ST. MARY'S UNIVERSITY

SCHOOL OF GRADUATE STUDIES

INSTITUTE OF QUALITY AND PRODUCTIVITY MANAGEMENT

ASSESEMENT OF SERVICE QUALITY ON CUSTOMER SATISFACTION:-

THE CASE OF ETHIOPIAN COMMODITY EXCHANGE

BY

ADDIS CHALA

ID: SGS/0630/2012A

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A THESIS SUBMITTED TO ST. MARY'S UNIVERSITY, SCHOOL OF GRADUATE STUDIES INSTITUTE OF QUALITY AND PRODUCTIVITY MANAGEMENT, IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTERS OF SCIENECE IN QUALITY AND PRODUCTIVITY MANAGEMENT

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APPROVED BY BOARD OF EXAMINERS

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ENDORSEMENT

This is to certify that Addis Chala Begri has done a study on the topic "Assessment of Service Quality on Customer Satisfaction the Case of Ethiopian Commodity Exchange". This study is of his original work and all the sources of materials used for the thesis had been duly acknowledged.

Dr Melaku Girma

Advisor   Signature & Date

DECLARATION

I, the undersigned declare that this thesis entitled "Assessment of Service Quality on Customer Satisfaction in the Case of Ethiopian Commodity Exchange", is my original work prepared under the guidance of Melaku Girma (PhD) .All sources of materials used for the thesis have been acknowledged. I further confirm that this study has not been submitted in part or full for any degree completion to any University or Collage.

Addis Chala

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Signature & Date

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ACKNOWLEDGEMENT

ACRONYMS AND ABBREVIATIONS

ANOVA   Analysis of Variance

CEO   Executive Officer

CLU   Coffee Liquoring Unit

CSI   Customer Satisfaction Index

ECX   Ethiopian Commodity Exchange

ISO   International Standard Organization

IQPM   Institute of Quality and Productivity

MR   Multiple regressions

QSAE   Quality and Standards Authority of Ethiopia

SD   Standard Deviation

SERPERF   Service Performance Scale/Model

SERVQUAL   Service Quality Scale/Model

SMU   St. Mary's University

SPSS   Statistical Package for Social Science

SQ   Service Quality

UG   under Grade

VIF   Variance Inflation Factor

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ABSTRACT

Quality is an important source of competitive advantage in service sector. Service quality is used to differentiate and add value to service offerings and as a way to win strategic competitive advantage. Customer satisfaction and Service quality are important concepts to academic researchers studying consumer evaluations and to practitioners as a means of creating competitive advantages and customer loyalty. The main objective of the study is to examine the service quality provided by Ethiopian commodity exchange and its effect on customer satisfaction using SERVPERF model (tangibility, assurance, responsiveness, empathy & reliability).A quantitative method has been applied to analyze the data collected from the service recipient in Addis Ababa. Descriptive statistics such as frequency mean and correlation analysis techniques are applied to analyze background information of respondents. Respondents' perception on service quality and satisfaction as well as relationship between service quality dimensions and customers satisfaction are also analyzed under descriptive statistics. Besides, regression analysis technique is applied to investigate the impacts of service quality dimensions on satisfaction and at the same time test the hypothesis developed. The finding of the study shows that customers are satisfied on tangibility, empathy and assurance while they are dissatisfied on reliability and responsiveness. The finding on the base of correlation analysis also implies that the relationship between service quality dimensions and customer satisfaction result shows all service quality dimensions have positive and significant relation with customer satisfaction. The finding also confirms the service quality dimensions have an impact on customers' satisfaction implying that the higher the quality of service, the higher is the level of customers' satisfaction. From this finding, it is recommended that ecx can improve its service by mostly focusing on reliability and responsiveness service quality dimensions.

Keywords*: services, service quality, customer satisfaction*

CHAPTER ONE

INTRODUCTION

This chapter contains background of the study, background of the company, statement of the problem, research questions, objective of the study, significance of the study, scope of the study, and organization of the paper.

1.1 Background of the Study

Several scholars tried to define service in different ways. Kotler and Amstrong (2009) defined service as an activity or benefit that one party can offer to another that is essentially intangible and does not result in the ownership of anything. Its production may or may not be tied to a physical product.

According to the definition of Gronroos (2000), a service is a process that consists of a set of activities which take place in interactions between a customer and people, goods and other physical resources, systems and/or infrastructures representing the service provider and possibly involving other customers, which aim at solving customers" problems. Services are economic activities offered by one party to another. In exchange for money, time and effort, service customers expect value from access to goods, labor, professional skills, facilities, networks, and systems; but they do not normally take ownership of the physical elements involved (Lovelock and Wirtz, 2011).

Service quality focuses on meeting the customers'' needs and requirements and how well the service delivered match the customers'' expectations of it (Philip and Hazlett, 1997). According to Lonial and Zaim, cited in Oladepo & Abimbola (2014) put it is customers positive or negative feeling about the value that was received after the consumption of ideas, goods and services. Quality of service provided have a direct influence in creating a sustainable local economy, meaning that improving service quality to understand customer needs can enhance sustainable economic growth and competitive advantage (Srinita ,2019). Customer satisfaction is seen as a key differentiator which is evident that many market leaders are found to be highly superior-customer-service orientated (Mohsan, 2011). Despite the fact that factors such as price, delivery terms, etc. can affect customer satisfaction,

perceived service quality is a component of customer satisfaction (Zeithaml and Bitner, 2006).

Customer satisfaction and service quality are important concepts to academic researchers studying consumer evaluations and to practitioners as a means of creating competitive advantages and customer loyalty. Many industries are paying greater attention to customer satisfaction and service quality, for reasons such as increased productivity and competition (Zeithaml and Bitner 2006). Customer satisfaction and service quality have been for this latest year's important topic both for the researches in the field of marketing and for the academic world (Ueno, 2010). The notice directed to these two theories, customer satisfaction and service quality is mainly due to the harsh competition among private businesses on the market, in addition to the pressure of biased factors and of the population, over organizations in the field of public administration (Ghasemi, Kazemi and Esfahani, 2012).The competitive advantages are to deliver high-quality services, services that in switch will cause the customer satisfaction (Sureshchandar, 2002)

Satisfaction from service quality is frequently evaluated in terms of functional quality and technical quality (Gronroos, 1984). Regularly, customers do not have lot information about the technical phases of a service; therefore, functional quality becomes the main aspect from which to form perceptions of quality of service. Service quality may be described as customer perception of how well a service assembles or go over's their expectations. Service quality can be determined in terms of customer expectation, customer perception, and customer attitude and customer satisfaction (Ghasemi, Kazemi and Esfahani, 2012).

1.2 Background of the Company

The Ethiopia Commodity Exchange is a marketplace, where buyers and sellers come together to trade, assured of quality, delivery and payment. The Ethiopia Commodity Exchange (ECX) launched its membership recruitment drive in January 2008 and commenced trading operations in April 2008. The ECX marketplace brings order, integrity, transparency, and efficiency to the market. ECX membership made up of an even mix of cooperative unions, industrial processing enterprises, commercial farmers, private exporters, and domestic trading and engaged in the agricultural commodity business. ECX enjoys wide national and global media attention with coverage by Wall Street Journal, Reuters, Bloomberg, Associated Press, Financial Times, VOA, Agency France Press, Business Week, Der Spiegel, East

African Standard, BBC, among others, as well as many of the Ethiopian print, radio, and TV media, indicating the interest and support for this initiative. The Ethiopia Commodity Exchange launched trading operations with contracts for white and mixed maize, hard and soft wheat, processed and unprocessed haricot beans and began trading coffee in December 2008. The Ethiopian Commodity Exchange was started to benefit and modernize the way Ethiopia was trading its most valuable assets, its commodities (Gabre-Madhin 2006).

Ethiopia needed a change from the traditional means of trading to better support the needs of all those involved in the trading and production. A primary function of an Exchange is coordinating buyers and sellers. Related to this, an Exchange creates market transparency by providing information on product grades, on prices, and on offers and bids for given products. This signals opportunities for profitable trade; it levels the playing field between farmers and others with better information; and it opens up new markets within and outside of the country. Another central function of an Exchange is to provide security to transactions, making it less risky to trade across long distances, across time, and with unknown counterparties (Gabre-Madhin 2006).

ECX assures all commodity market players the security they need in the market through providing a secure and reliable End-to-End system for handling, grading, and storing commodities, matching offers and bids for commodity transactions, and a risk-free payment and goods delivery system to settle transactions, while serving all stakeholders fairly and efficiently. It creates trust and transparency through aggressive market data dissemination to all market actors, through clearly defined rules of trading, warehousing, payments and delivery and business conduct, and through an internal dispute settlement mechanism (ECX, 2020). ECX provides market integrity at three important levels: the integrity of the product itself, the integrity of the transaction, and the integrity of the market actors. Before ECX was established agricultural markets in Ethiopia had been characterized by high costs and high risks of transacting, forcing much of Ethiopia into global isolation. With only one third of output reaching the market, commodity buyers and sellers tended to trade only with those they knew, to avoid the risk of being cheated or default. (ECX, 2020).

Coffee is one of the mandatory commodities received, graded, stored in warehouses and trade at ECX. Ethiopia is the source and center of origin for Coffee Arabica and the only country exporting coffee based on specific geographical origins as Yirgacheffe, Sidama,

Harare, Nekempti, Limmu/Jimma, etc, in which each has its own distinguishing physical and organoleptic character. Accordingly the Ethiopia Commodity Exchange coffee contracts classification was designed and executed in line with keeping country's coffee distinct character and quality profile linked to their specific origin (ECX, 2016).

In this study, try to look the service quality of ECX and its effect on customer satisfaction. ECX"s model is the first of its kind in Africa with its end-to-end integrated system of central trading, warehousing, product grade certification, clearing, settlement, delivery, and market information dissemination (http://www.ecx.com.et). The ECX entrusted with broad objective of modernizing the Ethiopian agricultural market by providing a quality service and thereby attaining overall economic growth. Like many other service provider ECX lacks modern technology, competent professionals, quality standards, good communication, and transparency, grading and quality certificate. However, the establishment of the Ethiopian commodity exchange expected to bring order, fairness and liquidity to the commodities market. Therefore, the purpose of this study is to see the perception of the customers towards the quality of the service provided by ECX and the level of customers' satisfaction related to the service particularly arrival coffee grading. For this, SERVPERF model has been applied. SERVPERF is a performance-based scale that directly measures the customers' perception of service quality (Cronin and Taylor, 1992).

1.3 Statement of the Problem

Coffee production in Ethiopia condition is the critical to Ethiopian economy, as about quarter of total population depending directly or indirectly for their live hood. Now days, Ethiopia is the world third and Africa's top producers of coffee Arabica (ICO, 2011).Arabica coffee, which originated in Ethiopia, has a long and well established root for which the country is most known for its tradition. In Ethiopia, more than 6000 Arabica coffee accessions have been collected and preserved by research centers, out of which 37 have been released (Teferi, 2018). Ethiopia is gifted with environment suitable for producing high quality coffee beans. Despite this, Ethiopian coffee industry has been suffering from a number of multifaceted limitations. The problems relate to production, processing, grading and marketing (Alemayhu, 2018).

Coffee generates about 25%-30% of total export and securing about 25 million people's livelihoods in Ethiopia (Demissie, *et al*2021; Teferi, 2018). However, for last 5 decades, economic gain generated from coffee industry in general and coffee export in specific has been limited and showed trend of relative decline. Market share of coffee in the international market has not been exceeded 4% and stayed swinging around 3% for long time (Berhanu*et al*, 2015). This is partly due to quality control and inconsistency of coffee quality grading (Adugna, 2019). To curve this situation Ethiopia government developed new coffee marketing and quality control proclamation No.1051/2017 as policy intervention (Adugna, 2019). There are many studies conducted related to coffee product and coffee quality (Bealu, 2021; Mikru, 2019; Habtamu, 2019; Yishak, Shimelis and Tarekegn, 2019) with no attention on significant contribution on coffee quality infrastructures like CLU service quality to attain consistency in coffee quality grading (Meron, 2021).Quality infrastructure services capability assessment in the coffee value chain have investigated the association of quality service with defects in the sector. They have found out lack of accreditation has the highest contribution followed by conformity and metrology with a share of 83.3%, 75%, and 54% for defects points. Furthermore they have recommended issues like control of temperature and humidity in storage and transport, lack of soil nutrition testing, inspection performance, and commitment to standards implementation are issues that needs to be improved to solve quality problems (Meron, 2021).

According to Caruana (2002) the overall satisfaction of the customers has a mediating effect on the service quality dimensions (tangibles, reliability, responsiveness, empathy and assurance). Many authors have also discussed service quality so for the companies, not only the quality of products is of significant, but also the service quality is important for the service providers. The good evaluation of the service quality from the customers is very important for the companies. One of the determinants of success of a firm is how the customers perceived the resulting service quality, as the perceived service quality is the key driver of perceived value (Collart, 2000). Good service quality leads to the retention of existing customers and the attraction of new ones, reduced costs, an enhanced corporate image, positive word-of-mouth recommendation, and, ultimately, enhanced profitability (Cronin et. al., 2000).

