowerment. There was statistically significant ( $0.00 < 0.05$ ) i.e. the variable (employee empowerment) is making a significant unique contribution to the prediction of the dependent variable (competitive advantage).

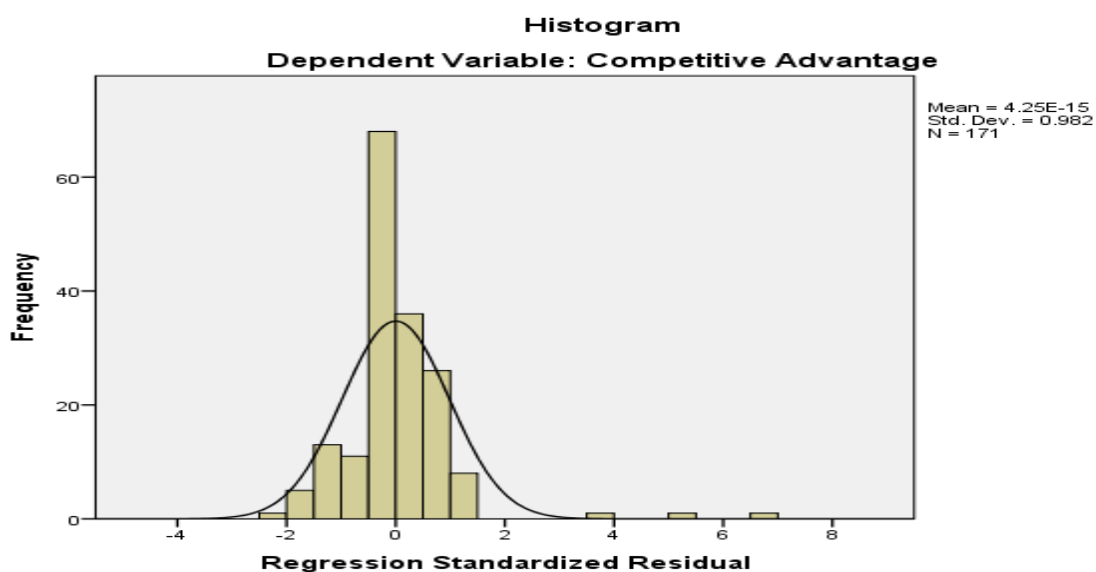
The findings of the study shows that Top Management Commitment, Teamwork, Continuous improvement, employee empowerment, Employee Involvement and Customer relationship management has significant and positive correlation with competitive advantage at 1% level of significance.

#### 4.5. Test for Regression Assumption

To minimize the influence of potential violations, normality, linearity, homoscedasticity and multicollinearity were tested. The results of these assumptions were interpreted below.

**Normality:** when draw a histogram of the residuals are normally distributed. Even though the distribution is slightly skewed, but it is not hugely deviated from being normal distribution we can say that this distribution satisfies the normality. As a result of the histogram residuals assumption is a bit skewed, that means the assumption is satisfied.

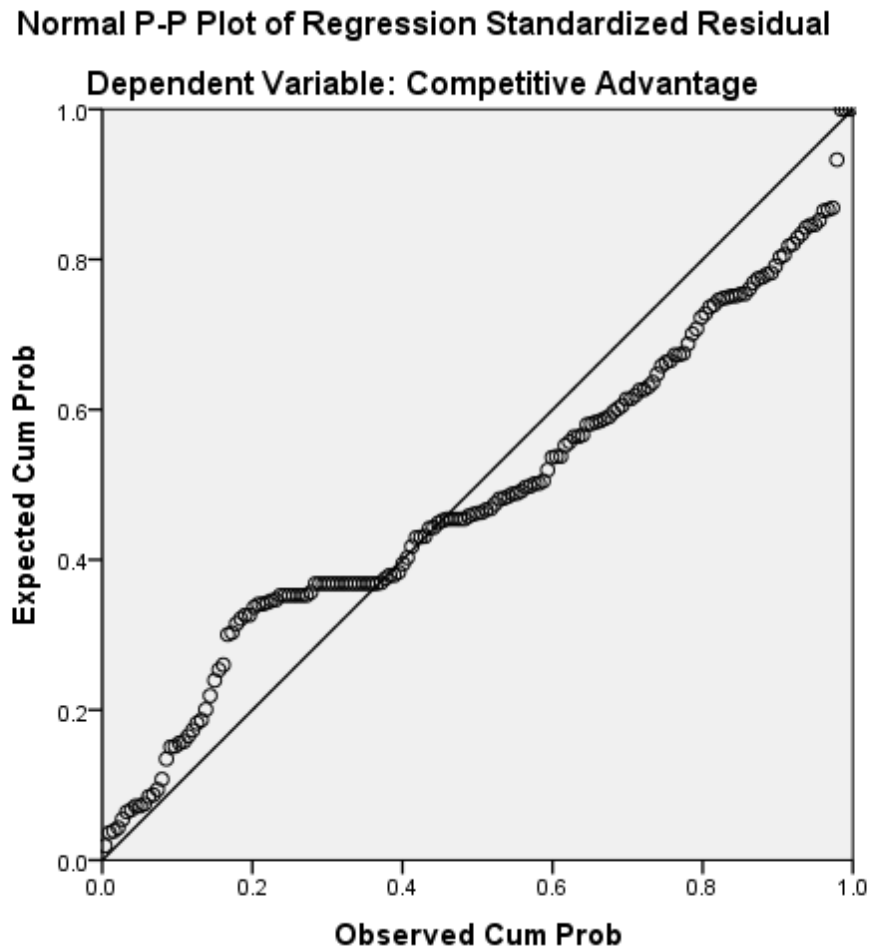
**Figure 4.6.A histogram normality assumption measure**



