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**THE IMPACT OF SERVICE QUALITY ON CUSTOMER
SATISFACTION: THE CASE OF ETHIO TELECOM CALL CENTER**

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Addis Ababa University

School of Commerce

Marketing Management Graduate Program

June, 2015

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**A Study Submitted to Addis Ababa University School of Commerce
Marketing Management Graduate Program for the Partial Fulfillment of
the Requirements of Masters in Marketing Management**

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By Gosaye Gebre

Approval by Board of Examiners

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STATEMENT OF CERTIFICATION

This is to certify that Mr. Gosaye Gebre who carried out his research work on the topic entitled **'The Impact of Service Quality on Customer Satisfaction: The Case of Ethio Telecom Call Center'** is his original work and is suitable for submission for the award of Masters Degree in Marketing Management.

Certified by:

RakshitNegi (PhD)

Signature

Date

STATEMENT OF DECLARATION

I, Gosaye Gebre, Hereby declare that this thesis is originally produced by me with the guidance of Dr. RakshitNegi. I confirm also that all the references of other people's work referred and the ideas adopted are fully acknowledged in the reference section. No part of this thesis has either been presented whole or in part to any other institutions for any award. I take full responsibility for any errors that may be included in this report.

.....

Gosaye Gebre

ACKNOWLEDGEMENTS

I would like to thank my advisor Dr. RakshitNegi, whose detail review, guidance, constructive comments and timely response made possible this study.

My special thank is to my friends Mr. Bitadel Berressa,MulugetaBerrie and EsubalewKinde for their support on this thesis accomplishment.

I should also extend my gratitude to my families and all people around for their continuous moral and material support.

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ACCRONYMS AND ABBREVIATIONS

CRM: Customer Relationship Management

ET: Ethio Telecom

ETA: Ethiopian Telecommunication Agency

ETC: Ethiopian telecommunications Corporation

IPCC: Internet Protocol Call Center

KPI: Key Performance Indicators

PSTN: Public Switched Telephone Network

SERVPERF: Service Performance Scale/model

SERVQUAL: Service Quality Scale/Model

VPN: Virtual Private network

ABSTRACT

The main objective of this study was to assess the overall level of service quality and customer satisfaction in ethio telecom call center and to investigate the impact of service quality dimensions on customer satisfaction. A conceptual model of service quality dimensions was developed and hypothesized. The hypotheses were tested with the data collected through structured questionnaires from ethio telecom major customers in Addis Ababa. The collected data was analyzed using both descriptive and inferential statistical analyses techniques. The findings of the study show that service quality of ethio telecom call center is below average and customers are not satisfied with the service. In relation to the second objective, there is satisfaction difference between respondents who have used different access number specifically those respondents who have used 980 access number are more satisfied than those who have used 994 and those who have used both access numbers. The finding of this study also show that majority of the calls are related to complaint, complaint status request, bill request and technical support which implies that ethio telecom call center should improve service quality related to these call reasons. Based on the finding all service quality dimensions have significant impact on service quality and customer satisfaction except empathy which has insignificant impact even though their level of impact is different. The study provides the empirical application of Parasuraman (1985) and Anton (1997) service quality model so that this study contributes ethio telecom to improve its call center service quality which leads to customer satisfaction.

CHAPTER ONE

1. INTRODUCTION

This chapter contains the background of the study, background of the organization, problem statement, research questions, objective of the study, significance of the study scope of the Study, Operational definition of terms and organization of the paper.

1.1. Background of the study

As Kotler (2000) stated, satisfaction is a person's feelings of pleasure or disappointment resulting from comparing a product's perceived performance (or outcome) in relation to his or her expectation (Kotler, 2000). Customer satisfaction is the holy grail of success for businesses in the customer service industry. The goal of every successful business is to maintain a high level of customer satisfaction by providing their clientele with value added transactions through positive customer service interactions.

Customer service representatives are the quintessential front line greeters and hand shakers at the core of every business. They keep the customers informed and happy since a business cannot sustain without a healthy clientele. A good experience means a happy customer and a happy customer is every business's best asset.

Zeithaml (2000) stressed that leveraging service quality has been shown to assist in both the retention and expansion of the existing customer base; thus in an attempt to establish a competitive advantage, marketing practitioners often seek to differentiate their service offering.

In recent years, the decreased costs of telecommunications and information technology have made it increasingly economical to consolidate such information delivery functions, which have led to the emergence of groups stationed in offices, known as call centers, which receive and transmit large volumes of requests, sales, marketing, complaints, and technical supports and so on by telephone. The group can be centralized, geographically spread or composed with agents in offices.

The call center is defined as a place where calls are placed in high volume for the purpose of sales, marketing, customer service, telemarketing, technical support or other specialized business activity' (Bodin and Dawson, 1999). Almost all call centers are active 24 hours a day, 365 days a year. Apart from this operational definition, call centers are considered to be one of the strategies for customer relationship management (Mitchell, 1998), with companies believing that the relationship with a customer should not end at the point of sale and that value is added to the transaction by maintaining access to the customer after the sale. Call center is among service encounters where customers experience negatively or positively.

Despite the importance of the call center industry, there is a lack of extensive and deep research on it. Many aspects of the field, such as call center agents' sales competence (Downing 2011), the relationship between job functions like content, variety autonomy and quality of work life (Zeenobyah& Vo 2011) and models of density forecasting on arriving calls (Taylor 2012), have been studied but often there is no enough research to give a fully comprehensive, accurate and reliable understanding of the phenomena in contact centers. More specifically, there is often plenty of research about the same or a similar phenomenon in a face-to-face service context but a lack in the contact center side.

Downing (2011) notes that the knowledge, skills and abilities of salespeople have been largely studied by scholars but much more in face-to-face situations than in mediated environments like call centers.

Cummaneand Conn (2000) make a notion stating that despite customer satisfaction has raised concerns in the contact center industry, empirical studies have mostly been conducted on staff dissatisfaction rather than customer satisfaction.

The relationship of service quality, service quality dimensions and customer satisfaction is also relevant in examining the conditions related to contact centers goals.