The effectiveness of quality grading is heavily dependent on the effectiveness of the sampling process. Service dissatisfaction is almost inevitable if the sample drawn is not

representative, although appropriate quality grading equipment is used and competent grading employees are deployed. Quality grading employees believe that they have been a scapegoat to the unrealistic expectation of market actors at the opposite end. While sellers expect a soft grading procedure, buyers at the other end expect a stringent quality grading procedure. ECX is struggling to improve and keep its service quality towards increase customers positive perceptions by providing and implementing like new revised quality control operation manual, claim handling procedure, quality control worker regulation systems and other service improvement tools(ECX, 2013).

Helina (2018) on her study presentation on operational performance of ECX and its effect on customer satisfaction have investigate the performance of ECX has been remarkable in reducing transaction and physical marketing costs, there is still room for further improvement of the level of efficiency of ECX operations in terms of cost and service delivery. She recommended the trading system or ECX website may occasionally be inaccessible for various reasons including power, telecom, high volume trade and other system issues. Therefore, ECX should upgrade and develop their performance and do have reliable telecom facility, power and skilled workforce to avoid the problems related to this and satisfy the customer of ECX.

Gada (2021)on his study the determent of coffee quality on export coffee according to his finding, transport facility, storage, market development and market information provision found to have significant impact on export performance and all the selected dimensions have a positive influence on the /dependent variable/export performance has also significantly correlated with the independent variables. Furthermore he recommended that ECX has a significant determinant of the performance of its coffee quality determinants employees of ECX, coffee supplier, primary and secondary cooperative union through its practice of market development, transport facility, storage and market information provision. However, as per the ratings of the respondents and the services of ECX with regard to some core Impact and the role influencing including transport facility problem of ECX has high impact, market development and storage has mid-point and marketing information provision have low impact and positively significant to export performance which needs to be improved.

Even though there are lots of studies conducted on operational performance, customer service satisfaction and critical assessments on ECX the researcher repossessed, still there is

no or little attention is given to service quality on customer satisfaction particularly on the arrival coffee quality grading. Therefore this study attempts to fill the research gab by assessed the quality of the services provided by the ECX to members on arrival coffee quality grading. The study also, evaluating the degree of customer satisfaction. It also helped to draw practical suggestions for ECX quality improvement strategies. Hence, the study was investigating the effect of independent variables (tangibles, reliability, assurance, responsiveness and empathy) on the dependent variable (customer satisfaction) of ECX.

1.4 Research Questions

Based on the identified research problems, the following research questions are developed and the study was focused on answering these questions.

1. How is the service quality of ECX perceived by customers?
2. What are the relationship between service quality dimensions(tangibility, reliability, responsiveness, assurance and empathy) and customer satisfaction?
3. What is the effect of service quality dimensions on customer satisfaction?
4. What is the dominant service quality dimension that has a strong relation with customer satisfaction in ECX?

1.5 Objectives of the Study

1.5.1 General Objectives

The general objective of this study was to assess the effect of service quality on customer satisfaction with the respect of ECX on arrival coffee quality grading using SERVPERF model.

1.5.2 Specific Objectives

The specific objectives of this research are:

1. To identify the level of quality of ECX services as perceived by its customers;
2. To assess the relationship between service quality dimensions (tangibility, reliability, responsiveness, assurance and empathy) and customer satisfaction.
3. To assess the effect of service quality dimensions on customer satisfaction.
4. To identify the dominant dimension of service quality that drives customers" perceived service quality in ECX.

1.6 Definition of Basic Terms

Commodity Exchange: Is an exchange where various commodities and derivatives products are traded. Most commodity markets across the world trade in agricultural products and other raw materials (like wheat, barley, sugar, maize, cotton, cocoa, coffee, milk products, pork bellies, oil, metals, etc.) and contracts based on them. These contracts can include spot prices, forwards, futures and options on futures (UNCTAD report, 2009).

Customer perspective: Is the measuring of service quality of an organization from its service user's judgment or point of view. Though there are different kinds of customers this study considers only ecx members. That means the user of the service of arrival coffee quality grading under study specifically coffee suppliers and buyers (Reichheld, 1996).

EXC: Is the organization, which the study is focused on.

Service Quality: Means the difference between the customer's expectation of service and their perceived service, which consists of five dimensions: responsiveness, reliability, tangibility, empathy and assurance or it is the ability of an organization to meet or exceed customer expectations, Zeithml and Bitner (2003).

SERVQUAL: An instrument of measuring service quality in terms of the discrepancy between customers expectation regarding service offered and the perception of service received (Gilmore, 2003).

SERVPERF: Is a service quality model which measures service quality by using the perceptions of customers (Cronin and Taylor, 1992).

Service quality dimensions: Christian Gronroos suggested that the quality of service as perceived by the customer has two dimensions - technical or outcome dimension and the function of process related dimension. According to Gronroos (1982) cited in Kang and James (2004, p.267).

1.7 Significance of the study

The study was conducted on effect of service quality and customer satisfaction the case of ECX point of arrival coffee quality grading service. The main benefit of this research will be for ecx. The organization will obtain the necessary information about its customer's perception with regard to the service quality, and identify the main bottlenecks of the company. The identified strengths and weaknesses of the service delivered by the organization and its effect on customer satisfaction will be used as an input for top managers of the ecx for their future service related decisions making to satisfy their valuable

customers. The recommendations that the research will provide also be helpful to make new and/or adjustments in the ecx customer handling procedures so as to make them satisfied with the services. In addition, this study enable the researcher a chance to understand to what extent the theoretical knowledge of service quality and customer satisfaction concepts learnt are being implemented in practice by the organization under study. The information gained from this study can serve as an important tool in the area of improving the service quality. Finally, the result of this study can further be used as a starting point for other interested researchers to make further detailed research on the area.

1.8 Delimitations/Scope of the Study

This study was conducted to assess the quality of services provided by ECX and the level of customer satisfaction. ECX is providing different services and has different customers, among those services and customers the scope is limited to arrival coffee quality grading service. In this study, ECX members are the only target populations. The study conducted in Addis Ababa head office among ECX members it could not be generalized to the entire ECX clients that are found in the country.

Even though there were different models and combination of models developed by different researchers and authors to study service quality, this paper used modified SERVPERF model (Cronin and Taylor, 1992). SERVPERF is selected than the most commonly used service quality model, SERVQUAL, due to many criticisms on the model by previous researches. SERVPERF service quality dimensions were adapted according to Gro¨nroos's service quality model (Kang and James, 2004) to functional and technical dimensions. Due to tangible character of the service quality of ECX, unlike most service sector, the technical dimension that measure the outcome of the service is considered. Thus, the service quality dimensions proposed for this study were five. These include five functional service quality dimensions of SERVEPERF (tangibility, reliability, responsiveness, assurance, empathy). Besides, overall service quality and customer satisfaction were measured, described, correlated and regressed with the six service quality dimensions.

1.9   Organization of the study

This research was organized into five chapters. Chapter one contains background of the study, statement of the problem, research questions and objectives, significance, scope of the study and organization of the paper. Chapter two is mainly focus on existing literatures which covers theoretical framework related to the study, empirical studies related to the company and the topic under study and finally to develop conceptual frame work from the theories and empirical studies with hypothesis. Chapter three discusses the methodology employed in the study, including, research design, sample size and sampling technique, data source and collection method, procedure of data collection and method of data analysis. Chapter four is about data analysis and discussion of results. Finally, chapter five contains summary, conclusions and recommendations.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.1   Introduction

This chapter provides the reader with a literature review concerning the research area. Large number of studies has been conducted in the field of service quality and customer satisfaction. There are useful contributions expressed by so many authors about service quality dimensions, which are tangibles, reliability, responsiveness, assurance, and empathy as important factors of quality service delivery. The definitions of service, characteristics of service, definitions and dimensions of service quality, customer satisfaction, and relationship between service quality and customer satisfaction literatures and other topics were discussed in this chapter in detail.

2.2   Theoretical Review of Literature

2.2.1 Service

Service as a terminology is taken most often as one category of economic activity (Silvestro and Johnston as cited in Johns, 1998) which categorizes service industries into financial, transport, retail and personal services (Office for National Statistics as cited in Johns, 1998). Service also denotes health service, Civil Service etc. which traditionally developed along bureaucratic lines and are quite distinct from the industrial service sector (Johns, 1998). Customer service also defined as a series of activities designed to enhance the level of customers" satisfaction which is the feeling a product or service has meet customers' expectations (Zeithaml and Bitner 2006).The other issue in relation to service is the contention by Johns (1998) that service as an out output has a substantial tangible component in as much as many product shave intangible attributes. Customers buy an offering and the value that consist of many components, some of them being activities (service) and some being things (goods). As a consequence, the above scholars argue that traditional division between goods and services is long outdated (Clow and Kurtz, 2003).

The other important point in service is customization versus standardization services can be classified according to the degree of customization or standardization involved in service delivery. An important marketing decision is whether all customers should receive the same

service or whether service features (and the underlying processes) should be adapted to meet individual requirements. Eye exam will follow standardized procedures; the optometrist's analysis of the results will result in a customized prescription for new contact lenses to correct her vision. Therefore, in customization service will be tailor to meet each customer's specific needs and preferences while standardization reduces variation in service operations and delivery (Lovelok & Wright, 2001).

2.2.2 Service Quality

Service quality is more difficult for the customer to evaluate than goods quality. Service quality is "intangible" because services, as performances, are difficult to assess before a sale. Moreover, as a result of this intangibility, service providers can have difficulty in ascertaining how consumers perceive their service. The service quality can intend to be the way in which customers are served in an organization, which could be good or poor (Khan, 2003). Service quality is generally recognized as a critical success factor in a firm's endeavors to differentiate itself from its competitors. According to Robinson (1999), service quality can be defined as the customer's attitude or judgment about the superiority of a service. With variety of services available in different sectors, customer is getting more demanding and quality in service sector is gaining importance for firms to remain competitive Service quality can be defined as the customer's attitude or judgment about the superiority of a service (Robinson, 1999).

Kotler and Keller (2009, pp. 789) addressed that "any intangible act or performance that one party offers to another that does not result in the ownership of anything". The definition of the service quality advancing with the times, but the aim of providing quality services is to satisfy customers. Researchers proposed different views on the definitions of service quality. Service quality is defined as a comparative function between consumer expectations and actual service performance (Parasuraman et al., 1985). On the other hand, Parasuraman et al., (1988) defined service quality as the ability of an organization to meet or exceed customer expectations. According to Cronin & Taylor (1994), service quality is a form of attitude representing a long-run overall evaluation of service.

2.2.3 Service Quality Dimensions

According to Berry (1985), regardless of the type of service, consumers basically use the same criteria to assess quality. Service quality is a general opinion the client forms regarding its delivery, which is constituted by a series of successful or unsuccessful experiences. Managing gaps in service will help the company improve its quality. But gaps are not the only means clients use to judge a service. They can also use five broad-based dimensions as judgment criteria. According to Lovelock, & Wirtz (2007), these dimensions are;

(a) Tangibility: concerns the physical facilities, equipment, personnel and materials that can be perceived by the five human senses; which provide enough hints to customers about the quality of service and enhances the image (Ramya et al., 2019).

(b) Reliability: is ability to perform the promised service dependably and accurately. It is translated into the ability of the supplier to execute the service in a safe and efficient manner. It depicts the consistent performance, free of non-compliance, in which the user can trust. The supplier must comply with what was promised, without the need for rework (Ramya et al., 2019).

(c) Responsiveness: is related to willingness to help customers and provide prompt service. Also refers to the availability of the provider to attend voluntarily to users, providing a service in an attentive manner, with precision and speed of response. It concerns the availability of employees of the institution to assist users and provide the service promptly. It focuses on the attitude and promptness in dealing with customer requests, questions, complaints and problems (Ramya et al., 2019);

(d)Assurance: (including competence, courtesy, credibility and security) is related to knowledge and courtesy of employees and their ability to convey trust and confidence. This dimension focuses on job knowledge and skill, accuracy, courtesy etc. of employees and feeling of security (Ramya et al., 2019).

(e) Empathy: (including access, communication, understanding the customer) related to caring and individualized attention that the firm provides to its customers. It refers to whether the organization cares for the user and assists him in an individualized manner, referring to the ability to demonstrate interest and personal attention. Empathy includes accessibility, sensitivity and effort in understanding the needs of users. It conveys the meaning through personalized or individualized services that customers are unique and special (Ramya et al., 2019).