**Linearity:** the relationship between the dependent and independent variable should be linear in respect to their parameter, which is checked by the scatter plot of dependent variable to

that of standardize predicted. As it has indicated below, the plot shows that there is approximately linear relationship between competitive advantage and the set of predictor variables represented by standardized predicted value.

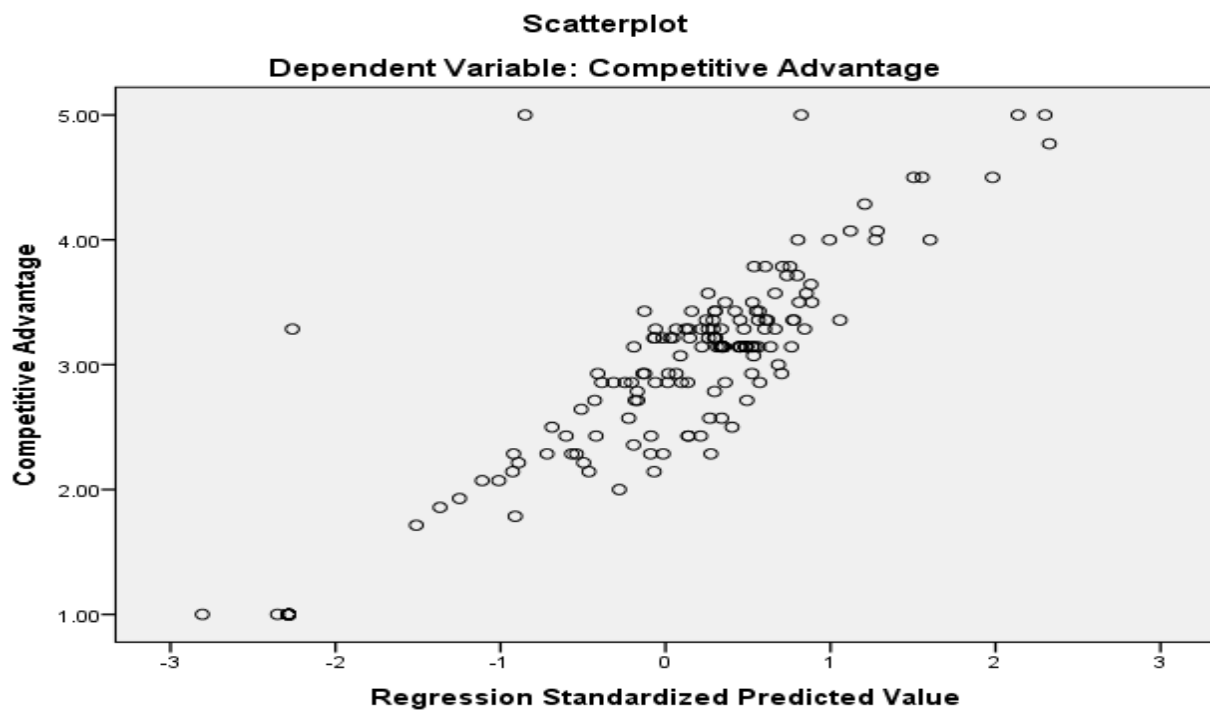
**Figure 4.7. Linearity Assumption**



**Constant variance (Homoscedasticity):** the third assumption of multiple linear regressions is error assumption that is error terms should have a constant variance; if this assumption is violated there is a problem of homoscedasticity, which is a problem of data to be treated before analysis. This can be checked by drawing the scatter plot of standardize residual versus standardize predicted value. To attain this assumption the distribution or the scattered ness of the point on the graph should be random. As indicated below the distribution of points has not any pattern which is random, so the assumption of constant variance was attained.