Moreover, according to Lywood, Stone and Ekinici (2009), the profitability of contact centers is influenced by customer experience. They further argue that companies should strive to treat their customers with greater empathy while also recognizing the need to have good control over the costs of calls to manage profitability. This means that although there seems to be a trend among companies to emphasize productivity, they should also manage customer service levels and customer satisfaction.

The modern Call center sector has emerged globally in the last few years around the globe and it is one of the most rapidly growing industries in the world. For instance, in India call center industry is a huge industry employing more than 330,000 people and worth about £3.2 billion a year and growing at a very fast rate of around 25% per annum “the Call Center Association, 1999”. Today, more than 500 companies of UK, USA and other developed countries are outsourcing their call center activities to India. But in Ethiopian context, the only well-known and highly accessed call center service in Ethiopia is ethio telecom’s call center.

1.2. Background of the Company

Ethio telecom is the oldest public telecommunications operator in Africa which dates back to 1894. Since this year, the technological scheme contributed to the integration of the Ethiopian society when the extensive open wire line system was laid linking the capital city with all important administrative cities of the country.

After the end of the war with Italy, during which telecommunication network was destroyed, the country reorganized the telephone, telegraph and postal service in 1941. In 1952 the Empirical Board of Telecommunications (IBTE) was established by proclamation No. 131/52.

The board had full financial and administrative autonomy and was in charge of the provision and expansion of telecommunications services in Ethiopia. The Empirical Board of Telecommunications of Ethiopia, which became the Ethiopian Telecommunications Authority in 1981, placed in charge of both the operation and regulation of telecommunication services in the wake of the market reforms.

In 1996, the government established a separate regulatory body, the Ethiopian Telecommunication Agency (ETA) by proclamation No. 49/1996, and during the same year, by regulation 10/1996, the council of minister set up the Ethiopian Telecommunication Corporation (ETC). Under the supervision of ETA, the principal duty of ETC is maintaining and expanding telecommunication services in the country and providing domestic and international telephone, telex and other telecommunication services (WorkuBogale, 2005).

In 2008, the company (ETC) signed a huge telecommunication infrastructure expansion project all over the country with Chines Company named ZTE mainly to expand fixed line, mobile and internet services.

Among the signed projects, replacing the traditional and limited services of ETC (997) call center services automated with modern technology and expanded call center services like NGCC (Next Generation Call Center) and Zsmart (Ethiopian Telecommunication Corporation Project Office, 2008.)

In 2010 the company restructured and renamed itself as Ethio telecom and the company was signed management contract with France telecom for two years and the contract is closed in 2012. Now, it is named as ethiotelecom which is state owned company and telecom services provider of the country with having many prospects and more than 35 million customers throughout the country (Ethio telecom website, 2012).

Because of the increasing demand of the telecommunication services, currently the company is signed a huge project to expand telecom infrastructure. Among these projects automating call center with modern technology like IPCC and CRM systems is ongoing and partially implemented.

According to the current structure of the company, Customer service division is among those twelve divisions and is responsible for handling customer related cases. Ethio telecom call center is one part of customer service division which is centralized in Addis Ababa to be accessed by customers' of ethio telecom all over the country. The main services ethio telecom call center is providing currently are technical support request handling, information request handling, complaints handling, feedback and others with having more than 2000 employee (agents). The current average incoming call per day is more than 270,000 which is huge. This makes it the biggest call center service in the country and it is one reason why it is chosen to be researched.

Ethio telecom customers are segmented in to three levels based on their level of revenue generated to the company. These are residential, major and critical customers. This study is focused on major and critical customers (Customer Service Division Plan, Strategy and Report, 2014).

1.3. Statement of the problem

As communication technology is increasing rapidly and competition is high, improving service quality and customers' satisfaction has no option. Call Centers are used to provide various services which include customer support services, technical support services, sales and telemarketing services, customer relationship management, finance and accounting services etc. Since the formation of the ethiotelecom in 2010, the company has taken many measures to improve its service quality and customers' satisfaction.

Recruiting and staffing qualified and professional manpower, equipping call center with modern systems like CRM and IPCC, increasing the accessibility of call center with high success rate and setting standardized KPI are among the measures taken to improve the overall services of the call center and customers satisfaction.

There are also standardized set of call quality monitoring parameters and procedures to provide uniform services at every calls attempt. These call quality monitoring parameters and procedures are used to measure the quality of services provided by call center agents and level of customers' satisfaction.

But it is difficult for a call centers to make a balance between quality and efficiency while trying to achieve company's objectives. Customers' satisfaction is not fulfilled only by technical (physical performance of the offer) and there are so many after sales services request especially in telecom industry like ethiotelecom. According to Shemwell et al., (1998) in today's world of intense competition, the key to sustainable competitive advantage lies in delivering high quality service that will in turn result in satisfied customers. The customer's overall satisfaction with the services of the organization is a function of all the encounters/experiences of the customers with that organization.

Similar to service quality, customer satisfaction can occur at multiple levels in an organization for example, satisfaction with the contact person, satisfaction with the core service and satisfaction with the organization as a whole. Majority of the services could be handled by call center agents in where supportive systems and human elements are working together. Downing (2011) noted that the knowledge, skills and abilities of salespeople have been largely studied by scholars but much more in face-to-face situations than in mediated environments like call centers. Moreover, Cummane and Conn (2000) make a notion stating that despite customer satisfaction has raised concerns in the contact center industry, empirical studies have mostly been conducted on staff dissatisfaction rather than customer satisfaction.

Call center service is one of the most important weapon to build good customer relationship management and customer retention (Bennington et al., 2000).But there is no enough study related to service quality and customer satisfaction on a phone service encounter(call center) unlike face to face service encounter more specifically in Ethiopia.

Even majority of the studies related to call center are focused on efficiency and staff satisfaction rather than customer satisfaction.