2.2.4 Service Quality Measurement

Many conceptual quality models have been postulated to bridge the understanding gap of the main concepts incorporated under the umbrella of service quality better. Despite the accumulated information in various service quality models, still there is lack of substantial knowledge as to how consumer evaluations of a particular service are really formed (Philip and Hazlett, 1997). From the models of service quality presented in the literature, it is important to see five of them as follows:

2.2.4.1 Technical and Functional Quality Model

This model of quality promulgated by C. Gronroos in 1984.The author identified three components of service quality viz; technical quality, functional quality and image:

1. Technical quality is the quality of what consumer actually receives as a result of his/her interaction with the service firm. It is important to the customer and uses it to evaluate the quality of service.

2. Functional quality is how the customer gets the technical outcome which is important to the customer and shapes views of service he/she has received.

3. Image is very important to service firms. It is mainly the result of technical and functional quality of service the firm delivers including the other factors such as tradition, ideology, word of mouth, pricing and public relations.

2.2.4.2 GAP Model

Parasuraman et al. in 1985 proposed that service quality is a function of the differences between expectation and performance along the quality dimensions. They developed a service quality model based on gap analysis. The various gaps visualized in the model are:

Gap1: Difference between consumers'' expectations and managements perceptions of those expectations, i.e. not knowing what consumers expect.

Gap2: Difference between management's perceptions of consumers'' expectations and service quality specifications, i.e. improper service-quality standards

Gap3: Difference between service quality specifications and service actually delivered i.e. the service performance gap.

Gap4: Difference between service delivery and the communications to consumers about service delivery, i.e. whether promises match delivery?

Gap5: Difference between consumer's expectation and perceived service. This gap depends on size and direction of the four gaps associated with the delivery of service quality on the marketer's side. Parasuraman et al. refine this exploratory research with their subsequent scale named SERVQUAL for measuring customers" perceptions of service quality (Seth, N. and Deshmukh, S.G. 2005).

2.2.4.3 SERVQUEL

The model was developed by Parasuraman, Zeithaml and Berry (1988) as a tool of identifying service quality shortfall. This model is based on the premise that customers can evaluate a firm's service quality by comparing their perception of its service with their own expectations. The model measures customer expectations and perceptions of service quality. The quality gap (Q) is calculated by subtracting the expectation (E) from the perception (P) value i.e. P-E=Q. Summation of all the Q values provide an overall quality rating which is an indicator of relative importance of the service quality dimensions that influence customers' overall quality perceptions. SERVQUAL is a standardized instrument that has been applied across a broad spectrum of service industries. The SERVQUAL scale (Questionnaire) has two sections: one to measure customer expectations in relation to a service segment and the other to measure perception regarding the organization whose service is being assessed. SERVQUAL comprises a 22 items (Likert-type) with five dimensions of reliability, responsiveness, assurance, empathy and tangibles. From the 5 dimensions, 22 statements are derived, each measuring both the expectations and perceptions of customers towards the quality of services of the organization being assessed. The customers are required to rate, on a 5- point Likert scale, the degree to which they feel the service provider should deliver for an excellent service. Another identical scale is provided adjacent to the first one in which the respondents rate the actual quality of service delivered to them by an organization based on their perceptions. For each statement, the difference between perception and expectation is calculated; the averages of the obtained score being the SERVQUAL score (Parasuraman et al., 1988).

2.2.4.4 Performance Only Model (SERVPERF)

SERVPERF was developed by Cronin and Taylor (1992) in their empirical work which involved the modification of SERVQUAL with respect to conceptualization and measurement of service quality. They developed a performance based measure of service

quality called "SERVPERF" illustrating that service quality is a form of consumer attitude. SERVPERF measures service quality based solely on performance. Cronin and Taylor (1992) argued that performance is the measure that best explains customers' perceptions of service quality, so expectations should not be included in the service quality measurement instrument. SERVPERF looks at the attributes of the 5 dimensions, worded the same as SERVQUAL but does not repeat the set of statements as expectation items. SERVPERF therefore comprises a 22 items (Likert-type) with five dimensions of reliability, responsiveness, assurance, empathy and tangibles. 22 statements are then derived to measure the perceptions of customers towards the quality of services of the organization being assessed (Parasuraman et al., 1988).

The inherent differences in service quality and customer satisfaction and the causal relationship between the two marred the question of measuring expectations. According to this model, expectations as portrayed in SERVQUAL model serve as reference points in a customer's assessment of service performance, but does not have determining roll on perceptions. And hence the logic behind the measurement of service quality as an arithmetic difference between expectations and perceptions is questionable. Because of this weakness of SERVQAL, Cronin and Taylor as cited in (Philip and Hazlett, 1997) put forward the SERVPERF model in 1992 which they believe better reflects long-term service quality attitudes than SERVQUAL.It is claimed by both researcher that service quality is directly influenced only by perceptions of performance (Philip and Hazlett, 1997).

2.2.4.5 PCP Attribute Model

PCP (Pivotal, Core, Peripheral) attribute model contributed by Philip and Hazlett in 1997. The authors examined the weakness of service quality models which utilize expectation as one construct in the measurement of service quality and they argue these models are not applicable to individual services which naturally have their peculiarities. In attempt to rectify these problems, the authors propose a model that takes the form of a hierarchical structure – based on three main classes of attributes – pivotal (output), core and peripheral (the last two jointly representing inputs and processes). According to the model, every service consists of three, overlapping, areas where the vast majority of the dimensions and concepts which have thus far been used to defined service quality. The pivotal attributes defined as the "end product" or "output" from the service encounter. They are core and considered collectively to

be the single most determining influence on why the consumer is coming to a particular organization and put the highest influence on the satisfaction levels. Core attributes, centered in the pivotal attributes, represent the collection of the people, processes and the service organizational structure through which consumers must interact and/or negotiate and receive the pivotal attribute. The third level of the model focuses on the peripheral attributes which can be defined as the incidental extras or frills designed to add roundness to the service encounter and make the whole experience for the consumer a complete delight (Seth and Deshmukh, 2005).

2.2.5 Customer and customer Satisfaction

Customer has been defined by different individuals and groups some of the definitions that suite to this study are; Israel (2015), defined customer that those who buy the goods or services provided by companies are customers. In other words, a customer is a stakeholder of an organization who provides payment in exchange for the offer provided to him by the organization with the aim of fulfilling a need and to maximize satisfaction. Sometimes the term customer and consumer are confusing. A customer can be a consumer, but a consumer may not necessarily be a customer.

Customer is the most important factor in goal setting, activity and trying for quality improvement. Evanschitzky and Wunderlich (2006) added that customer is a real or legal person who somehow relates to organization and benefits from its goods and services. The concept of customer as: "Most people suppose that customer is the final consumers whereas the customer is both categories of the intra organizational and the extra organizational, i.e. whoever the product and/or service are produced to meet his or her need. Another author Almossawi (2012) explained that customer is the person who does the buying of the products and he also differentiate between customer and consumer that the consumer is the person who ultimately consumes the product or service.

A customer is a stakeholder of an organization who provides payment in exchange for the offer provided to him/her by the organization with the aim of fulfilling a need and to maximize satisfaction. Sometimes, the term customer and consumer are confusing. A customer can be a consumer, but a consumer may not necessarily be a customer. A customer is the person who does the buying of the products and the consumer is the person who ultimately consumes the product (Solomon, 2009).

Satisfaction is a person's feelings of pleasure or disappointment that results from comparing a product's perceived performance or outcome with their expectations (Kotler and Keller, 2009). Satisfaction could be the pleasure derived by someone from the consumption of goods or services offered by another person, group of people, or an organization; or it can be the state of being happy with a situation. Satisfaction varies from one person to another because it is utility. "One man's meal is another man's poison," is an old adage stated describing utility; thus, highlighting the fact that it is sometimes very difficult to satisfy everybody or to determine satisfaction among group of individuals.

Customer satisfaction is one of the most important concepts for most marketers and consumers (Jamal, 2004). Client happiness, which is a sign of customer satisfaction, is and has always been the most essential thing for any organization as it is the milestone for its existence. The conceptualization of customer satisfaction is very complex and has been defined in many different situations. However, no single definition of customer satisfaction has been universally accepted. Customer satisfaction traditionally defined, according to the expectation disconfirmation theory, as the result of the comparing between customers" expectation before purchase and evaluation about the actual performance of a product or service after purchase (Oliver, 1977). According to Tse and Wilton (1988), customer satisfaction is defined as the consumer's response to the evaluation of the perceived discrepancy between prior expectations and the actual performance of the product or service as perceived after its consumption (Giese and Cote, 2002).

2.2.6 Customer Satisfaction and Service Quality

Researchers have been more precise about the meaning and measurements of satisfaction and service quality. Satisfaction and service quality have certain things in common, but satisfaction generally is a broader concept, whereas service quality focuses specifically on dimensions of service (Wilson et al, 2008). Although it is stated that other factors such as price and product quality can affect customer satisfaction, perceived service quality is a component of customer satisfaction (Zeithaml et al, 2006). Regarding the relationship between customer satisfaction and service quality, some researchers have found empirical supports for the view that service quality would be antecedent to customer satisfaction

(Fornell et al, 1996; Spreng and Macky, 1996); i.e., customer satisfaction came as a result of service quality.

It has been proven from past researches on service quality and customer satisfaction that customer satisfaction and service quality are related from their definitions to their relationships with other aspects in business. Some authors have agreed to the fact that service quality determines customer satisfaction. Parasuraman et al (1985) in their study proposed that when perceived service quality is high, then it will lead to increase in customer satisfaction. Some other authors did comprehend with the idea brought up by Parasuraman (1995) and they acknowledged that 'customer satisfaction is based upon the level of service quality that is provided by the service providers' (Saravana and Rao, 2007; Lee et al, 2000).

2.2.7   Factors Affecting Customer Satisfaction

According to Bitner (2005), customer satisfaction is influenced by a host of issues such as product and service features, customer emotions, perception of equity and fairness and other customers, family members, friends and co-workers. According to Tulel et al, 2006, the customer service a brand offers and the fairness of the price it charges determines the level of satisfaction among its customers than any other measures. Parasuraman, Zeithml and Berry, 1988 identified 22 factors that influences customer satisfaction as Physical facilities, Equipment, Appearance of hotel employees, Communication materials, Timeliness of service, Problem solving interest, Efficient service, Consistency of service, Accuracy of records, Problem resolution time, Prompt attention to guest's requests, Willingness to help, Flexibility of employees, Behavior of employees, Safety and security, Courtesy of employees, Competence of employees, Individualized attention, Convenient operating hours, Personal attention from employees, Concern towards guest interest and Understanding guest specific needs.

2.2.8 Relationship between Service Quality and Customer Satisfaction

Some researchers argue that service quality is an antecedent of customer satisfaction (Churchill and Suprenant, 1982) while others argues that satisfaction represents an antecedent of service quality (Carman, 1990; Boltonand Drew, 1991). However, the majority of recent publications believe that service quality is an antecedent to customer satisfaction (Carrillat et al., 2007 &Zeithaml et al., 2008). The quality of service has become an aspect of

customer satisfaction. It has been proven by some researchers that service quality is related to customer satisfaction (Agbor, 2011). There is a strong positive relationship between service quality and customer satisfaction (Parasuraman et. al., 1988; Bahia and Nantel, 2000). Perceive service quality is a component of customer satisfaction (Zeithamal et al., 2009) and it determines customer satisfaction (Cronin and Taylor, 1992; Wang, Lo and Hui, 2003).

Ushantha, Wijeratne, & Samantha (2014) conducted study on Customers' Perception on Service Quality towards Satisfaction: An Application of SERVPERF in State Sector Banks in Sri Lanka. The aim of this study was to measure consumers' perceived service quality in state banks and its impact on customer satisfaction in Sri Lanka. This study tried to apply 22 item SERVPERF scale for study.The results revealed that consumers have higher level of positive perception of SERVPERF dimensions. All dimensions (reliability, assurance, empathy, tangibles and responsiveness) contributed significantly towards the service quality in state banks in Sri Lanka.

Further it revealed that there is a strong positive linear relationship between overall service quality and customer satisfaction in state banks in Sri Lanka. Agbor (2011) conducted a study on the relationship between customer satisfaction and service quality on three service sectors in Umea. The purpose of the study was to assess the relationship between customer satisfaction and service quality in service sectors with respect to the service quality dimensions. Convenience sampling technique was used to get quantitative data from customers of Umea University, ICA and Forex. The findings were distinct for the relationship between customer satisfaction, service quality and service quality dimensions. There have been significant relationships between service quality and customer satisfaction for ICA and Forex but the relationship between service quality and customer satisfaction for Umea University was not significant. All sector result showed that service quality dimensions responsiveness, empathy and reliability were significantly related to service quality while reliability and empathy significantly related to customer satisfaction. Responsiveness was not significantly related to customer satisfaction while service quality significantly related with customer satisfaction. This indicates the service quality dimension varies in the different service sector. This finding suggests that for providing quality service and satisfying customers, organization in service sectors need to improve on the dimensions of service quality and other factors that were given as reasons for satisfaction (Agbor, 2011).