**Figure 4.8. Constant variance (Homoscedasticity) assumption**



**Multicollinearity test:** Ho (2006) defines multicollinearity as a situation in which the independent variables/predictor variables are highly correlated. Multicollinearity can be detected with the help of tolerance and its reciprocal called variance inflation factor. If the value of tolerance is less than 0.2 or 0.1 and simultaneously, the value of VIF 10 and above, then the multicollinearity is problematic.

**Table 4.4. Multicollinearity test**

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	Customer relationship management	.480	2.084
	Top management Commitment	.282	3.542
	Continuous Improvement	.319	3.134
	Teamwork	.386	2.589
	Employee Involvement	.591	1.691
	Employee Empowerment	.228	4.384

The above table showed that there is no problem of multicollinearity among the independent variables mentioned in the regression model. Because tolerance is greater than 0.2 and the value of VIF is less than 10.

#### 4.6. Multiple Regression Analysis

Multiple linear regression analysis was applied to test how far Top Management Commitment, Teamwork, Continuous improvement, employee empowerment, Employee Involvement and Customer relationship management had impact on competitive advantage. Higher value of R<sup>2</sup> represents greater explanatory power of the regression equation. Multiple linear regression analysis was conducted to measure the effects of Top Management Commitment, Teamwork, Continuous improvement, employee empowerment, Employee Involvement and Customer relationship management on competitive advantage. In addition multiple regression analysis was carried out to know which independent variables among Top Management Commitment, Teamwork, Continuous improvement, employee empowerment, Employee Involvement and Customer relationship management affects more the dependent variable.

**Table 4. 5. Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.889 <sup>a</sup>	.791	.783	.40812

The coefficient of correlation (R) shows that there is a positive correlation between independent variables and dependent variable. This means that there is a positive relationship between (Top Management Commitment, Teamwork, Continuous improvement, employee empowerment, Employee Involvement and Customer relationship management) and competitive advantage.

This implies that there is 88.9% of correlation between Top Management Commitment, Teamwork, Continuous improvement, employee empowerment, Employee Involvement and Customer relationship management and competitive advantage. This implies that Top Management Commitment, Teamwork, Continuous improvement, employee empowerment, Employee Involvement and Customer relationship management and competitive advantages goes hand in hand.

The coefficient of determination (R Square) shows that 79.1 % of competitive advantage is determined by Top Management Commitment, Teamwork, Continuous improvement, employee empowerment, Employee Involvement and Customer relationship management. This implies that the remaining 20.9% of competitive advantage is determined by other

factors not included in this study. According to the rule thumb the R2 value as follows: < 0.1: poor fit, 0.11 to 0.30: modest fit, 0.31 to 0.50: moderate fit, > 0.50: strong fit. Accordingly, the R2 value of this study is 0.791 or 79.1%. Therefore, the model is strong, fit and adequate.

**Table 4.6. ANOVA**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	103.296	6	17.216	103.360	.000 <sup>b</sup>
	Residual	27.316	164	.167		
	Total	130.612	170			

The value of F test explains the overall significance of a model. It explains the significance of the relationship between dependent variables and all the other independent variables. With F = 103.360 and 164 degrees of freedom the test is highly significant for p<0.05 level of significance, thus we can assume that there is a linear relationship between dependent variables and all the other independent variables in the model. Similarly, as a result, the F-value =103.360 with 6 and 164 degrees of freedom, leads easily to the rejection of the null hypothesis (P = 0.000). For that reason, at the 5 percent level of significance, the F-statistics show that the model is useful in determining if any significant relationship exists between predictor variables and competitive advantage. Therefore the f change value of 103.360 is significant at 0.000 levels.

**Table 4.7. Coefficients**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.276	.126		2.197	.029
	Customer relationship management	.213	.050	.219	4.251	.000
	Top management Commitment	.624	.061	.692	10.289	.000
	Continuous Improvement	.211	.056	.238	3.760	.000
	Teamwork	.089	.044	.116	2.027	.044
	Employee Involvement	.102	.045	.105	2.255	.025
	Employee Empowerment	.173	.059	.221	2.952	.004

The findings of the study imply that Customer relationship management, Top management Commitment, Continuous Improvement, Teamwork, Employee Involvement and Employee

Empowerment 0.000, 0.000, 0.000, 0.044, 0.0025 & 0.004 respectively. Therefore, the result implies that Customer relationship management, Top management Commitment, Continuous Improvement, Teamwork, Employee Involvement and Employee Empowerment have significant effect on competitive advantage.

In addition the result of the study implies that, Customer relationship management, Top management Commitment, Continuous Improvement, Teamwork, Employee Involvement and Employee Empowerment have positive effect on competitive advantage with their Beta value of 0.219, 0.692, 0.238, 0.116, 0.105 & 0.221 respectively.

From the analysis we can concluded that project Top management Commitment and Continuous Improvement are the most significant factor that affect competitive advantage followed by Employee Empowerment, Customer relationship management, Teamwork and Employee Involvement.