The concept of call center service industry is new in Ethiopia and as specified in back ground of the company, ethio telecom call center is the only one which is handling averagely more than 270, 000 customers per day who are requesting different services. Moreover the SERVQUAL model is mostly applied for face to face service encounter than for phone encounter like call center even though other researchers like (Anton, 1997) applied SERVQUAL model to phone encounter with little modifications. These are the main problematized statements of this study which is conducted to assess the impact of service quality dimensions on over all service quality of ethio telecom call center and customer satisfaction from which the company could take corrective actions based on the findings.

1.4. Research Questions

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

- What is customer perception of service quality and customer satisfaction in ethio telecom call center?
- How do the services provided by ethio telecom call center associate with customer satisfaction?
- What is the relationship between service quality dimensions and overall service quality?
- Is there significant satisfaction difference between customers using different access numbers?
- What is the impact of overall service quality on customer satisfaction?
- Which service quality dimensions have greater influence on customer satisfaction with ethio telecom call center?

1.5. Objective of the study

The main objective of this study was to assess the perception of service quality and customer satisfaction with ethio telecom call center and to investigate the impact of service quality dimensions on customer satisfaction.

Specific objectives include:

- To assess the quality of services provided by ethio telecom call center
- To analyze the perception of customers' satisfaction with the services provided by ethio telecom call center.
- To analyze whether there is satisfaction difference between customers using different access number?

- To investigate the relationship between service quality dimensions and overall service quality in the context of ethio telecom call center.
- To analyze the impact of service quality dimensions on customer satisfaction in ethio telecom call center.

1.6. Significance of the study

Most studies of service quality and customer satisfaction are focused on services delivery in which customer and service provider have face-to-face interaction. The influence of service dimensions on service quality and customer satisfaction are different in face to face interaction of service delivery and with that of service delivery in which there is no face to face interaction like call center service. This study will contribute the knowledge on service quality and customer satisfaction level, the relationship between service dimensions, service quality and customer satisfaction in call center industry.

The study finding will also be relevant input to the management of ethio telecom and other companies which have call center services in identifying the existing strength and weaknesses of service quality delivery and level of customer satisfaction experienced by customers during their visit to the company's call centers. In addition, this study will help the company to focus on highly influential service dimensions of service quality and customer satisfaction for call center service.

At last, the concept of modern call center service is new particularly to Ethiopia and as this study is found on recent call center service literatures, it will be essential for researchers who want to undertake further studies related to call center service. It will shed light for them by briefing the concept and theories.

1.7. Scope of the study

This study is limited to assess quality of services provided and the level of customer satisfaction in ethio telecom call center from the view of ethio telecom major customers in Addis Ababa who have access to use both 980 and 994 access numbers. The rationale for selecting major customers is that these customers are expected to use majority of services that ethiotelecom is delivering. The finding of the study cannot be generalized to residential customers.

1.8. Operational definition of terms

Terms	Definition of terms
Service Quality	Service quality is “the global evaluation or attitude of overall excellence of services”. Therefore, service quality is the difference between customers’ expectation and perceptions of services delivered by service firms. (Parasuraman et al, 1988, P. 5).
Customer Satisfaction	Customer satisfaction 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. (Tse & Wilton, 1988, P. 204).
Service encounter	A service encounter is an instance of interaction between a server who is 'officially posted' in some service area, that interacting being oriented to the satisfaction of the customer's presumed desire for some service and the server's obligation to provide that service (Shostack, G. Lynn, 1985, P. 243).
Call center	Call centers are defined as a place where calls are placed in a high volume for the purpose of sales, marketing, customer service, telemarketing, technical support or other specialized business activity (Bodin and Dawson, 1999).

Contact center	It is the same with call center but in addition to using phone calls, contact centers use email, text chat and web interfaces to communicate with customers.
SERVQUAL	Is a service quality (gap) model which measures service quality by using the expectation and perception of customers (Parasuraman et al., 1985, p.41-50).
SERVPERF	Is a service quality model which measures service quality by using perception of customers (Cronin et al., (1992 p.64).

1.9. Organization of the Thesis

This study has five chapters. The first chapter is the introduction part of the study which contains; background of the study, background of the organization, problem statement, research questions, hypothesis of the study, objective of the study, significance and scope of the study. The next chapter, 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(call center), and finally to develop conceptual frame work from the theories and empirical studies. The third chapter discusses the methodology of the study. It will include research design, research methods, as well as data collection instruments and data analysis techniques. The contents of chapter four are analysis of the study and its interpretations. The last chapter, chapter five, includes conclusion, recommendations and; limitations and directions for further study.

CHAPTER TWO

2. REVIEW OF RELATED LITERATURE

The main contents of this chapter are review of theories and empirical studies related to services, service quality and customer satisfaction in call center and other service sectors. After critical reviews, the conceptual framework of the study is drawn.

2.1. Theoretical Review of Literature

2.1.1. Service Concept

In order for a company's offer to reach the customers, there is a need for services. These services depend on the type of product and it differs in the various organizations. Service can be defined in many ways depending on which area the term is being used.

An author defines service as “any intangible act or performance that one party offers to another that does not result in the ownership of anything” (Kotler& Keller, 2009, p. 789). In all, service can also be defined as an intangible offer by one party to another in exchange of money for pleasure.

Quality can also be defined as the totality of features and characteristics of a product or services that bear on its ability to satisfy stated or implied needs (Kotler et al., 2002). It is evident that quality is also related to the value of an offer, which could evoke satisfaction or dissatisfaction on the part of the user.

In its broad definition, we should be aware over time services and services sector of the economy have been defined in subtly different ways. The variety of definitions often explains the confusion or disagreement people have when discussing services. Compatible with the simple definition, broad definition is one that define service to include “all economic activities whose output is not a physical product or construction, is generally consumed at the time it is produced, and provide added value in forms (such as convenience, amusement, timeliness, comfort, or health) that are essentially intangible concerns of its first purchaser” (Zeithaml, Bitner and Gremler 6th edition;).