Kaur and Sharma (2014) based on extensive review of empirical studies in various sectors of service industry they have revealed the existence of similar findings on the possibility of relationship between service quality and customer satisfaction and draw two propositions. These were that positive customer perceptions of service quality indicate customer satisfaction and positive customer perceptions of service quality results in customer satisfaction As per the related literature review done, the only inspection and certification sector specific study was done by Liu et.al (2015). The study ceased on measurement and service quality description stage they didn't go to service quality dimensions relation to overall service quality and customer satisfaction. Thus, there is a shortage of reference to support the finding of this study with existing literature. But the finding of relationship and effect of service quality dimension with customer satisfaction can serve as a reference for future study that will be done on the sector. It is generally accepted that a positive relationship exists between service quality and customer satisfaction (Bei and Chiao, 2001).

Rowley (1998) argues that service quality is an attitude related to, but not the same, as satisfaction. Parasuraman et al., (1985) in their study, proposed that when perceived service quality is high, then it will lead to increase in customer satisfaction. Similar conclusion was reached by Bei and Chiao (2006) and Brady et al., (2005). After conducting a study to establish the relationship between customer satisfaction and service quality, Janet (2011) concluded that a significant relationship between the two existed. All the dimensions of service quality were identified as the key factors in influencing customer satisfaction.

2.3 Methods of Coffee Quality Assessing

2.3.1   Coffee Quality

The quality of coffee is a combination both genetic makeup of the plant and environmental condition including human involvement in production and processing, finally affects flavor and aroma of the cup quality. These come from the chemical constituents of the coffee beans. The chemical reaction takes place during processing, particularly in the fermentation stage of wet processing, which maintain the desired chemicals. The quality of cherries influence the quality of product; under ripe, over ripe, diseased and damage cherries reduces quality. The

final assessment of quality is made subjectively by skilled taster who considers raw analysis and organoleptic quality. The quality assessed has a marked influenced on the prices at which coffee can be sold (Willson, 1999).In general, the international organization for standardization (ISO) describes quality as the ability of set of inherent characteristics of product, system or process to fulfill requirements of customers and other interested parties.

2.3.2 Bean Physical Quality

Internationally very low coffee prices that resulted from surplus production in the late 1990 and early 2005 have brought calls for quality to be increased in the market. International coffee organization has passed a resolution to this effect (Girma, 2007).In 2002 the international coffee organization is implementing the coffee quality improvement program with recommendation to export countries. According to the program it is not recommended to export with following characteristics for coffee Arabica, in excess of 86 defects per 300grams sample and for Robusta in excess of 150 defects per 300 grams (Kebebe, 2009).

On the other hand in Ethiopia the overall standard for raw and liquor quality grades of arrival washed coffee ranges from 1 to 5,where grade 1= 85-100%, grade 2=75- 84%,grade 3=63-74%,grade 4=47-62%,grade 5=31– 46 % and UG =15–30%.For unwashed arrival coffee, the grades range from1 to 9, where grade 1=91-100%, grade 2=81-90%, grade 3=71-80%, grade 4=63 - 70%, grade5= 58-62, grade 6 = 50- 70 , grade 7= 40-49, grade 8= 31-39, grade 9= 20 – 30 and UG = 15-19. (ECX, 2020).

2.3.3 Organoleptic Quality

Cup quality is done on organoleptically by panels' of experienced coffee tasters and determined on the basis of the level of acidity, body and flavor. Cup quality or liquor quality an important attribute of coffee and act as stick for price determination (Wiley and Sohns, 2001). The organoleptic quality is affected by roasting i.e. according to the profile of temperature and length of roasting the tests and flavor perceived in the beverages will be different. The smell of the ground roasted coffee before water is added some times gives fragrance, then one can smell the aroma, evaluate the body and perceive the taste and flavors (Anwar, 2010). The aroma is responsible for all flavor attributes other than the mouth feel

and sweet, salt, bitter and sour taste attribute that are perceived by tongue. Therefore the aroma of coffee is the most important attributes of specialty coffee (Behilu et al., 2008).

2.3.4 Coffee Grading

The primary issue of coffee grading is the country or region of origin, physical characteristics and standard taste. There is no universal coffee grading system except the recommended standard. Each coffee producing country has its own national standard of coffee grading scheme. In Ethiopia, there are two major components of coffee quality inspection. These are green analysts (visual test) and liquor analysis (cup test). These two methods are universally acceptable methods in both coffee producing and consuming countries tailored to the quality control system of respective country, from the total grading of coffee, the weight of green analysis is 40 percent and the remaining 60 percent is by cup test (Endale, 2007).

Green analysis: is based on human sense of sight (eye) and with the help of other techniques to identify and classify coffee. This method inspects the physical properties of coffee like shape and make, color, odor and uniformity/irregularity and defect count of coffee bean. Green analysis totally accounts 40% of the total weight of coffee grading. In coffee grading, the parameters moisture content is 11.5% and screen size analysis is done by the help of sieve like apparatus to check the size of each coffee bean (Endale, 2007).

Cup test: it is based on human sense of test (tongue) to identify and classify coffee. It investigates the chemical properties of coffee. The parameters of cup test are acidity, body and flavor. Acidity is a primary coffee test sensation, created as acid in coffee combine with sugars to increases the overall sweetness of the coffee while the body is the texture and sensation of coffee in mouth. Flavor is an aroma or the smell perception of the elements presented in roasted coffee. Each of these parameters accounts 60% of total weight of coffee grading (Bezawit, 2011).

2.3.5 Coffee Grading System

According to the definition of Quality and Standard Authority of Ethiopia (QSAE), quality concept has different meaning, though complement each other, which are pointing in to some concepts. Quality is conformance with requirements or fitness for use in which the practice involved in the industry (customer, processor, and supplies etc.) should agree on the

requirements and of quality best suite our purpose. In line with notion stated earlier, coffee quality control and auction center was established with key objective of maintaining coffee quality control, which in turn facilitate the coffee marketing systems to be standard based and for betterment/proper functioning of long Supply chain of Ethiopia (Elias, 2007).

Sampling: is one of the main procedures in coffee quality assessment in which a sample drawer is expected to draw a representative/actual sample from each bags based on the sampling rule designed for the exchange. In terms of the size, a sample drawer is subjected to draw 3kg/10 tons of a truck which usually is the quantity that an average lorry/truck could carry at interval.

Coding: is under taking in which a person is responsible to assign an arbitrary code (an identify number, an alphabet, or combination of the two) which is secured and is only known the assigner. This is just the mechanism of accountability and transparency in which the experts do not know to whom that coffee belongs so that there will not be an opportunity for an expert to make a biased judgment (Endale, 2007).

2.3.6 Quality Parameters for Green Coffee Bean Analysis

Screen analysis: is important to make size assessment/grading. Based on outcome, one can easily know as to the sample size (large, bold, medium, small and etc) and it is conducted manually or electrically.

Moisture content analysis: the other important aspect in the raw analysis is moisture testing which is very important in trying to know whether the coffee sample tested is with in permissible ranges/standard or not in which one sample is expected to have a maximum of 12%.similary this can be carried out in laboratory assistant taking 300gm of green sample from whole sample.

Defect count system: this is very decisive and convectional accepted sub quality control parameter in coffee grading control. It is the principles of counting different kinds of coffee defects using a set of a standard developed, taking their rate of effect on overall quality of coffee. Internationally a standard is fixed for these green defects (over-ripe, foxy, under ripe immature, blacks, whites, stones, soil, earthy, broken and etc) but black and white taken as a bench mark. This activity is under taken 300gm of coffee from the whole (Endale, 2007).

Appearance/color: the overall performance (bluish, grayish, greenish, faded, whitish and etc) is analyzed by the expertise against the standard. For a better coffee (sample), the blue to grayish signifies the most desirable attribute of appearance/color.

Shape and make: the attribute is an interchangeable used term, which usually refers to structure or make up of the beans. The regions where coffee growing type and production systems persist are some of the factors that govern the shape and make quality of beans.

Odor: The type of odor that or given sample defects depends upon the way the coffee is processed. And usually the coffee with good processing has better odor (smell) and it is not unusual to specifically say a coffee has such kind of smell or to relate with some kind of aroma.

Roasting: coffee roasting is a chemical process by which aroma, acid, and other flavor components are either created/altered in way that should augment the flavor, acidity after taste and body of the coffee as desired by the roaster or users. To attain such objective the degree of roasts is the desirable standard. (Alemayehu *et al*, 2008).

Grinding: is physical change or an alteration in form with a means of reducing the size by crushing, rubbing, grafting, cutting, tearing and other process that will cause particle size reduction. The grinding required for cup tasting is termed medium that is proper for extraction/brewing of the liquor (CLU, 2007).

Coffee cupping, or **coffee tasting**, is the practice of observing the tastes and aromas of brewed. It is a professional practice but can be done informally by anyone or by professionals known as "Q Graders". A standard coffee cupping procedure involves deeply sniffing the coffee, then slurping the coffee from a spoon so it is aerated and spread across the tongue. The coffee taster attempts to measure aspects of the coffee's taste, specifically the *body* (the texture or mouth feel such as oiliness), sweetness, acidity (a sharp and tangy feeling, like when biting into an orange), *flavor* (the characters in the cup), and aftertaste. Since coffee beans embody telltale flavors from the region where they were grown, cuppers may attempt to identify the coffee's origin (ECX, 2013).

2.4 Empirical Studies on Customer Satisfaction

Different models have been advanced concerning service quality in the service organizations with an aim of establishing the relationship between service quality and customer satisfaction. From the earlier research work, Parasuraman et al., (1988), five determinants of

service quality were identified as reliability, responsiveness, assurance empathy and tangibles. Several studies carried out using the SERVQUAL questionnaire revealed that Reliability is the most critical dimension when measuring the relative importance of the five dimensions followed by Responsiveness, Assurance, Empathy and finally Tangibles (Parasuraman et al., 1991).

Stromgren (2007) studied the factors influencing service quality in the hotel industry in Peru and established that the customers were more interested on the dimensions of reliability exterior, tangibles and assurance. The best predictor of overall service quality was identified as the dimension of reliability. The researcher however noted that a different context would give different results. This is due to different social demographic variables such as culture and religion which might impact on customer expectations. Harr (2008) on the other hand studied service dimensions that leads tohigher levels of customer satisfaction in restaurants in Singapore and found out that assurance, empathy and tangibles are the most important to customers' evaluation of service quality, and thus, may have a positive influence on customer satisfaction.

Helina (2018) conducted an empirical study to find out the operational performance of the ECX and its effect on customer satisfaction using the following parameters: The dependent variables are customer satisfaction and the independent variables are Warehouse measurement, Regulatory body, and automated system. According to her study, although the performance of ECX has been remarkable in reducing transaction and physical marketing costs, there is still room for further improvement of the level of efficiency of ECX operations in terms of cost and service delivery. As per her findings she recommended to ECX the trading system or ECX website may occasionally be inaccessible for various reasons including power, telecom, high volume trade and other system issues. Therefore, ECX should upgrade and develop their performance and do have reliable telecom facility, power and skilled workforce to avoid the problems related to this and satisfy the customer of ECX. Trainings on the fundamental and technical skills should also be given to all market actors in order to create a relatively balanced state of knowledge.

Another study was conducted by Addis Ababa University (2013) on the level of customer satisfaction and the result of the study indicated over all the effectiveness of quality grading is heavily dependent on the effectiveness of the sampling process. Service dissatisfaction is

almost inevitable if the sample drawn is not representative, although appropriate quality grading equipment is used and competent grading employees are deployed. Quality grading has been found one of the sources of members' dissatisfaction in all warehouse sites except Hawassa. Suppliers expressed their satisfaction with the quality grading service delivered at Hawassa and endorsed their trust and confidence in the system and the integrity of quality grading personnel (ECX 2013).Quality grading employees believe that they have been a scapegoat to the unrealistic expectation of market actors at the opposite end. While suppliers expect a soft grading procedure, exporters at the other end expect a stringent quality grading procedure. In the focus group discussion, exporters asserted that ECX grade classification is too detailed that the actual quality variations between two successive classes is not meaningful from their perspective. Exporters expect that ECX shall revise its current grading classification which involves many classes that have a narrow range. They suggest that the grading system shall better involve limited number of classes with wider range. However, this view is not shared by suppliers and ECX quality grading personnel as a wider range increases the within class quality variation although it reduces the between classes variation. Finally, most ECX personnel share the idea of having only a single grade for the under grade domestic coffee category (ECX 2013).