**A multiple linear regression analysis** is carried out to predict the values of a dependent variable. In multiple linear regressions there are explanatory variable and the relationship between dependent variable and explanatory variables is represented by the following equation  $Y=B_0+B_1X_1+B_2X_2+B_3X_3+B_4X_4+-----B_P X_P+e$ . Where  $B_0$  is the constant term  $B_1, B_2, B_3,.....B_P$  are estimated regression coefficients.

In this study the Constant term is 0.029. The coefficients are estimated as  $B_1CRM+B_2TMC+B_3CI+B_4T+B_5EI+EE +e$  where  $B_0$  to  $B_6$  are the coefficients relating the P explanatory variables of interest.

Therefore, the regression analysis is presented as

$$CA=0.029+0.000CRM+0.000TMC+0.000CI+0.044T+0.025EI+0.004EE+e$$

**Standardization Regression Equation**

Shows the standardized Beta value of the independent variables in this study and presented as  $e^*=0.219CRM+0.692TMC+0.238CI+0.116T+0.105EI +221EE+e$

Where  $e^*$ , CRM, TMC, CI... EE is the standardized coefficients values of the independent variables.

**4.7. Discussion on Findings**

This study is to assess the effects of Total Quality management practices on competitive advantage in manufacturing companies in Ethiopia particularly on Kality Steel Factory. 194 targeted participants were involved in the study. They were employees and managers of

Kality Steel Factory. Most of the participants were degree & above in their level of education. The study aimed at finding answers to objectives prescribed in chapter one. The study deal with Total Quality management practices on competitive advantage in manufacturing companies in Ethiopia particularly on Kality Steel Factory.

Four specific objectives were developed to support the general objective; the first objective was to examine TQM principles of are implemented at Kality Steel Factory . The second objective was to investigate the impact of TQM implementation on competitive advantage in Kality Steel Factory. The third objective was to take stock the relationship between TQM implementation and competitive advantage in Kality Steel Factory S.C. The fourth objective was to examine the strategies used to enhance competitive advantages in Kality Steel Factory. The findings of the study indicated that TQM (Customer relationship management, Top management Commitment, Continuous Improvement, Teamwork, Employee Involvement and Employee Empowerment) is employed by Kality Steel Factory but at varying degrees. The findings of the study indicated that top management Commitment; teamwork and Employee Empowerment dimensions were adopted in a moderate level. While, Customer relationship management, Continuous Improvement and Employee Involvement dimensions were adapted to a low extent. This is supported by As such TQM is considered as a cause of competitive advantage because it lets firms to operate at a more competitive level and fulfil the needs of its consumers, while minimizing production costs and wastes hence increasing quality of the end product. Hence firms in transport and logistics sector should continuously embrace TQM practices especially the ones which have been neglected in order to further enhance competitive advantage and performance. For example, Naiyf (2018) conducted a study on The Effect of Total Quality Management Practices on Competitive Priorities of Telecommunication Companies in Qatar. The findings of the study indicated that both companies are highly implementing TQM and competitive priorities variables, and there are strong relationships between TQM and competitive priorities variables. The results of multiple regressions show that there is a significant effect of TQM on competitive priorities of Telecommunication companies in Qatar. The results also show that employee empowerment, reward, recognition, and customer focus have positive and significant effect on competitive priorities of Telecommunication companies in Qatar. However, top management commitment, employee training, employee involvement and continuous improvement do not show significant effect on competitive priorities of Telecommunication companies in Qatar.

The findings of the study indicated that TQM practices like Customer relationship management, Top management Commitment, Continuous Improvement, Teamwork, Employee Involvement and Employee Empowerment had positive and significant correlation with competitive advantage at 1% level of significance. This is supported by Omogbiya & Addah (2016) conducted a study on Effect of Total Quality Management on competitive advantage of Brewery Industry in Nigeria: An Empirical Study of Selected Breweries in Lagos State, Nigeria. The findings of the study indicated that positive and significant relationship exists between the application of total quality management in increasing organizational return on investment, lowering the level of product wastage and increases in customer satisfaction and enhance competitive advantage. It was concluded that adopting and implementing TQM principles enhanced the organizations competitive advantage. The study, however, recommended the training of employees in building of total quality management philosophy, continuous TQM education to be undertaken at all levels, commitment of total quality management to be backed by action and a host of others for effective total quality management in the Brewery industry in Nigeria.

The findings of the study indicated that Customer relationship management, Top management Commitment, Continuous Improvement, Teamwork, Employee Involvement and Employee Empowerment had positive and significant effect on competitive advantage. In addition the findings of the study indicated that the coefficient of determination (R Square) shows that 79.1 % of competitive advantage is determined by Top Management Commitment, Teamwork, Continuous improvement, employee empowerment, and Employee Involvement and Customer relationship management. This implies that the remaining 20.9% of competitive advantage is determined by other factors not included in this study. The finding is aligned with Rowland & James (2019) conducted a study on Total Quality Management Practices and competitive advantage. The findings of the study indicated that the test of hypotheses revealed that TQM has significant effect on organizational performance as the P2 Value was found to be greater than 50% occasioning the rejection of the null hypothesis. The test also revealed that TQM has positive effect on competitive advantage. The paper recommended that top management of organizations should make TQM practices top priority in their operations in the interest of sustainable performance.