2.1.1.1. Customer Expectation VS. Perception of Service

Customer expectations are beliefs about service delivery that serve as standards or reference points against which performance is judged. Customer expectation is what the customer expects according to available resources and is influenced by cultural background, family lifestyle, personality, demographics, advertising, experience with similar products and information available online. Because customers compare their perceptions of performance with these reference points when evaluating service quality, thorough knowledge about customer expectations is critical to service marketers. Knowing what the customer expects is the first and possibly most critical step in delivering quality service. Being wrong about what customers want can mean losing a customer’s business when another company hits the target exactly. Being wrong can also mean expending money, time and other resources on things that do not count to the customer and even mean not surviving in a fiercely competitive market.

Customer perception is totally subjective and is based on the customer’s interaction with the product or service. Perception is derived from the customer’s satisfaction of the specific product or service and the quality of service delivery.

Perceptions are always considered in relation to expectations (Zeithaml, Bitner and Gremler, 2009). Perceptions are formed through customers’ assessment of the quality of service provided by a company and whether they are satisfied with the overall service (Zeithaml and

Bitner, 2003). (Zeithaml, Bitner and Gremler, 2009) Zeithaml and Bitner (2003) argue that because perceptions may shift over time and therefore it is necessary for companies to continually assess customer perceptions (Zeithaml and Bitner, 2003).

2.1.1.2. Service Encounters or Moments of Truth

Service encounters are the building blocks for customer perceptions. Customers often base their perception of service on the quality of interaction with service personnel. Thus, service organizations give priority for quality service operation and attempt to exceed the expectations of customers at the execution. In this regard employees become a vital part of service delivery operation and there is a need to ensure that they can proficiently deliver the promise made to customers in all service delivery encounters. The front-line employee role has been defined as activity which links an organization with the organization within which it operates (Bateson and Hoffman, 1999).

There are different difficulties these front-line employees are faced on a daily basis ranging from technical fault to badly behaved customers. It is the manner in which these challenges are dealt with and the degree to which one can cope with the strain of boundary spanning roles, which distinguishes excellent service providers. Singh, et al. (1994) stated that personnel who are operating in boundary spanning roles are prone to high levels of emotional burnout and role conflict.

Regardless of whether contact points are visible or not, they constitute moments of truth-points in time during which customers are afforded the opportunity to gauge service quality.

There are three alternative types of service encounters.

- ❖ **Remote Encounters:** This interaction between customers and employees (organization) occurs without any direct contact. Even though there is not any human contact where the transaction is mediated by technology; firms could strengthen customers' perception of service quality by managing the tangibles and technical aspect of the service.

- ❖ **Phone Encounters:** This is the most frequent type of encounter between customers and employees in many organizations (utility firms and service organizations like telecommunication services.) Customers' judgment of service quality depends on tone of voice, employees' knowledge, politeness and their effectiveness /efficiency in handling customer issues.
- ❖ **Face- To- Face Encounters:** It occurs between customers and employees in direct contact. Both verbal and nonverbal behaviors are important determinants of service quality perception and other tangible cues should be managed.

2.1.1.3. Call Center Service

Call centers are defined as a place where calls are placed in a high volume for the purpose of sales, marketing, customer service, telemarketing, technical support or other specialized business activity (Bodin and Dawson, 1999). Almost all call centers are all available 24 hours a day, 365 days of the year apart from this operational definition, call centers are considered to be one of the strategies for customer relationship management (Mitchell, 1998) when companies believe that the relationship with customer should not end at sales and customer access after the sales add value to the transaction.

In call center, human agents and/or automatic voice response machines handle telephonic communications with customers (Moon et al, 2004), like solving problems and resolving complaints, giving information answering questions and receiving feedbacks.

Call center is a best way of providing and controlling customer satisfaction (Anton, 1997) after providing services and products by meeting customer needs in an efficient, convenient and friendly way. On the other hand, it helps satisfaction recovery when a customer has a problem.

2.1.1.4. Importance of Call Center Service

In today's competitive market, customer service call centers have moved from back to the front office as customer satisfaction and retention strategy (Anton, 1997). The importance of call center is also paramount in telecommunication industry. All players have call centers as a proactive way to differentiate their services. They use call center to build, maintain and manage customer relationships by establishing direct communication with their customers that help the business do more with customers and attract new customers.

However, in reality call centers have failed to realize their potential in helping organizations achieve the goals of providing high levels of customer satisfaction. Customers are less satisfied with call center services compared with office-based in person services (Bennington et al, 2000). So, how to provide superior service to customers through call centers is extremely important for organization from the long term objective of customer retention.

It is important for all to understand why customers use call center service. From customers' perspective, the main call center benefits for customers are convenience, flexibility and customization (Bennington et al, 2000). It is customers who ultimately consume the services offered by call centers hence their perceptions count most.

In telecommunication industry, almost 90% of customers consumed the call center services are existing service subscribers, so call centers are a fundamental weapon for customer relationship management and customer retention in the industry.

2.1.2. Service Quality

Quality is the key word for the survival of organizations in the global economy. Organizations are undergoing a shift from a production-led philosophy to a customer-focused approach. Firms with high service quality pose a challenge to other firms given that service quality is considered an important tool for a firm's struggle to differentiate itself

from its competitors (Landari, 2008). According to Lewis and Booms (1983) service quality is a measure of how well a delivered service matches the customer expectation.

Parasuraman et al. (1985) defined service quality as “the global evaluation or attitude of overall excellence of services”. Therefore, service quality is the difference between customers’ expectation and perceptions of services delivered by service firms. Nitecki et al. (2000) defined service quality in terms of “meeting or exceeding customers’ expectations” or as “the difference between customers’ perception and expectations of service”.

Service quality in the management and marketing literature is the extent to which customers' perceptions of service meet and/or exceed their expectations for example as defined by Zeithaml et al. (1990), cited in Bowen & David, 2005,) Thus service quality can intend to be the way in which customers are served in an organization which could be good or poor. Parasuraman defines service quality as “the differences between customer expectations and perceptions of service” (Parasuraman, 1988). They argued that measuring service quality as the difference between perceived and expected service was a valid way and could make management to identify gaps to what they offer as services.