A study by Gada (2021) on his study the determent of coffee quality on export coffee according to his finding, transport facility, storage, market development and market information provision found to have significant impact on export performance and all the selected dimensions have a positive influence on the /dependent variable/export performance has also significantly correlated with the independent variables. Furthermore he recommended that ECX has a significant determinant of the performance of its coffee quality determinants employees of ECX, coffee supplier, primary and secondary cooperative union through its practice of market development, transport facility, storage and market information provision. However, as per the ratings of the respondents and the services of ECX with regard to some core Impact and the role influencing including transport facility problem of ECX has high impact, market development and storage has mid-point and marketing information provision have low impact and positively significant to export performance which needs to be improved.

2.5 Conceptual Framework

The conceptual framework is the blue print of the research work that guides the researcher to conceptually understand the research and outline and operationalize the dependent and the independent variables so that the measurement, processing, analysis of the data and interpretation of the result been easy and meaningful. Conceptual framework is not something that can be found readily in a literature. Researcher must review course readings and pertinent literature such as journals and articles in order to search related theories and analytic models that are relevant to service quality model. Selection of a theory should depend on its appropriateness, ease of application, and the explanation itself (Trochim, 2006).
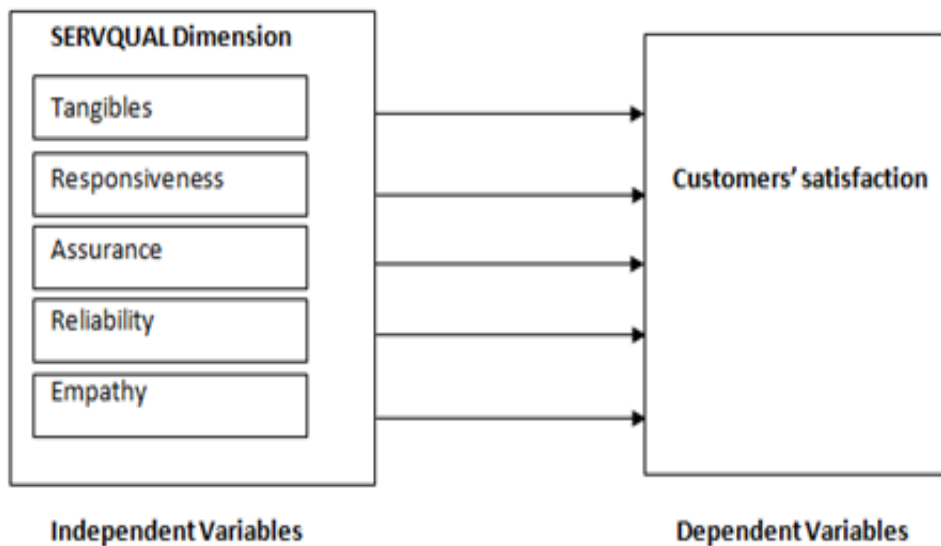
Figure 1 the theoretical framework of relationship between the dimensions of SERVPERF and customer satisfaction.

Source: Parasuraman et al., 1988

The framework above shows proposed to serve as foundation of this study. Purpose of this study is to examine how tangibility, reliability, responsiveness, assurance and empathy of service which are the independent variables can bring impact on the dependent variables; customer satisfaction towards the service quality.

CHAPTER THREE

RESEARCH METHODOLOGY

In order to answer the research questions, and to achieve the objectives of the study, appropriate research design and methodology was selected and applied. This chapter presented details of the research methodology. This includes Research design, Target population and sample size, Data type and source, data collection instrument, data processing and analysis, Validity and Reliability.

3.1 Research Design

The researcher intention was to clearly show service quality and customer satisfaction on arrival coffee quality grading service that it delivers by ECX for customers. To this effect, both descriptive and explanatory research was applied for the study using quantitative research approach to analyze data collected as a sample. Descriptive study design is appropriate for it enables the researcher to describe the existing situation of service quality and customer satisfaction in line to the service quality dimensions. The study also used explanatory study design to explaining and understanding the relationship between variables. The study was also cross-sectional which implies that relevant data of the paper would be collected at one point in time.

3.2 Target Population and Sample Size

Participants of this study are suppliers and buyers. As it is practically impossible to include every member of the population of interest in the study, a representative sample is drawn. Basically there are two sampling techniques which are probability and non-probability sampling used in a research. The researcher has chosen systematic random probability sampling. Systematic random sampling is a probability sampling method in which a random sample, with fixed periodic intervals, is selected from a large population. The advantage of this methodology includes eliminating the phenomenon of clustered selection and a low probability of contaminating data. As the entire population is diverse and relatively large to cover within due time and cost, the researcher uses a systematic random sampling procedure. The population size is determined based on the number of members at the ECX.

There are about 347 members in ECX. The choice of sample size is governed by formula developed by Yamane (1967). Yamane (1967) provided a simplified formula to calculate sample sizes. To calculate sample size whose precision level is 0.05 Suitability of the Yamane technique is due to its power to generate a large sample on which reliable analysis can be, conducted. This sample is, calculated based on the 95% confidence level, 5% precision level and 10% non-response rate.

This formula is used to calculate the sample size.

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

$$n = \frac{347}{(1 + 347(0.05)^2}$$

$$n = 186 \text{ for members}$$

Then 10% of the non-respondent rate is calculated

$$n = 186 \times 10\% = 19$$

$$n = 186 + 19 = 205$$

Therefore, the sample sizes of ECX members are 205. Where n= the sample size, N= the size of the population, and e= the error of 5 percentage points.

3.3 Data Sources

For the purpose of achieving the stated research objectives, both primary and secondary data sources were explored, as stated here under.

3.3.1 Primary Data Sources

The primary data for the research was collected from the members of ECX through questionnaires. A questionnaire was prepared to get idea about the customer's perception on the arrival coffee quality grading as well as for understanding the importance and satisfaction of each customers of ECX.

3.3.2 Secondary Data Sources

Secondary data sources are the other information and data source of the research which include literatures. These enable the researcher to have better understanding of customer

satisfaction, service quality and SERVPERF model. In this research different secondary data from books, articles, journals and internet has been used and acknowledged in each respective section of the thesis.

3.4 Data Collection Instrument.

The study was used a cross-sectional survey to collect both primary and secondary data. Primary sources were customers of ECX. Whereas secondary data sources were different statistical records, periodic/annual reports as well and various research literatures written on service quality and customer satisfaction and different references related to the topic. Primary data were collected mainly through self-administered structured questionnaires. The questionnaire has two parts. The first part of the questionnaire consists of individual level basic information such as gender, age, level of education, customer experience with ECX etc. The second part of the questionnaire is developed based on five dimensions of service quality dimensions of the SERVQUAL system i.e., tangibility, reliability, responsiveness, assurance, and empathy based on Parasuraman et al. (1988). These five dimensions of service quality incorporate 22 items of SERVPERF model there were also a five-point Likert scale range from 1 (very dissatisfied) to 5 (very satisfied) to be selected as their responses to measure participants' behavioral intensions that express their loyalty to ECX.

3.5 Data Processing and Analysis

SPSS version 20 applied to analyze the data collected. The answers to the questions and the corresponding output of the analysis are presented in tabular form the implications of which explained well in the paper. Descriptive statistics (like percentage, frequencies and mean) and inferential statistics like correlation coefficient, multiple regressions and ANOVA table are applied. Percentage and frequency apart from helping to discuss the general information of the respondents, it has been also applied to assess the perception of customers on service quality and the customers satisfaction on service delivery. Comparison of mean scores of each service quality dimension is conducted to see on which service quality dimensions ECX performs well based on the perception of respondents. Besides, this data is applied to evaluate the perception of the customers on over all service quality and their satisfaction level on service delivery. Correlation analysis is performed to analyze weather there is relation between each item of the five service quality dimension and service quality. Moreover, it is performed to see the relationship between the five service quality dimension

and customer satisfaction on service delivery. The researcher was also use correlation analysis technique to check whether or not service quality dimensions and customer's satisfaction has relation. ANOVA is conducted to analyze customer's satisfaction level and its level of significance. Multiple regression analysis is also undertaken to evaluate the impact of service quality dimensions on customer's satisfaction.

3.6 Validity and Reliability

3.6.1 Validity

Oliver (2010) considers validity to be a compulsory requirement for all types of studies. Validity refers to the accuracy of the measurement and also shows how a specific test is suitable for a particular situation. To ensure the validity of this study, data were collected from reliable sources like respondents who have experiences in using the services of the ECX. The researcher used content validity test, as content validity is the extent to which the questions on the instrument and the scores from these questions represents all possible questions that could be asked about the content or skill (Creswell, 2005). The questionnaire were formulated by the researcher and communicated with the advisor to comment and research advisor comments over the formulated questionnaire which finally used as a research instrument.

3.6.2 Reliability Test

Reliability refers to the consistency of the measurement and how trustworthy is the score of the test. According to Toke *et al.,* (2012), the goal of reliability analysis is to determine the extent to which a measuring technique produces the same result when performed under the same conditions over again. Cronbach"s alpha was used in this study to assess the internal consistency (reliability of the instrument (questionnaire). Cronbach"s alpha is a coefficient of reliability used to measure internal consistency of a test. The coefficient has to be between 0 and 1 to label as reliable. The internal consistency of the item is better, as the result approaches to 1, which means all the items measures the same variable i.e. over all service quality and customers satisfaction.

To meet the consistency reliability of instrument, the questionnaire was first distributed to 18 respondents. The properly filled questionnaires were tested for reliability and the Cronbach alpha for the independent variables (Tangibility, Reliability, Responsiveness, Assurance and Empathy) was above 0.8. Therefore, the five dimensions of service quality were found to be high in their internal consistency and by this means in measuring the dimensions of interest.

Table 3. 1 Reliability analysis

Dimensions	Cronbach's Alpha value	Number of items
Tangibility	.943	4
Reliability	.933	5
Responsiveness	.888	4
Assurance	.849	5
Empathy	.875	4
Overall scale reliability	.922	22

Source: own survey result, 2022

Cronbach Alpha coefficient can be between 0 and 1. As a number approach to 1 the internal consistency of the items get stronger implying that all items measure the same variable (quality and satisfaction). Further supporting this statement, Bass and Avolio (1993) confirm that the instruments can be accepted as a reliable when reliability coefficient is greater than 0.5 accordingly, the overall reliability of the scale is acceptable as its coefficient (.922) is greater than 0.5. Moreover, the scale consistency of each dimensions are also acceptable for the reliability coefficient of tangibility, reliability, responsiveness, assurance and empathy are of value .943, .933, .888, .849 and .875 respectively which are more than 0.5 and closer to 1.

Therefore, it is logical to conclude that reliability of the scales is acceptable as indicated in the table 3.1. In developing research instrument it is crucial to check the technique of process used to measure a concept that does indeed measure the intended concept. The research instrument of this study is developed by Parasuraman *et, al* (1988). Since then the instrument has been used by many researchers, the researcher have also adopted the instrument to the specific sector under study and give it to experts for review. Empirical studies evaluating validity, reliability, and methodological soundness of service quality scales clearly point to the superiority of the SERVPERF scale (Jain and Gupta, 2004). Therefore, verifying the validity of the instrument was not needed.

3.7 Ethical Considerations

Having the official letter from the university to the organization under study, to safeguard the study participant's from problematic encounters, the researcher planned the participant's not to mention their identity, particularly their names while answering survey questionnaires. The researcher would also told boldly to the participant's that their response would be kept confidential and their identity should not be exposed.

No information is changed or modified, hence the information is presented as collected and the same with the literatures collected for the purpose of this study. The questionnaire is anonymous and high level of confidentiality is considered. The information gathered through questionnaire is used solely for purpose.

CHAPTER FOUR

DATA ANALYSIS AND INTERPRETATION

This chapter present, analysis result and the interpretation of findings. The data considered in this chapter is obtained by using SERVPERF model. Under this section, analysis and interpretations of background of the respondents, the relationship between the five service quality dimensions and customer satisfaction, and impact on the overall customer satisfaction of customers have been analyzed and presented using tables.

4.1 Response Rate of Respondent

To make the analysis a total of 205 questionnaires were distributed to customer of ECX, out of these 185 questionnaires were properly filled and returned back to the researcher which means the overall response rate of the study was 90.2 %.

4.2 General Information about Respondents

In the table below demographic data such as gender, age, academic qualification, and trade type and customers experience with ECX are presented. The purpose of the demographic analysis in this research was to describe the characteristics of the sample respondents accordingly, and the following tables provide the demographic profile of the respondents.