## Chapter Five

### Summary Findings, Conclusions and Recommendations of the Study

#### Introduction

The main purpose of this thesis is to assess the effects of Total Quality management practices on competitive advantage in manufacturing companies in Ethiopia: The case of Kality Steel Factory. The first section of chapter five mainly deals with the summary findings of the study based on the analysis and interpretations of data gathered from primary sources collected from respondents. The second section is about the conclusion and the third section is about recommendations.

#### 5.1. Summary Findings of the study

The summary findings of the study were summarized based on the findings based on the four research questions raised in chapter one.

**Research Question One:** To what extent the principles of TQM are implemented at Kality Steel Factory. The findings of the study indicated that TQM (Customer relationship management, Top management Commitment, Continuous Improvement, Teamwork, Employee Involvement and Employee Empowerment) is employed by Kality Steel Factory PLC but at varying degrees. The findings of the study indicated that top management Commitment; teamwork and Employee Empowerment dimensions were adopted in a moderate level. While, Customer relationship management, Continuous Improvement and Employee Involvement dimensions were adapted to a low extent.

**Research Question Two:** What is the impact of TQM implementation on competitive advantage in Kality Steel Factory. The findings of the study indicated that Customer relationship management, Top management Commitment, Continuous Improvement, Teamwork, Employee Involvement and Employee Empowerment had positive and significant effect on competitive advantage. In addition the findings of the study indicated that the coefficient of determination (R Square) shows that 79.1 % of competitive advantage is determined by Top Management Commitment, Teamwork, Continuous improvement, employee empowerment, and Employee Involvement and Customer relationship management. This implies that the remaining 20.9% of competitive advantage is determined by other factors not included in this study.

**Research Question Three:** What is the relationship between TQM implementation and competitive advantage in Kaliti Steel Factory. The findings of the study indicated that TQM practices like Customer relationship management, Top management Commitment, Continuous Improvement, Teamwork, Employee Involvement and Employee Empowerment had positive and significant correlation with competitive advantage at 1% level of significance. There is 88.9% of correlation between Top Management Commitment, Teamwork, Continuous improvement, employee empowerment, Employee Involvement and Customer relationship management and competitive advantage. This implies that Top Management Commitment, Teamwork, Continuous improvement, employee empowerment, Employee Involvement and Customer relationship management and competitive advantages goes hand in hand.

**Research Question Four:** What are the strategies used to enhance competitive advantages in Kaliti Steel Factory. The basic strategy used in to enhance competitive advantages in Kaliti Steel Factory includes the implementation of total quality management practices like Customer relationship management, Top management Commitment, Continuous Improvement, Teamwork, Employee Involvement and Employee Empowerment.

## 5.2. Conclusion

Total Quality Management (TQM) seeks to satisfy the external customers with quality goods and services as well as the company's internal customers. The first and major TQM principle is to satisfy the customer- the person who pays for the product or service. Customers want to get their money's worth from a product or service they purchase. If the user of the product is different from the purchaser, then both the user and customer must be satisfied. The second TQM principle is to satisfy the supplier, that is, the person or organization from whom you are purchasing goods or services. It is only in the company's best interest that its suppliers provide it with quality goods or services, if the company hopes to provide quality goods or services to its external customers.

Workers should also be provided with good rewards and adequate motivation. The reason for providing workers with good rewards is to get the best of productivity out of them. An effective supervisor with a good team of workers will certainly satisfy his or her internal customers. One area of satisfying the internal customers is by empowering the workers. This means to allow them to make decisions on things that they can control. This not only takes the burden off the supervisor, but it also motivates these internal suppliers to do better work.



The third principle of TQM is continuous improvement. Never be satisfied and complacent with the present method used, because there can always be improvement. In other words, no matter how excellent a product or process may be today, there is always room for further improvement. The importance of TQM in every organization cannot be over-emphasized due to its many benefits to a firm. Total quality management is a long term continuous process that faces many obstacles such as slow process of staff to adapt the changes of TQM, the need for the company to purchase modern equipment which would make the manufacturing process more efficient and also help reduce the cost of production. Lack of team work will also affect TQM growth. With the involvement of leadership commitment and effective communication total quality management will enhance customer satisfaction and improve organizational performance.

The main aim of this research was to find out whether Customer relationship management, Top management Commitment, Continuous Improvement, Teamwork, Employee Involvement and Employee Empowerment can affect competitive advantages in Kaliti Steel Factory or not.