2.1.2.1. Service Quality Models

1. SERVQUAL Model

One of the most useful measurements of service quality is the dimensions from the SERVQUAL model. In the creation of this model for the very first time, “Parasuraman et al. (1985) identified 97 attributes which were condensed into ten dimensions; they were found to have an impact on service quality and were regarded as the criteria that were important to access customer’s expectations and perceptions on delivered service (Kumar et al., 2009,).

The SERVQUAL scale which is also known as the gap model by Parasuraman, et al.(1988) has been proven to be one of the best ways to measure the quality of services provided to customers.

This service evaluation method has been proven consistent and reliable by some authors (Brown et al., 1993). They held that, when perceived or experienced service is less than the expected service; it implies less than satisfactory service quality; and when perceived service is more than expected service, the obvious inference is that service quality is more than satisfactory (Jain et al., 2004,). From the way this theory is presented, it seems the idea of SERVQUAL best fits the evaluation of service quality from the customer perspective. This is because when it is stated “perceived” and “expected” service, it is very clear that this goes to the person, who is going to or is consuming the service; who definitely is the consumer/customer. The original study by Parasuraman et al., (1988) presented ten dimensions of service quality namely:

Tangibles, Reliability, Responsiveness, Competence, Courtesy, Credibility, Security, Access, Communication and Understanding the customer

In first SERVQUAL model that came had 22 pairs of Likert-type items, where one part measured perceived level of service provided by a particular organization and the other part measured expected level of service quality by respondent. After refinement, these ten dimensions above were later reduced to five dimensions as below:

Tangibility: physical facilities, equipment, appearance of personnel and communication materials.

Reliability: It is consistently shown that it is the most important determinant of perceptions of service quality. It is the ability to perform the promised service dependably and accurately. The promise may include delivery, service provision, problem resolution and pricing.

Responsiveness: Is the willingness to help customers and provide prompt service. This dimension emphasizes attentiveness and promptness in dealing with customer request, questions, complaints and problems. It is all about length of time they have to wait for assistance, answers to questions or attention to problems. To truly distinguish themselves on responsiveness companies need well-staffed customer service department as well as responsive frontline people in all contact positions.

Assurance: knowledge and courtesy of employees and their ability to inspire trust and Confidence. This dimension is likely to be particularly important for services that customers perceive as high risk or uncertain about their ability to evaluate outcomes. Trust and confidence are embodied in the contact employee and the company itself.

Empathy: caring individualized attention the firm provides to its customers.

The aggregated sum of difference between perceptions and expectations from the five dimensions forms the global perceive quality construct.

Laroche et al. (, 2004,) following this view, customers' expectations were met through the outcome dimension (reliability) and exceed it by means of the process dimension (tangibility, assurance, responsiveness, and empathy).To confirm the validity of SERVQUAL model in the evaluation of service quality,Zeithaml et al (2006), stated that "service quality is a focused evaluation that reflects the customer's perception of reliability, assurance, responsiveness, empathy, and tangibles" (Zeithaml et al., 2006,). They added that among these dimensions, "reliability" has been shown consistently to be the most important dimension in service quality (Zeithaml et al., 2006,).

Rust et al. (1994) state that SERVQUAL is intended to describe the dimensions of quality common to all services and is therefore unlikely to encompasses the special properties of any particular service. In call centers, unlike face-to- face service encounters occurring in other service organizations like restaurants, banks, service encounters are phone encounters that happen every time a customer interacts with a company through call centers over telephone. In telephonic service encounters, tangible factors such as attire of employees, physical evidences do not contribute to service quality perceptions of customers. Keinigham et al. (2006) has shown that call center satisfaction has all the five dimensions as found in SERVQUAL except tangibility.

2. Gap model

Parasuraman et al (1985) developed a service quality gap model, where he defined service quality as a function of the difference between the expectation and performance along quality dimensions. The various gap visualized in the model are:

Gap 1: Consumer expectation – Management perception gap: - The difference between customer's expectation and management perception of those expectations. I.e. not knowing what consumers expect.

Gap 2: Management perception – Service quality specification gap: - The difference between management perception of consumers' expectations and service quality specifications i.e. improve service quality standards.

Gap 3: Service quality specifications – Service delivery gap: - The difference between service quality specifications and service actually delivered i.e. the service performance gap.

Gap 4: Service Delivery – External communication Gap: - The difference between service delivery and communications to consumers about service delivery i.e. whether promises match delivery.

Gap 5: Expected Service – Perceived Service Gap: - The difference between consumer's expectation and perceived service. This gap depends on size and direction of the four gaps associated with the delivery of the service quality on the marketer's side. Figure 2.1 shows model of service quality gap by (Parasuraman et al, .1985.)