Table 4. 1 Respondents General Information

Description	Response category	Frequency	Percentage
Gender	Male	109	58.9
	Female	76	41.1
	Total	**185**	**100.0**
Age	18- 30	24	13
	31- 40	91	49.2
	41 – 50	41	22.2
	51 – 60	18	9.7
	above 65	11	5.9
	Total	**185**	**100.0**
Educational status	High School complete	0	0
	Diploma	32	17.3
	BA or above	153	82.7
	Total	185	100
Trade type	Supplier/Seller	78	42.2
	Buyer	107	57.8
Customers experience with ECX	Between 1-3 years	14	7.6
	between 3-5 years	39	21.1
	Above 5 years	132	71.4
	Total	**185**	**100**

Source: Own Survey, 2022

As indicated in the Table 4.1, among 185 respondents 109 or (58.9%) were males while the rest 76 or (41.1%) were females. This indicates that most respondents were males than females. While analyzing the age of respondents, the research has found that (13%) of the respondents are in the ages of 18-30. On the other hand (49.2%) of the respondents are between the ages of 31-40, (22.2 %) of the respondents are the age of 41 – 50, (9.7 %) of the respondents are the age of 51- 60 and (5.9%) of the respondents are above 65. The age composition implies that most respondents which account (49.2%) ranges from youth to adult category.

Based on educational statuses result showed in Table 4.1, all respondents were graduates. 32 or (17.3%) of them were diploma holder, and 153 or (82.7 %) of the remaining respondents are BA degree and above. This shows that most respondents are graduates with BA degree

and above. This implies that the information provided by the sample respondents will be more reliable.

The result presented in Table 4.1 showed the position of the sampled ECX members. 78 or (42.2%) of respondents were suppliers while the remaining 107 or (58.8%) of respondents hold buyers position. This indicates that the majority of the respondents were buyers. When we see the experience of the customers with ECX service, 7.6 %, 21.1 %, and 71.4% of the respondents companies have less than 1- 2 years, 3-5 years, and more than 5 years working experiences respectively. This implies that big portion of the respondents have relatively longer stay as a service recipient and they are expected to have a good knowledge about ECX.

4.3 Descriptive Analysis of Service Quality Measurement

This study used SERVPERF model to measure the customer's perception on the service provided by ECX. The model contains 22 questions related to the five service quality dimensions namely, tangibility, reliability, responsiveness, assurance and empathy. It used the five point Likert scale to measure the performances of the service provided by the ECX and the paper also uses mean score to measuring respondent's perception of ecx over all service quality and customers satisfaction level. The results obtained from the study are described in the following tables.

Table 4. 2 Descriptive Statistics

(Perception of SQ dimensions, over all service quality and customer satisfaction).

(Perception of SQ dimensions, over all service quality and customer satisfaction).Variables	N	Min	Max	Mean	Std. Deviation
Tangibility	185	1.50	5.00	3.7378	.90074
Reliability	185	1.00	5.00	3.2649	.96149
Responsiveness	185	1.00	4.50	3.3351	.94365
Assurance	185	1.20	5.00	3.4573	.81425
Empathy	185	1.75	5.00	3.4821	.79183
Over all service quality	185	1.00	5.00	3.5892	1.06009
Customer satisfaction	185	1.00	5.00	3.5054	1.16562

Source: Own Survey, 2022

The above table 4.2 shows respondents perception towards service quality dimensions, over all service quality and customer satisfaction. As clearly seen in the table 4.2, the perception of respondents on tangibility is (3.73) in terms of mean score which is higher than other

service quality dimensions. On the other hand, empathy, assurance and responsiveness have moderate perception with mean score of (3.48), (3.45) and (3.33) respectively. However, customers' perception on reliability is relatively the least perceived value from the services quality dimensions with mean score of (3.26).

This finding indicates that ECX customers are comparably better satisfied with tangibility (3.73) of the service being provided. This witness that ECX use modern and appropriate equipment and technology, has attractive physical facilities /coffee test center/, employees of ECX are neat in their appearance and materials associated with the service are visually. Similarly, the service quality perception of respondents on empathy rated as neutral (3.48) and is the second better dimension which means the company has customer's best interest at heart and operating hours are convenient to the customers. Besides, respondents" perception towards assurance (3.45) is also rated as neutral which is reflected the employees of the company are professional and well trained, inspiring confidence and being courteous in providing the services.

Respondents' perception towards quality of responsiveness rated as neutral (3.33) which means employees quickly respond to customers question and they are happy and wiling to serve the customers. However, the perception of respondents to service quality dimension on reliability (3.26) is comparatively low. While reliability reflects insists on error-free records, gives accurate information to the customer, service is provided on time as promised and calibration of monitoring and measuring devices. As sated here above, the mean value of reliability (3.26) is lowest when compared to other dimensions. Parasuraman, et al., (1988) previously stated that reliability is the most important dimension in the area of quality service and towards satisfaction.

Therefore, it is a good indicator to the employees and management of the ecx to locate there where about of the gap in satisfying its customers and take the relevant action in order to fill the observed gap. To summarize, the mean perceptions of respondents with over all service quality and customer satisfaction are moderate with a mean value of (3.58) and (3.50) respectively. According to results of the study showed on Table 4.2, (3.8%) perceived the service delivered by ECX was worst, (19.5%) as poor, (3.8%) as neutral, (60%) as good and (13%) as excellent respectively. Though the majority response (73%) is good as to

excellent. However, ECX need to consider that there is a room to improve to very good level and also consider (27 %) worst and neutral response to at least good level.

Out of 185 respondents (8.1%) are strongly dissatisfied, (16.8%) dissatisfied, (3.2%) neutral, (58.4%) satisfied and (13%) strongly satisfied with service provided by ECX. This shows that majorities (71.9%) of customers are satisfied with ECX services, however undeniable proportions of customers (8.1%) are strongly dissatisfied and (16.8%) dissatisfied with the service provision. Even if one considers the proportion of those neutral (3.2%) and those dissatisfied (24.9%) together is 28.1%, which is more than quarter of the total respondents under study which indicates that there is still a room for improvement that should be considered by management of ECX.

4.4 Relation Relationship between service quality dimensions, service quality and customer satisfaction

4.4.1 Correlation

Correlation coefficient is a measure of relationship and strength between two variables. The correlation coefficient ranges between -1 and 1. If the two variables are in perfect positive linear relationship, the correlation coefficient will be 1 and if they are in perfect negative relationship, the correlation coefficient will be -1. The correlation coefficient is 0 (zero) if there is no linear relationship between the variables Mac Eachron (1982).

A low correlation coefficient (r), between 0.1 and 0.29, suggests that the relationship between the two variables is weak or non-existent. If r is between 0.3 and 0.49, the relationship is moderate and a high correlation coefficient, i.e. r > 0.5, indicates a strong relationship between the variables. The direction of the dependent variables change depends on the sign of the coefficient. If the coefficient is a positive number, then the dependent variable will move in the same direction as the independent variable and if the coefficient is negative, then the dependent variable will move in the opposite direction of the independent variable Julie (2005).

In this study, Pearson's correlation coefficient is used to find out the relationship between service quality dimensions and customer satisfactions. Table 4.3 exhibits the result of the correlation analysis. To determine the relationship between service quality dimensions (tangibility, reliability, responsive, assurance and empathy) with overall service quality and overall customer satisfaction, Pearson correlation was computed.

The results of Pearson correlation analysis on the relationships between each service quality dimensions and overall service quality of ECX arrival coffee grading service was presented in Table 4.3,As it can be seen from the table 4.3,below all service quality dimensions, tangibility, reliability, responsiveness, assurance and empathy have positive relationship with over all service quality and customer satisfaction though the magnitude of the relationship differ among service quality dimensions. Alike the relationship between service quality dimensions and over all service quality, the strength of correlation is different between service quality dimensions and customer satisfaction. Tangibility has better and strong relationship with over all service quality with high coefficient value of 0.634.Assurance and reliability have moderate coefficient value of 0.420 and 0.395 respectively showing the existence of significant relationship with over all service quality. However, empathy and responsiveness with the correlation coefficient value of 0.293 and 0.118 exhibit low relationship with the overall services quality of the company.

On the other hand, all service quality dimensions have positive relationship with the level of customer satisfaction even though with varying degree. Tangibility and Assurance has better and strong relationship with over all service quality with high coefficient value of 0.692 and 0.525 respectively. Reliability has moderate relationship with over all service quality the coefficient value of 0.496.Whereas empathy and responsiveness has weak correlation coefficient with the value of 0.272 and 0.159 respectively this confirming that the relation with customer satisfaction is low.

The relationship between overall service quality and customer satisfaction is also discussed using correlation analysis. As the table shows over all service quality and customer satisfaction has positive and significant relationship with correlation coefficient value of 0.875. In effect this confirms the statements, Parasuraman, Zeithmal and Berry (1985, 1988) point out that service quality and customer satisfaction is closely related. The existence of this relationship between service quality and customer satisfaction is more explained by Cronin and Taylor (1992), service quality is an antecedent of satisfaction. And also from the result we can conclude that there is a positive and significant correlation or relationship between service quality dimensions and customer satisfaction so that any improvement in one of the dimensions will positively contribute to enhancing customer satisfaction.

Table 4. 3 Correlation (Relationship among Service quality dimension, over all service quality).

	Tangibility	Reliability	Responsiveness	Assurance	Empathy	Overall service Quality	Customer satisfaction
Tangibility	1						
Reliability	625[**]	1					
Responsiveness	.159*	.359**	1				
Assurance	.644[**]	.747[**]	.410[**]	1			
Empathy	.266[**]	.202[**]	.000	.102	1		
Overall service quality	.634[**]	.395[**]	.118	.420[**]	.293[**]	1	
Customer satisfaction	.692[**]	.496[**]	.159[*]	.525[**]	.272[**]	.875[**]	1

** Correlation is significant at the 0.01 level (2-tailed).   b. List wise N=185

Source: Own Survey, 2022

4.4.2   Regression Analysis

Using two or more independent variables to predict a dependent variable is called multiple regressions. Multiple regressions (MR) analyses how well linear combinations of independent variables can predict the dependent variables. As depicted in the conceptual framework of this study, the independent variables' five service quality dimensions (tangibility, reliability, responsiveness, assurance, and empathy) have an effect on the two dependent variables' overall service quality and customer satisfaction. To investigate these phenomena, a regression model using a step-by-step approach was used. However, it was necessary to carry out diagnostic tests to confirm whether the data collected fit well in the model.

4.4.3   Assumptions for Regression Analysis

Before conducting the regression analysis the following normality, linearity, homoscedasticity, and multicollinearity diagnostic tests were tested.

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Test of Normality: - Normality of the Sample is the population from which the sample is drawn fail to be normal, it cannot be tested for and the least of square assumption fails.

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Therefore, the skewness and kurtosis of the sample is tested. The interval for skewness should be in between -.1 and +1. On the other hand, the kurtosis of the sample should fall out of a set -1 to +1. The researcher finds that the values of both kurtosis and skewness are in required limits. Therefore, the normality assumption is correct.

Table 4. 4 Normality Test Using Kurtosis and Skewness of Sample

Variables	N	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Tangibility	185	0.90074	-0.949	0.179	-0.027	0.355
Reliability	185	0.96149	-0.73	0.179	-0.711	0.355
Responsiveness	185	0.94365	-0.951	0.179	-0.502	0.355
Assurance	185	0.81425	-0.675	0.179	-0.404	0.355
Empathy	185	0.79183	-0.889	0.179	-0.401	0.355
Overall service quality	185	1.06009	-0.887	0.179	-0.189	0.355
Customer satisfaction	185	1.16562	-0.893	0.179	-0.333	0.355
Valid N (listwise)	185					

Source: Own Survey, 2022

The Skewness result have shown that, the normality test for all variables are in the range between -675 to -.949 with the standard error of .179 which is in the acceptable range + or -1, at the same time the Kurtosis test result show in the range between -.027 to -.711 with the standard error of .355. The researcher finds that the values of both kurtosis and skewness are in acceptable limits. Therefore, the normality assumption is fulfilled.

Test of Linearity and Homoscedasticity: - As per the assumption of MR, there must be a linear relationship between the dependent and independent variables. Pearson's moment correlation coefficient analysis presented in Table 4.3 above shows that there are linear correlations between all independent variables and both dependent variables. The scatter plots matrix drawn visual observation also confirms the existence of linearity. Multiple regressions also assume the range of variance for the dependent variable is uniform for all values of the independent variables. With such small plots, it's hard to assess the homogeneity assumption. However, inspection of the plots shows good variability in the plots. Thus, the analysis proceeds with the assumption that homoscedasticity is not a major problem**.**

Independence of residuals: The independence of the residuals can be measured by Durbin-Watson statistics. The value of the Durbin-Watson statistic ranges from 0 to 4. As a general rule, the residuals are independent (not correlated from one observation to the other one) if the Durbin-Watson statistic is approximately 2, and an acceptable range is 1.50– 2.50 (Muluadam, 2015).

Table 4. 5 Durbin-Watson statistics for independence of residuals

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.648[a]	.420	.404	.81854	1.578
1	.707[a]	.500	.486	.83564	1.555
a. Predictors: (Constant), EMPA, RESPO, TANG, RELI, ASSU					
b. b. Dependent Variable: Overall service quality and overall customer satisfaction.					