The result shows that Customer relationship management, Top management Commitment, Continuous Improvement, Teamwork, Employee Involvement and Employee Empowerment implemented in Kaliti Steel Factory PLC. But at varying degrees. The findings of the study indicated that top management Commitment; teamwork and Employee Empowerment dimensions were adopted in a moderate level. While, Customer relationship management, Continuous Improvement and Employee Involvement dimensions were adapted to a low extent.

On the other hand, the findings of the study from Pearson correlation analysis indicated that the relationships between TQM practices used in this study and competitive advantage is significant and positive.

Finally, the multiple regressions analysis shows that the total quality management practices such as Customer relationship management, Top management Commitment, Continuous Improvement, Teamwork, Employee Involvement and Employee Empowerment together significantly affect competitive advantage.

Similarly, Customer relationship management, Top management Commitment, Continuous Improvement, Teamwork, Employee Involvement and Employee Empowerment together have positive effect on competitive advantage.

However, From the analysis we can concluded that project Top management Commitment and Continuous Improvement are the most significant factor that affect competitive advantage followed by Employee Empowerment, Customer relationship management, Teamwork and Employee Involvement.

### **5.3. Recommendation**

Based on the findings of this study, the following recommendations are put forward with the aim of helping modern organizations to make the best use of total quality management principles and procedures to increase organizational performance

Firstly, TQM approaches should be carefully identified planned and executed at all the level of the company.

**Secondly**, there should be perfect working system and continuous feed-back process through effective and efficient communication and information system.

**Thirdly**, conducting relevant training for the employees to inculcate in them the principles and practices of TQM in order to eliminate or reduce to the barest minimum resistance to change.

**Fourthly**, Continuous TQM education should be undertaken at all levels, even for those firms that have already acquired a high degree of awareness of the concept (TQM).

**Fifthly**, there should be seminars organized outside business environment on ways to handle customers' problems, questions and answer session and innovation in the organization as a whole.

**Sixthly**, 79.1 % of competitive advantage is determined by Customer relationship management, Top management Commitment, Continuous Improvement, Teamwork, Employee Involvement and Employee Empowerment. This implies that the remaining 20.59% of competitive advantage is determined by other factors not included in this study. Therefore, it is better to find the other TQM practices that enhance competitive advantage in Kality Steel Factory.

## References

- Almalki, S. (2016). Integrating Quantitative and Qualitative Data in Mixed Methods Research—Challenges and Benefits. *Journal of Education and Learning*, 5, 288-296. <https://doi.org/10.5539/jel.v5n3p288>
- Alonso-Almeida, M.M., Rodríguez-Anton, J.M. & Rubio-Andrada, L. (2012). Reasons for implementing certified quality systems and impact on performance: An analysis of the hotel industry. *The Service Industries Journal*, 32, 919-936.
- Baird, K., Hu, K.J. & Reeve, R. (2011). The relationships between organizational culture, total quality management practices and operational performance. *International Journal of Operations & Production Management*, 31(7), 789-814.
- Barney, J., Ketchen, D., & Wright, M. (2011). The future of resource-based theory: Revitalization or decline? *Journal of Management*, 37(5), 1299–1315
- Bon, A. T., & Mustafa, E. M. (2013). Impact of total quality management on innovation in service organizations: Literature review and new conceptual framework. *Procedia Engineering*, 53, 516-529.
- Calvo-Mora, A., Picon, A., Ruiz, C. & Cauzo, L. (2014). The relationships between soft-hard TQM factors and key business results. *International Journal of Operations and Production Management*, 34(1), 115-143.
- Cravens, D.W. and Piercy, N. (2013). *Strategic Marketing*. 10th edn. McGraw-Hill
- Creswell, J. W. (2014). *Research Design: Qualitative, Quantitative and Mixed Methods Approaches* (4th ed.). Thousand Oaks, CA: Sage.
- Ehsan Jabbarzare & Najla Shafighi (2019). Total Quality Management Practices and Organizational Performance. *Open Science Journal of Statistics and Application*. Vol. 6, No. 1, 2019, pp. 6-12.
- Fernando Almeida (2018) Strategies to Perform a Mixed Methods Study volume 5 Issue 1 Faculty of Engineering of Oporto University, INESC TEC, Porto, Portugal Available on-line at: [www.oapub.org/edu](http://www.oapub.org/edu) pp 1-15.
- Gharakhani D., Rahmati H., Farrokhi, M.R., & Farahmandian, A. (2013). Total Quality Management and Organizational Performance. *American Journal of Industrial Engineering* 1(3), 46-50