CONSUMER

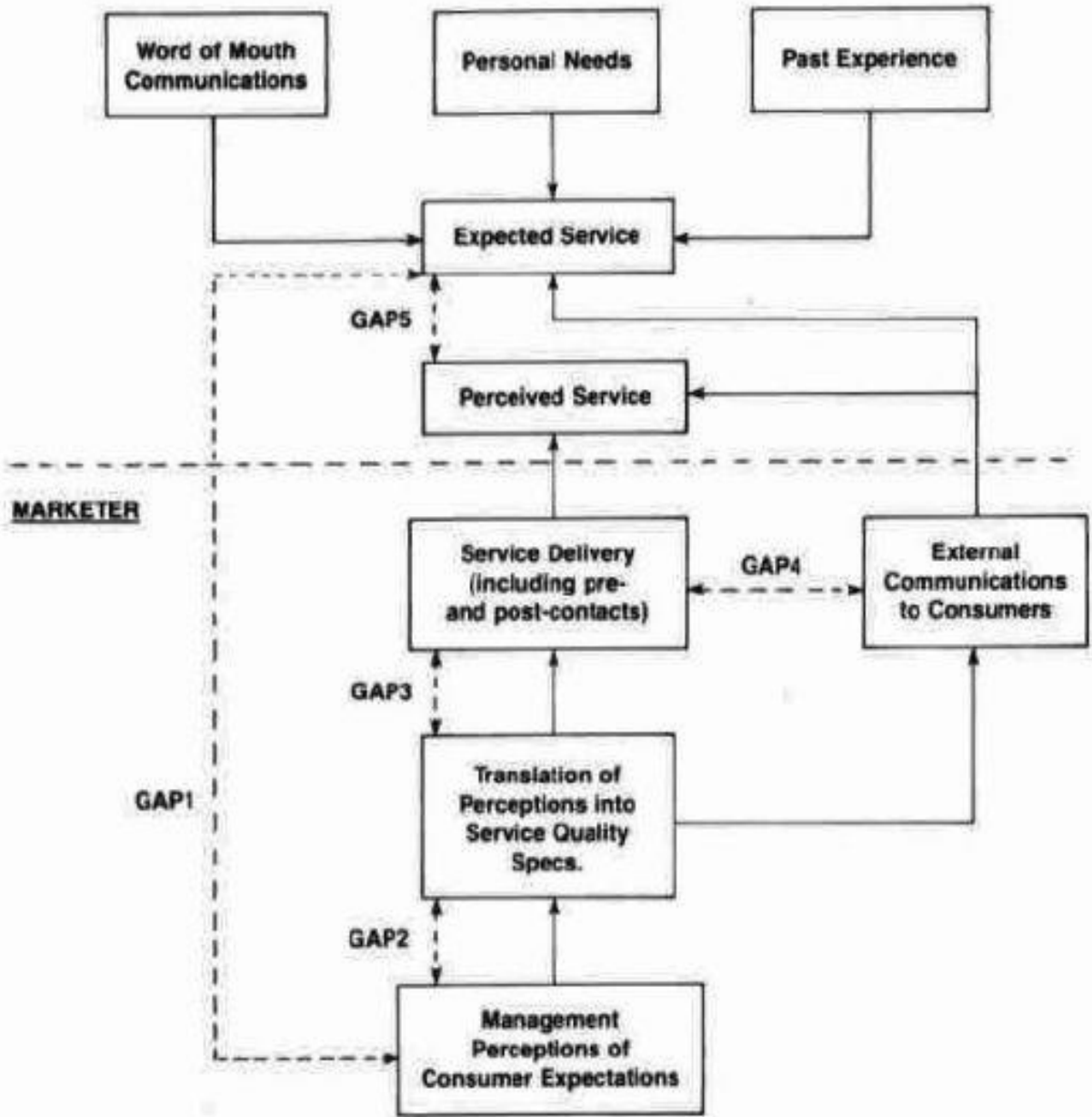


Figure 2.1 Service quality gap model (Parasuraman et al., 1985.)

3. Functional and Technical Dimension Model

Other researchers saw the need of additional components of service expectations that is functional and technical dimensions. (Grönroos 1983) The idea was that, consumers make service evaluations based on the technical dimension that is what is delivered and on the functional dimension that is how, why, who, and when it is delivered. (Laroche et al., 2004 and Grönroos, 1983).

4. SERVPERF Scale

Although the elements listed in SERVQUAL model have been proven to be the main method for evaluating service quality from the consumer's perspective (Brown et al., 1993), drawbacks in using SERVQUAL in measuring service quality has been the reason that the SERVPERF scale was proposed by Cronin & Taylor (1992, cited in Jain et al. (2004,)) after they called into question the conceptual basis of the SERVQUAL, having found it, led to confusion with service satisfaction (Jain et al., 2004,).

These researchers discarded the 'E' for 'expectation' claiming instead that 'P' for 'performance' alone should be used. They meant that higher perceived performance entails higher quality service. Unfortunately, during this past century, customers have changed their behaviors in ways that do not suit organizational Behavior. Till date, it is unclear as to which of SERVQUAL and SERVPERF is superior in measuring service quality (Jain et al., 2004,). Laroche et al., (2004) made an assessment of the dimensionality of should and will service expectations. They used a survey measuring customers' post encounter expectations and vis-à-vis a well-known airline with a sample of 363 and examined the existence of hypothesized functional and technical dimensions of should and will expectations and determined the casual relationships between two types of expectations and hypothesized dimensions.

They tested their dimensions in the context of the turbulent airline industry. This study measured service quality with other service quality dimensions such as technical and functional dimensions proposed by Grönroos (1983).

Hence it was proven that the SERVQUAL model must not be used in evaluating service quality in all organizations. This could mean that; different industries might require different measurements for service quality.

2.1.2.2. Choice of service quality Model for the study

After reviewing many service quality models, SERVPERF proposed by Cronin & Taylor (1992) model of service quality was selected in understanding service quality dimensions that may be relevant to the call center industry. The Model was deemed appropriate for the study for the bellow main reasons.

First SERVPERF is found to be superior not only as more efficient in reducing the number of items to be measured by 50% (Hartline and Ferell, 1996; Babakus and Boller, 1992; Bolton and Drew, 1991 cited in Mesay, 2012).

Second, according to Cronin and Taylor (1992), their performance based SERVPERF scale is a better method of measuring service quality. They claim that this scale's reliability ranges between 0.884 to 0.964, depending on the industry type, and exhibits both convergent and discriminant validity (Mesay,2012.) In addition, it is more concentrated on functional quality of dimensions which is good to assess call center service quality.

2.1.3. Customer Satisfaction

Customer satisfaction is conceptualized transaction-specific meaning. It is based on the customer's experience on a particular service encounter, (Cronin & Taylor, 1992) and also customer satisfaction is cumulative based on the overall evaluation of service experience (Jones and Suh, 2000). These highlight the fact that customer satisfaction is based on experience with service provider and also the outcome of service.

Giese and Cote, (2000,) clearly state that there is no generic definition of customer satisfaction and after carrying a study on various definitions on satisfaction they came up with the following definition, “*customer satisfaction is identified by a response (cognitive or affective) that pertains to a particular focus (i.e. a purchase experience and/or the associated product) and occurs at a certain time (i.e. post-purchase, post consumption)*” p. 15.

From this definition, it is clear that the consumer’s/customer satisfaction is determined by his/her contact experience with the service provider and this is supported by Cicerone et al., (2009,) and Sureshchander et al., (2002), who believe customers’ level of satisfaction is determined by their cumulative experiences at all of their points of contact with a supplier organization.