Source: Own Survey, 2022

Table 4.5 showed Durbin-Watson value for dependent variables overall service quality and overall customer satisfaction computed with five independent variables (service quality dimensions). Durbin-Watson value is 1. 5 and 1.5 for overall service quality and overall satisfaction, respectively. This indicates that there is no correlation among the residuals and hence fulfills the assumptions.

Test of Multicolliniarity: Multicollinearity is refers to the relationship among the independent variables. Multicollinearity exists when the independent variables are highly correlated (r=.9 and above) (Julie, 2005).

Table 4. 6 Multicollinearity test for over all service quality

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	.201	.390		.516	.606		
Tangibility	.692	.095	.588	7.273	.000	.496	2.015
Reliability	-.054	.100	-.049	-.543	.588	.393	2.544
Responsiveness	.021	.072	.019	.295	.769	.797	1.254
Assurance	.073	.125	.056	.590	.556	.354	2.823
Empathy	.188	.080	.141	2.352	.020	.907	1.103

Source: Own survey, 2022

Tolerance is an indicator of how much of the variability of the specified independent is not explained by the other independent variables in the model and is calculated using the formula

1–R squared for each variable. If this value is very small (less than .10) it indicates that the multiple correlation with other variables is high, suggesting the possibility of multicollinearity. The other value given is the VIF (Variance inflation factor), which is just the inverse of the Tolerance value (1 divided by Tolerance). VIF values above 10 would be a concern here, indicating multicollinearity. Multicollinearity can be detected with the tolerance values and variance inflation factor (VIF). As table 4.6 shows the tolerance values of all independent variables are above 0.1 and the VIF values are below 10 which indicate there is no Multicollinearity problem.

Table 4. 7 Multicollinearity test for customer satisfaction

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	-.528	.398		-1.325	.187		
Tangibility	.730	.097	.564	7.522	.000	.496	2.015
Reliability	.025	.102	.021	.249	.804	.393	2.544
Responsiveness	.009	.073	.007	.118	.907	.797	1.254
Assurance	.190	.127	.133	1.493	.137	.354	2.823
Empathy	.154	.082	.104	1.882	.061	.907	1.103

Source: Own survey, 2022

Table 4.7 shows the values of tolerance for all independent variables (tangibility, reliability, responsiveness, assurance and empathy are above 0.1 and the values of VIF for these variables are below 10 which indicate that there is no multi Collinearity problem.

4.4.4 Multiple Regression Analysis and Results

Keeping the above criteria, in this study multiple regression analysis was done to examine the effect of service quality dimensions on overall service quality and overall customer satisfaction. When doing regression analysis, we determine whether or not there is a relationship between the independent variables and the dependent variable by examining the ANOVA table. This can be thought of as the overall fit of the regression model. The following tables presented the ANOVA results of multiple regression analysis.

4.4.4.1 Effect of Service Quality Dimensions on Overall Service Quality.

The main assessment in this part is impact of each independent variable on dependent variable.

Table 4. 8 ANOVA for service quality dimensions on overall service quality

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	86.846	5	17.369	25.924	.000[b]
	Residual	119.933	179	.670		
	Total	206.778	184			
a. Dependent Variable: Overall service quality						
b. Predictors: (Constant), Empathy, Reliability, Tangibles, Responsiveness, Assurance						

Source: Own survey, 2022

During regression analysis the researcher wants to determine whether or not there is a relationship between the independent and dependent variables by examining the ANOVA table which brought of as the overall fit of the regression model. If the F statics significant, the researcher assume the independent variables, taken together, have the relationship with dependent variables. In this particular study, table 4.8 show the probability F statics for the regression analysis is 0.000, less than the level of significance of 0.05.So the researcher rejects the null hypothesis that there is no relationship between dependent and independent variables.

Table 4. 9 multiple regression analysis of service quality dimensions on overall Service quality.

Model Summary					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.648[a]	.420	.404	.81854	1.578
a. Predictors: (Constant), EMPA, RESPO, TANG, RELI, ASSU					
b. Dependent Variable: Overall service quality					

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	.201	.390		.516	.606
	TANG	.692	.095	.588	7.273	.000
	RELI	-.054	.100	-.049	-.543	.588
	RESPO	.021	.072	.019	.295	.769
	ASSU	.073	.125	.056	.590	.556
	EMPA	.188	.080	.141	2.352	.020
a. Dependent Variable: Overall service quality						

Source: Own survey, 2022

The value of R square is used to evaluate the model. It tells us how much of the variance in the dependent variable (over all service quality) is explained by the model which includes the independent variables of (tangibility, reliability, responsiveness, assurance and empathy). In this case, the value is 0.42 which can be expressed by percentage (0.42*100) this means that this model explains by 42 percent of the variance to overall service quality.

Regression model was applied to test how far the service quality dimensions had impact on service quality. Coefficient of determination- R^2 is the measure of proportion of the variance of dependent variable about its mean that is explained by the independent or predictor variables Hair, et.al, (1998), higher value of R^2 represents greater explanatory power of the regression equation. The relative importance of the significant predictors is determined by looking at the standardized coefficients. Tangibility has the highest standardized coefficient (.588) and the lowest significance (.000), which is the best predictor. Analyzing the table 4.9 results, the order of significance for predictors of overall service quality is empathy, assurance and responsiveness. Reliability has a negative beta coefficient this implies that reliability is not important to predict.

 Therefore, a linear regression estimates the coefficients of the linear equation, involving one or more independent variables that best predict the value of the dependent variable. In multiple regressions we use an equation of $Y_i = (b_0 + b_1 X_1 + b_2 X_2 + \ldots + b_n X_n) + E_i$ Where: y=the outcome variable b0=the coefficient of the first predictor (X0) b1=the coefficient of the first predictor (X1) bn=the coefficient of the nth predictor (Xn) Ei = the difference between the predicted and observed value of y for the ith participant.

Therefore, in this study the following multiple regressions were used

Y (Overall service quality) =0.201(con) +0.588(Tangibility) -0.049 (Reliability) +0.019(Responsiveness) +0.056(Assurance) +0.141(Empathy) +£i

In order to establish the impact that each dimension has on the dependent variable, the study checked the Standardized Coefficients. The impacts of tangibility, empathy, assurance, responsiveness and reliability on service quality with the ECX are 0.588, 0.141, 0.056, 0.019 and -.049 respectively, in their descending order indicating that tangibility has the highest impact on overall service. Therefore, ECX has to work hard to improve the reliability, responsibility and assurance dimensions in order to enhance the service quality.

From this result, one can assume that, tangibility dimension is the major contributor of overall service quality, this implies that a one unit increase in tangibility would lead to 0.588 unit (or 58.8%) increased in service quality provided that other variables being held constant. Similarly a one unit increase in empathy would lead to 0.141 units (or 14.1%) increase in service quality. Lastly, a one unit increase in assurance and responsiveness dimension would lead to 0.056 and 0.019 (or 5.6% and 1.9%) increase in service quality respectively provided that other variables were being unchanged. Therefore, superior performance on the most significance dimension that is tangibility, empathy, assurance and responsiveness may be helpful in providing enhanced quality of service. While dimension like reliability has a negative value which indicates that reliability is not significantly impact on service quality. Thus, we suggest that ECX management should exert their efforts towards improving the reliability dimension.

4.4.4.2 Effect of Service Quality Dimensions on Customer Satisfaction

Linear regressions analysis was applied again to assess the impact of service quality dimensions on customer satisfaction.

Table 4. 10 ANOVA for service quality dimensions on customer satisfaction

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	125.001	5	25.000	35.802	.000[b]
	Residual	124.994	179	.698		
	Total	249.995	184			
a. Dependent Variable: Customer satisfaction						
b. Predictors: (Constant), EMPA, RESPO, TANG, RELI, ASSU						

Source: Own survey, 2022

As shown in ANOVA table 4.10 the significance value of F statistics is 0.000 which is less than 0.05. It means that the variation explained by the model is not due to chance. This also shows that there is a significant relationship between the dependent and independent variables.

Table 4. 11 Multiple regression analysis of service quality dimensions on overall

Customer satisfaction

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.707[a]	.500	.486	.83564	1.555
a. Predictors: (Constant), EMPA, RESPO, TANG, RELI, ASSU					
b. Dependent Variable: Customer satisfaction					

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	.528	.398		-1.325	.187
	TANG	.730	.097	.564	7.522	.000
	RELI	.025	.102	.021	.249	.804
	RESPO	.009	.073	.007	.118	.907
	ASSU	.190	.127	.133	1.493	.137
	EMPA	.154	.082	.104	1.882	.061
a. Dependent Variable: Customer satisfaction						

Source: Own survey, 2022

Linear regressions analysis was applied again to assess the impact of service quality dimensions on customer satisfaction. Table 4.11 shows the SPSS result of the analysis. As the value of R squared shows, in aggregate the dependent variable (customer satisfaction) is explained (impacted) by all independent variables (tangibility, reliability, responsiveness, assurance and empathy) by 50 percent which shows the evaluation of the model. This R square is not over estimated while evaluating the models fitness as its variation from adjusted R square is very near which is 48.6%.

The relative importance of the significant predictors is determined by looking at the standardized coefficients. Tangibility has the highest standardized coefficient (.564) and the lowest significance (.000), which is the best predictor. Analyzing the table 4.11 results, the order of significance for predictors of overall customer satisfaction is assurance empathy, reliability and responsiveness. Therefore, a linear regression estimates the coefficients of the linear equation, involving one or more independent variables that best predict the value of the dependent variable. In multiple regressions we use an equation of Yi= (b0+b1X1+b2X2+………+bnXn) +Ei Where: y=the outcome variable b0=the coefficient of the first predictor (X0) b1=the coefficient of the first predictor (X1) bn=the coefficient of the

nth predictor (Xn) Ei = the difference between the predicted and observed value of y for the ith participant.

Therefore, in this study the following multiple regressions were used

Y (Customer satisfaction) =0.528(con) +0.564 (Tangibility) +0.021 (Reliability) +0.007(Responsiveness) +0.133(Assurance) +0.104(Empathy) +£i

In order to establish the impact that each dimension has on the dependent variable, the study checked the Standardized Coefficients. The impacts of tangibility, assurance, empathy, reliability and responsiveness on overall customer satisfaction with the ECX are 0.564, 0.133, 0.104, 0.021 and 0.007 respectively, in their descending order indicating that tangibility has the highest impact on customer satisfaction. Therefore, ECX has to work hard to improve the reliability and responsibility in order to enhance the service quality.

From this result, one can assume that, tangibility dimension is the major contributor of overall customer satisfaction, this implies that a one unit increase in tangibility would lead to 0.564 unit (or 56.4%) increased in service quality provided that other variables being held constant. Similarly a one unit increase in assurance would lead to 0.133 units (or 13.3%) increase in service quality. Lastly, a one unit increase in empathy, reliability and responsiveness dimension would lead to 0.104,0.021 and 0.019 (or 10.4%, 2.1% and 1.9%) increase in customer satisfaction respectively provided that other variables were being unchanged. Therefore, superior performance on the most significance dimension that is tangibility, assurance, empathy, reliability and responsiveness may be helpful in providing enhanced customer satisfaction. Thus, we suggest that ECX management should exert their efforts towards improving the reliability and responsibility dimension.

4.4.4.3 Effect of overall service quality on overall customer satisfaction

Table 4. 12 ANOVA for overall service quality on overall customer

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	158.265	1	158.265	597.008	.000[b]
	Residual	48.513	183	.265		
	Total	206.778	184			
a. Dependent Variable: Overall Service Quality						
b. Predictors: (Constant), Customer Satisfaction						

Source: Own survey, 2022

Again the ANOVA table 4.12shows that the calculated F value 597.7 is significant at 5 percent alpha level again one of the coefficients of the model are significantly different from zero, i.e. the model predicted is reliable to use for prediction purpose.

Table 4. 13 Multiple regression analysis of overall service quality on overall customer satisfaction

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.875[a]	.765	.764	.56613	1.862
a. Predictors: (Constant), Overall service quality					
b. Dependent Variable: Overall customer satisfaction					

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	.053	.147		.358	.721
	Overall service quality	.962	.039	.875	24.434	.000

a. Dependent Variable: Overall customer satisfaction

b. Predictors: (Constant), overall service quality

Source: Own survey, 2022

The adjusted R square on table 4.13 indicates that overall service quality can contribute for 76.4% variation on ECX customer satisfaction. Furthermore the p value of 0.000 for overall service quality illustrates that overall service quality perception has statically significant effect on customer satisfaction of ECX. Over all service quality has significant positive impact with p value = 0.00 on customer satisfaction of ECX. The directions of the impact also positive with coefficient β value of 0.875which indicate that based on this model overall service quality has significant impact on customer satisfaction with β value=0.875. As a result, we can conclude that overall service quality has a greater impact on ECX customer satisfaction than the five service quality dimensions considered in this study.