- Govindarajan, V., Kopalle, P. K., & Danneels, E. (2011). The Effects of Mainstream and Emerging Customer Orientations on Radical and Disruptive Innovations. *Journal of Product Innovation Management*, 28(1), 121-132.
- Grant, C. & Osanloo, A. (2014). Understanding, Selecting, and Integrating a Theoretical Framework in Dissertation Research: Creating the Blueprint for 'House'. *Administrative Issues Journal: Connecting Education, Practice and Research*, Pp. 12-22 DOI: 10.5929/2014.4.2.9
- Hagos Berhane, Pramila Devi Maganti (2020). Effects of Total Quality Management Practices on Operational Performance of Ethiopian Plastic Industry. *International Journal of Innovative Technology and Exploring Engineering (IJITEE)* ISSN: 2278-3075, Volume-9 Issue-6, April 2020
- Hilmy Ahmed Mohamed (2016). Effect of Total Quality Management Practices on Competitive Advantage of Transport and Logistics Firms in Mombasa County, Kenya. A Research Project Submitted In Partial Fulfilment of the Requirements for the Award of the Degree of Master of Business Administration, School Of Business, and University Of Nairobi
- Junior, M.V., Lucato, W.C. & Vanalle, R.M. (2014). Effective management of international technology transfer projects insights from the Brazilian textile industry. *Journal of Manufacturing Technology Management*, 25(1), 69-99.
- Kim. D., Kumar, V., & Kumar, U. (2015). Relationship between quality management practices and innovation. *Journal of Operations Management*, 30, 295-315.
- Mele, C., Pels, J., & Polese, F. (2010). A brief review of systems theories and their managerial applications. *Service Science*, 2(1-2), 126-135.
- Mushtaq, N., Peng, W. W., & Lin, S. K. (2011). Exploring the lost link between TQM, innovation and organization financial performance through non-financial measures. In *International Conference on Innovation, Management and Service*. Retrieved from [www.ipedr.com/vol14/5-icims201](http://www.ipedr.com/vol14/5-icims201), 14(1), 27-33
- Naiyf Yousef Alaoun (2018). The Effect of Total Quality Management Practices on Competitive Priorities of Telecommunication Companies in Qatar. Thesis Submitted in Partial Fulfillment of the Requirements for Master Degree in Business Administration.

- Nejra Šteta-Ćerimović & Ensar Mekić (2020). The Effects of Quality Management Practices and Organizational Learning on Organizational Performance: A Proposed Research Framework. *International Burch University, BOSNIA AND HERZEGOVINA Faculty of Economics and Social Sciences, Sarajevo. Open Journal for Research in Economics, 2020, 3(1), 9-20.*
- Omogbiya O. Shulammitte & Addah Grace.O (2016). Effect of Total Quality Management on the Performance of Brewery Industry In Nigeria: An Empirical Study of Selected Breweries In Lagos State, Nigeria. *NG-Journal of Social Development, VOL. 5, No. 2, January 2016*
- Plastow, N. (2016). Mixing-up research methods: A recipe for success or disaster? *South African Journal of Occupational Therapy, 46(1), 89-90.*
- Rajasekar, S., Philominaathan, P., & Chinnathambi, V. (2013). Research Methodology. Retrieved April 8, 2015, from <http://arxiv.org/pdf/physics/0601009.pdf>
- Rawashdeh, A. M. (2018). The effect of TQM on firm performance: Empirical study in Jordanian private airlines. *Modern Applied Science, 12(9), 140.*
- Rula Ali Al-Damen (2017), the impact of Total Quality Management on organizational performance Case of Jordan Oil Petroleum Company: *International Journal of Business and Social Science, Vol. 8, No. 1*
- Sin Kit Yeng, Muhammad Shahar Jusoh & Noormaizatul Akmar Ishak (2018). The Impact of Total Quality Management (TQM) On Competitive Advantage: A Conceptual Mixed Method Study in the Malaysia Luxury Hotel Industries: *Academy of Strategic Management Journal Volume 17, Issue 2, 2018*
- Teece, D.J. (2010). Business models, business strategy and innovation. Long range planning, 43(2), 172-194
- Wehnert, U. E. (2009). Implementing TQM cross-culturally: A mediated model of national culture dimensions, TQM values and organizational performance. Unpublished 3361225, TUI University, United States -- California.
- Yamane, Taro. (1967). *Statistics: An Introductory Analysis, 2nd Edition*, and New York: Harper and Row.
- Yildirim, F. (2012). Impact of effective Total Quality Management on sustainable competitive advantage. UN published master's thesis, University of Amsterdam

**Appendix I: Questionnaires**  
**American College of Technology**  
**Department of Business Studies**

**Dear respondents,**

I am postgraduate student in American College of Technology. I am conducting this research for the partial fulfillment of Master of Business Administration. You have been selected as a valuable and knowledgeable participant in this research in titled with “The effects of Total Quality management practices on Competitive Advantage in Manufacturing Companies in Ethiopia: The Case of Kality Steel Factory”. The objective is to find out the exact information about the effects of Total Quality management practices on Competitive Advantage in Manufacturing Companies in Ethiopia: The case of Kality Steel Factory”. The questionnaires are completely anonymous and confidentiality is assured, for the research to provide correct results, it is important that you answer all the questions as honestly and truthfully as possible. The result of this questionnaire will be utilized for the sole academic purpose and hence, any information you give me will not affect by any means, your personal benefits and privacy.