Fornell, (1992), clearly defines customer satisfaction as an overall post-purchase evaluation by the consumer and this is similar to that of Tse and Wilton, (1988,) who defined customer satisfaction 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. These definitions consider satisfaction as a post purchase response and in the case of call center experience is important in evaluating customer satisfaction.

It is important to note that customer loyalty is affected by customer satisfaction (Heskett, 1997). A loyal customer will retain to use the service or sustain to repurchase and with least change to search for substitution. There is empirical support for positive association between customer satisfaction and intention to spread word of mouth (Dabholkar and Thorpe, 1994; Richins, 1983). Figure 2.2 shows the non-linearity of the relationship between satisfaction and loyalty (Anton, 1997). According to Anton (1997), perception of service quality (performance) can be classified into three zones. Rejection, acceptance and preference by the customer Satisfaction index (CSI). According to him, the score above 85 is under preference zone, the score between 50-84 is under tolerance zone and the score below 50 is under rejection zone.

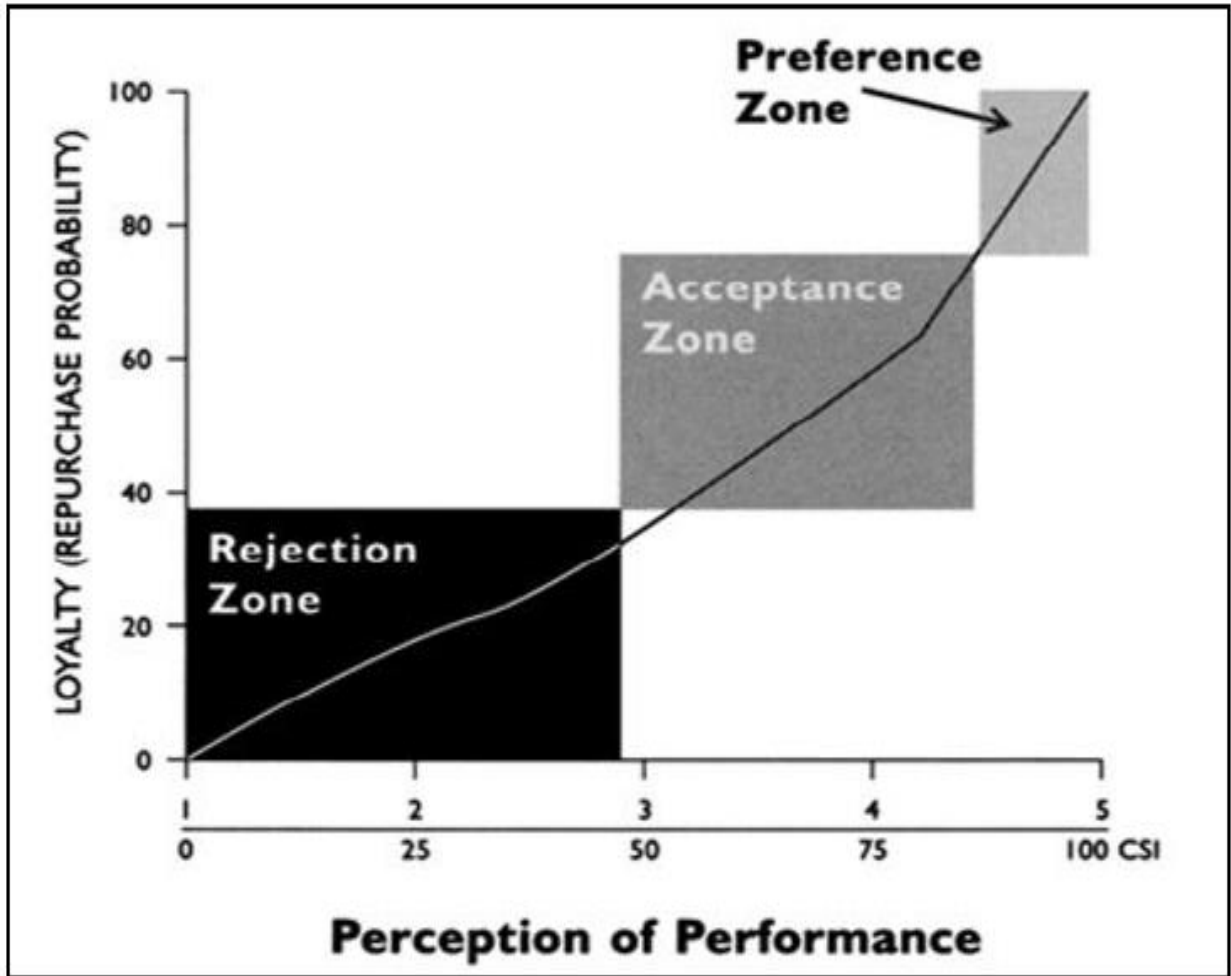


Figure 2.2: the relationship between loyalty, satisfaction and perception

Source: Anton (1997).

2.2. Empirical Review

2.2.1. Relationship between Service quality and customer satisfaction

Since customer satisfaction has been considered to be based on the customer's experience on a particular service encounter, (Cronin & Taylor, 1992) it is in line with the fact that service quality is a determinant of customer satisfaction, because service quality comes from outcome of the services from service providers in organizations.

Regarding the relationship between customer satisfaction and service quality, Oliver (1993) first suggested that service quality would be antecedent to customer satisfaction regardless of whether these constructs were cumulative or transaction-specific.

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.

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,).

According to Sureshchandar et al., (2002), customer satisfaction should be seen as a multi-dimensional construct just as service quality meaning it can occur at multi levels in an organization and that it should be operationalized along the same factors on which service quality is operationalized.

In relating 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.

Parasuraman et al., (1985) suggested that when perceived service quality is high, then it will lead to increase in customer satisfaction. He supports that fact that service quality leads to customer satisfaction and this is in line with Saravana and Rao, (2007,) and Lee et al., (2000), who acknowledge that customer satisfaction is based upon the level of service quality provided by the service provider.