CHAPTER FIVE

SUMMRY, CONCLUSION AND RECOMMENDATIONS

This chapter presents the conclusion and recommendation of the researcher. The conclusion of this study is based on the findings and the recommendation part was presented based on the conclusions.

5.1 Summary of major Findings

The study was conducted on the assessment of service quality on customer satisfaction in the case Ethiopian commodity exchange (ECX) in Addis Ababa. It is undertaken to know the relationship between service quality dimensions and customer satisfaction, the effect of service quality on customer satisfaction and to identify the dominant service quality dimension that has a strong relation with customer satisfaction in ECX. The study used SERVPERF model with self-administered questionnaire that contained 22 performance statements related to the five service quality dimensions. The study was carried out using descriptive research design and a quantitative research approach to collect primary data from customers of ECX, out of 205 questionnaires, 185 questionnaires were analyzed using SPSS version 20 to achieve the research objective of this study.

The Descriptive analysis of service quality dimensions are analyzed based on tangibility, reliability, responsiveness, assurance and empathy by using SERVPERF model, which only consider the perception or performance part of the service provided by the ECX. According to the result obtained from chapter four the research finding were summarized and presented as follows:

The demographic data showed that 58.9% of the respondents are male this indicates that most respondents are males than females. Regarding the age of the respondents, 49.2% are from 31 to 40 years old which showed that majority of the customers of the ecx are young and adult age. Regarding the education level, 82.7% of the respondents are BA degree or above. 57.8 % of the respondents hold buyers or exporters positions. 71.4% of the respondents were customers of ECX have above 5 years.

The descriptive analysis conducted with the aim of investigating customers' perception on service quality dimensions, overall service quality and customer satisfaction. On the base of the finding of mean value of all the dimensions of service quality indicated in table-3,all five dimensions of the service quality have above average mean score from the Likert scale 1 to 5.Tangibility is better followed by empathy and assurance with a mean score value of 3.74, 3.48 and 3.45 respectively. Responsiveness and reliability are moderate with mean value of 3.33 and 3.26respectively.

Overall service quality perceptions mean result was 3.58. This indicated that comprehensive customer perspective ECX arrival coffee quality grading service quality was also rated as good. The majority of the respondents (73%) perceived that ECX was providing good to excellent service. Similarly, the overall customer satisfaction mean value (3.50) result indicated that customers (58.4%) were satisfied with the level of arrival coffee grading service ECX provides them. To get the customer happy, there is still an opportunity for improvement which ecx has to work on.

The Pearson's correlation coefficient is used to know the relationship between service quality dimensions; overall service quality and customer satisfaction and the result showed that there is a positive and significant relationship between them. Tangibility, assurance and reliability service quality dimensions have a positive and significant relationship with over all service quality with coefficient value of 0.634, 0.420 and 0.395 respectively. But, empathy and responsiveness have positive and least correlation to overall service quality with coefficient value of 0.293 and 0.118 respectively.

On the other hand, positive and strong relationship was also shown between service quality dimensions and customer satisfaction. In this regard, tangibility, assurance and reliability have better relationship with customer satisfaction having coefficient value of 0.692, 0.525and 0.496 respectively. But, empathy and responsiveness have positive and least correlation to customer satisfaction with coefficient value of 0.272 and 0.159 respectively. The correlation analysis also found that there is significant and positive relationship between overall service quality (independent variable) and customer satisfaction (dependent variable) with correlation coefficient value of 0.875.Having tested the relationship of all independent and dependent variables, it is checked that there is no multi-Collinearity problem among the predictor variables with tolerance value more than 0.1 and VIF value less than 10.

Multiple regression analysis was supposed to investigate the impacts of each independent variable on dependent variable. The result confirmed that from all tested service quality dimensions (tangibility, reliability, responsiveness, assurance and empathy) only tangibility was found as a strongly significant dimension positively impact customer satisfaction of ECX. Reliability, responsiveness, assurance and empathy have no significant impacts on customer satisfaction which indicate that tangibility have relatively stronger impact on the customer satisfaction than other dimensions in the services of the ECX. Over all service quality has significant positive impact with p value = 0.00 on customer satisfaction of ECX. The directions of the impact also positive with coefficient β value of 0.875which indicate that based on this model overall service quality has significant impact on customer satisfaction with β value=0.875.

The model summary result depicted that the model (independent variables) explains 50.0% of the variance in customer satisfaction (dependent variable).Findings also showed that the hypothesis tests between measuring the customer satisfaction and service quality dimensions, there is strong evidence to reject the null hypothesis and accepting the alternative hypothesis with 95 % confidence level of significance.

5.2 Conclusions

This research has set objective at the outset to assess the effect of service quality on customer satisfaction. More specifically, it has sought to assess the quality of services provided to customers in terms of quality dimensions, to analyze the relationship between service quality dimensions and service quality and to identify the dominant dimension of service quality that drives customers' perceived service quality. Based on the findings of the study, the researchers advance the following conclusions.

In the descriptive analysis portion of the paper, customers perceptions measured in terms of mean values. Accordingly, customers are satisfied in all service quality dimensions with mean value ranging between 3.73 and 3.26. On tangibility, empathy, assurance and responsiveness the customers are relatively better satisfied while on reliability services quality dimensions the mean value shows that the customers are relatively less satisfied. With

regards to the overall services quality and customer satisfaction, the customers are satisfied on the services delivery of ECX. However, the mean scores reveal that ecx still has an opportunity to improve the overall service quality and its customer satisfaction to higher level i.e., to very satisfied with high degree of loyalty (Anton, 1997).

The correlation analysis of service quality dimensions (tangibility, reliability, responsiveness, assurance and empathy) show, they all are positively correlated to the overall services quality. But, ecx overall services quality has positive and strong relationship with tangibility dimension, a moderate and positive with assurance while reliability, empathy and responsiveness has positive and low correlation. Besides, all service quality dimensions have positive and significant relation with the level of customer satisfaction. The strongest relationship is observed on tangibility. The overall service quality correlation with customer satisfaction is very strong and significant (0.875). In conclusion, focusing on empathy and responsiveness is necessary to fill the gap the correlation coefficient showed which would bring value addition to the customer service and ultimately secure better level of customer satisfaction.

Regarding the regression analysis indicated that tangibility service quality dimensions have statistically significant effect on customer satisfaction whereas reliability, responsiveness, assurance and empathy has no significant effect. From this it is clear that ecx can improve customers" satisfaction by working on quality service.

5.3 Recommendation

Based on the findings and conclusions of the study, the researcher forwards the following recommendations to the management of the ECX. Reliability dimension was considered as one of the most important factors influencing customer satisfaction. However, the customers of ECX in Addis Ababa were found less satisfied in terms of the reliability dimensions. One way of addressing by treating customer to perform the promised service dependency and accurately. This is to say, the ECX management should focus on this factor to maximize customer satisfaction. However, the customers of ECX were found less satisfied in this regard. One way of handling this problem is by delivering its services at promised times and on time calibration of monitoring and measuring devices to keep reliable grade result and must maintain error free records to make the company and service area more trustable by

avoiding over promising and under performance .Since keeping the promise for customers contributes in attracting as well as retained loyal customers of an organization, the employees of the ECX should respect their promise by telling to customers only the truth about their service.

 Regarding to responsiveness, ECX employees must have willingness and readiness to help customers. The organization must give trainings to its employees on how to handle customers inquire, problem and overall customer service. The organization must first satisfy its employees in order to increase their willingness and readiness to deliver the quality service in which satisfied employees will satisfy external customers.

Even if tangibility gets the highest satisfaction from the other dimension, the organization should make the materials associated with the service and other physical facilities conducive for customers to interact with employees. The organization must add more modern equipment and technology like crop star for grade result registration, computer based roasting machine etc. And also the employ must be neat and clean in order to be attractive to customers. Evidence from the study show that, ECX have to improve performance on all the dimensions of service quality in order to increase customer satisfaction since customers expect more than what is been offered by these stores. This will enable them maintain level of competitiveness.

Finally, the researcher concludes that the overall satisfaction of customers is moderate by ECX provided service. Thus, managers and employees of ECX should plan strategy in service delivery that leads to customer satisfaction and to kept those dissatisfied customers stay with it and to attain better level of satisfaction, ECX need to identify cause of dissatisfactions, analyze, improve and control it to sustainably attain the level of customers' satisfaction.

5.4 Limitation of the study

This study is limited in scope and sample size because of limited financial resources, time and accessible information regarding other ECX services. Thus, the findings of this study may not give a general picture of the service quality of ECX. But it can contribute to further study on ECX services. Another limitation is the concept of service quality is very broad and more complex; this study assess only the five service quality dimensions (tangibility, reliability, responsiveness, assurance and empathy). Even though customer satisfaction can be affected by many factors, this research focused only on the effect of service quality. Another study with a large sample size and may be required in the future to arrive at reliable conclusion about ECX service quality effects on customer satisfaction. In addition to this because of time constraints the researcher, only close ended questionnaires are used for this study even if my advisor advises me to include interview as a measurement.

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QUESTIONNAIRE
St. Mary's University
School of Graduate Studies
Institute of quality and productivity management

Dear Respondent,

The purpose of this questionnaire is to gather information for research to be conducted on the **effect of service quality on customer satisfaction in the case ECX points of arrival coffee grading.** This information will be used primarily for the research to be under taken to fulfilling the requirement of SMU to graduate MSc. program in the department of quality and productivity management. All information you will provide to my study will be kept strictly confidential and shall be used for only academic purpose. However, the findings of the research may be used to improve the quality of services ECX delivers to its customers. Thank you very much in advance.

Please contact me for any questions you might have.

Addis Chala   +251910340667

Email:-addischala7@gmail.com

Part one: Personal information

Please do not write your name on the questionnaire.

Please circle your response

1. Sex   a) Male   b) Female

2. Age   a) 18 – 30   b) 31 – 40   c)   41-50   d) 51- 60 e) above 65

3. Please indicate your academic qualification

 a) Primary Education   b) High School dropout   c) High School complete   d) Diploma

 e) BA or above

4.   a) Exporter   b) Supplier

5. How long have you been working with ECX?   a) Between 1-2 years   b) between 3-5 years   c) Above 5 years

Part Two: Service Quality Dimensions (SQD)

ECX is delivering arrival coffee quality grading service to you. Based on this relation and the experience there to, I hope you can evaluate the quality of the services, the handling of your compliant etc. relative to your expectations and perception. Please rate each of the following statements by encircling the appropriate number with respect to your level of agreement/disagreement against each question. (Where, 1 = "Strongly Disagree"; 2= "Disagree"; 3= "Neutral"; 4= "Agree" and 5= "Strongly Agree").

Service Quality Dimensions	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
I. Tangibility					
1. ECX uses modern and appropriate equipment and technology	1	2	3	4	5
2. ECX has attractive physical facilities /coffee test center/	1	2	3	4	5
3. The employees delivering the services are neat, disciplined, professional in their appearance,	1	2	3	4	5
4. Materials associated with the service (pamphlets, sign posts etc.) are visually appealing.	1	2	3	4	5
II. Reliability 5					
1. ECX Insists on error-free records	1	2	3	4	5
2. ECX gives accurate information to the customer	1	2	3	4	5
3. The service is provided on time as promised.	1	2	3		
4.Calibration of monitoring and measuring devices					
5. Sufficient man power and material is kept to avoid the interruption of service provision.					
III .Responsiveness					
1. The employees Proper updates (information) to the customers	1	2	3	4	5
2. The employee gives prompt service,	1	2	3	4	5
3. The employees are happy and willing to serve the customer,	1	2	3	4	5
4. The employees are not too busy to respond to the customers' requests	1	2	3	4	5
IV. Assurance 5					
1. The employees are professional and well trained	1	2	3	4	5
2. The customers feel safe on the service provided by the employees	1	2	3		5
3.The employee trust worthy,	1	2	3		5
4.The employees Instilled confidence in the customers	1	2	3	4	5
5.The employees of the service provider polite to the customer					
V. Empathy					
1. Employees provide you care & individual attention.	1	2	3	4	5
2. The staffs correctly know your needs while providing services.	1	2	3	4	5
3. The service provider and its employees have the customers best interest at heart	1	2	3	4	5
4. ECX has operating hours convenient to the customers.	1	2	3	4	5

Part three: Level of Quality and Customer Satisfaction

This part indicates overall level of service quality and your overall level of satisfaction on coffee quality grading services. Please circle a number that shows over all service quality perception and your level of satisfaction with the following statements.

Over all service quality of ECX

Overall service quality	Worst	Poor	Neutral	Good	Excellent
the overall service quality of ECX	1	2	3	4	5

Level of Customers Satisfaction

Overall satisfaction	Strongly dissatisfied	Dissatisfied	Neutral	Satisfied	Strongly Satisfied
Your satisfaction level on the coffee quality grading service ECX delivers	1	2	3	4	5