Thank You.

**Tigist Taye** (+251911018225)

Email:

**SECTION –I, Demographic Information**

Place a mark (√) in the spaces provided after each question to reflect your answer the most accurately.

1. Which age brackets are you belong?

25-30 year’s  31-35 years  36-40 year’s  41-45 years  46-50  51 and

above

2. Gender?  Male  Female

3. Your level of formal education?

Diploma  degree  Master's  PhD

4. How long have you been working in your current position?

1-5 year's  6-10 years  11-15 years  16 years and above

5. Your current job level?


Employee  manager

## SECTION 2: Questionnaires on Total Quality Management Practices

Listed below are descriptive statements about effects the effects of Total Quality management practices on Competitive Advantage in Manufacturing Companies in Ethiopia: The case of Kality Steel Factory PLC. For each statement please indicates to which degree you display the behavior described. The questionnaires are derived from extensive literature review and collected from different sources and modified by professional through modification test to relate with the problem and the basic research questions rose above.

Circle or tick on the answer which is appropriate for you

Strongly Disagree (SD) 2. Disagree (D) 3. Neutral (N) 4. Agree (A) 5. Strongly agree (SA)

Statements	SD	D	N	A	SA
 #1. <b>Customer relationship management</b>	1	2	3	4	5
1.1 We frequently are in close contact with our customers					
1.2 Our firm carries out studies to evaluate customer satisfaction.					
1.3. Our employees know who our customers are					
1.4 Our firm carries out studies to determine its customer needs and wants.					
1.5 We use customer requirements as the basis for quality.					
1.6 Managers and supervisors support activities improving customer					

	satisfaction					
2	<b># 2. Top management Commitment</b>	1	2	3	4	5
2.1	Top managers (i.e. top executives and major department heads) are committed to quality performance					
2.2	top managers provides personal leadership for quality services and quality improvement					
2.3	top managers is evaluated for quality performance					
2.4	Major department heads within our bank participate in the quality improvement process					
2.5	Quality issues are reviewed in our company's management meetings					
2.6	Top managers have objectives for quality performance.					
3	<b>#3. Continuous Improvement</b>	1	2	3	4	5
3.1	The company provides continuous training for its managerial staff.					
3.2	The company offers continuous training for its non-managerial staff.					
3.3	Training needs are always evaluated and addressed.					
3.4	Firm measures employee satisfaction on the training received					
3.5	Employees are trained on team working.					
4	<b># 4. Teamwork</b>	1	2	3	4	5
4.1	The employees are provided with feedback on their quality performance					
4.2	All employees believe that quality is their responsibility					



4.3	Employee satisfaction is formally and regularly measured					
4.4	Employee flexibility, multi-skilling and training are actively used					
4.5	Employees are involved in design and planning					
5	<b># 5. Employee Involvement</b>	1	2	3	4	5
5.1	The company correlates constantly with employees					
5.2	The company provides open discussions based on objective criteria					
5.3	The company listens to employees suggestions					
5.4	The company values employee's inputs.					
5.5	The company uses effective participation system					
5.6	The company provides internal communication platform.					
	<b>#6. Employee Empowerment</b>					
6.1	The company defines the needs for empowering employees					
6.2	The company authorizes employees to make substantive decisions					
6.3	The company trains the employees on being responsible					
6.4	The company's employees are accountable for their action results					
6.5	The company offers information access to employees.					
6.6	The company gives rewards based on company performance					
	<b>#7. Competitive Advantage</b>					
7.1	The company able to offer prices as low or lower than competitors due to cost minimization					
7.2	The company able to compete based on quality of services and products					

7.3	The company deliver customer orders on time					
7.4	The company offer differentiated products and services to customers					
7.5	The company Increased Revenues					
7.6	Enhance economies of scale due to greater efficiency					
7.7	Creating uniquely desirable products and services					

Thank you for giving your time.

## **Appendices II: Interview questions**

### **For managers and vice managers of Kality Steel Factory PLC**

1. What is the role of total quality management practices in your department?
2. How is total quality management practices measured in your department?
3. What are the elements that constitute competitive advantages in your company?
4. How do total quality management practices influence the competitive advantages of the company?
5. What is the average percentage contribution of total quality management practices to the competitive advantages of the company?
6. What total quality management practices used in the company?
7. What are the challenges you faced in implementing service quality management practices in the company?
8. What measures do you take to implement total quality management practices in the company?