According to Negi (2009), the idea of linking service quality and customer satisfaction has existed for a long time. He carried a study to investigate the relevance of customer-perceived service quality in determining customer overall satisfaction in the context of mobile services (telecommunication) and he found out that reliability and network quality (an additional factor) are the key factors in evaluating overall service quality but also highlighted that tangibles, empathy and assurance should not be neglected when evaluating perceived service quality and customer satisfaction. This study was based on a specific service industry (mobile service) and it is very important to identify and evaluate those factors which contribute significantly to determination of customer-perceived service quality and overall satisfaction.

Fen & Lian, (2005,) found that both service quality and customer satisfaction have a positive effect on customer's re-patronage intentions showing that both service quality and customer satisfaction have a crucial role to play in the success and survival of any business in the competitive market. This study proved a close link between service quality and customer satisfaction.

Su et al., (2002,) carried a study to find out the link between service quality and customer satisfaction, from their study, they came up with the conclusion that, there exist a great dependency between both constructs and that an increase in one is likely to lead to an increase in another. Also, they pointed out that service quality is more abstract than customer satisfaction because, customer satisfaction reflects the customer's feelings about many encounters and experiences with service firm while service quality may be affected by perceptions of value (benefit relative to cost) or by the experiences.

2.2.2. Studies Related to Call center Service

(Anton, 1997), identified four main measurements of service quality in call center service.

1. Operational Measures

In the call center industry, service quality performance evaluation is done on the bases of several operational measures

There are many frequently used operational measures (Anton, 1997, Feinberg et al., 2000).

Table 2.1 Operational measures of call center

No.	Measurements	Remark
1	Average speed of answer	The total queue time divided by the total number of calls being answered
2	Abandonment rate	The ratio of number of calls abandoned by the customer prior to answer to number of calls made to the call center
3	Total call	The total number of calls made to the call center
4	Longest delay	The maximum time taken either before answering a customer call or call abandoned by a customer
5	Average talk time	The total time the customer was connected to a call center agent
6	Average work time after call	The average time required to finish the work required to be done immediately after an inbound call
7	Average handle time	The average time taken to handle per customer
8	Service level	The ratio of number of calls answered with in the agreed up on time interval and total calls received
9	Queue time	The number of seconds the caller spend waiting for a call center agent to answer a call
10	First call resolution	The percentage of the customers who have satisfactory problem resolution in the first call
11	Percentage of calls blocked	The percentage of customers who receive " number is busy" message

12	Calls per agent	The total number of calls handled per agent in a shift (usually eight hour)
13	Adherence	The percentage of call center agents who are on their seat as scheduled
14	Agent turn over	The percentage of agents who quit in specified period of time
15	Average hold time	The average number of second that an agent places customer on hold

Source: (Anton, 1997; Feinberg et al., 2000)

Feinberg et al (2000) has founded that out of 13 operational variables, only first call resolution and abandonment rate have a significant effect on caller satisfaction but the relationship is still weak. Their study show operational variable commonly used by call center had low-predictive validity in assessing customer satisfaction with call centers. The measure only indicates the efficiency level in call centers (Marr and Parry, 2004).

3. Call Center Representative Behavior

Burgers et al. (2000) establish 4 dimensions to measure customer expectation with regard to call center representative behavior.

- ❖ **Addaptiveness:** Listen to customers, interpret problems and provide solid solutions by assessing customers' constitution (mood, social behavior, and relationship with the firm) and adjusting behavior accordingly.
- ❖ **Assurance:** Reducing customer uncertainty by providing clear explanations to customer like steps in the problem solving and the purposes.
- ❖ **Empathy:** Empathizing with customer situations giving customers the feeling that their problems are important to the organization.
- ❖ **Authority:** Representatives are empowered and authorized to perform tasks required for solving problems.

4. Service Quality Dimensions

In Parasuraman et al. (1985, 1918) service quality gap model five dimensions and 22 service attributes are identified these dimensions are:

- **Reliability** – Ability to deliver the promised service.
- **Responsiveness** – willingness to provide prompt service.
- **Assurance** – Ability to inspire trust and confidence
- **Empathy** - Individualized attention to customers, caring about the customers.
- **Tangibles** – Appearance of physical facilities, personnel and materials.

However, Rust et al, (1994) state that “SERVQUAL is intended to describe the dimension of quality common to all service and is therefore unlikely to encompass the special properties of any particular service. In call center, unlike face to face service encounters occurring in other service organizations like banks, hospitals, hotels, service encounters are phone encounters that happen every time a customer interacts with a company through call centers over telephone. In telephonic service encounters tangible factors such as attire of employees’ physical evidence do not contribute to service quality perceptions of customers.

Keiningham et al. (2006) has shown that call center satisfaction has all dimensions as found in SERQUAL- reliability, responsiveness, assurance and empathy except tangibility.

4. Metrics Combining Productivity and Quality

Anton (1997) suggests combining types of metrics. The first are internal metrics which focus mainly on technical quality like waiting time, hold time etc. the second type is external metrics which measure caller perceptions of the call regarding the interaction with and the answer being given by service agent. His model examines each attribute’s contribution to the three primary drivers of customer retention –overall satisfaction, willingness to recommend and repurchase intention. The metrics are grouped in to three dimensions.

- **Accessibility** (of the call center (number of rings, queue time, hold time and number of transfer call to other agent).

- **Interaction with agent** (handled the call quickly, showed concern for caller's situation, understood caller's question and speak clearly).
- **Answer or solution** (completeness of the answer, accuracy of the answer, fairness of the answer sufficient knowledge about the product or service).

2.2.3. Service quality and customer satisfaction studies related to ethio telecom

A number of studies related to service quality and customer satisfaction with ethio telecom and the previous Ethiopian Telecommunications Corporation (ETC) services were conducted by different researchers. Potluri and Mangnale (2010) conducted an empirical study to find out the satisfaction level of ETC customers using the following parameters: service interaction, service delivery process, customer complaint handling procedure and its outcome and the overall customer satisfaction level.

Another study was conducted by RakshitNegi (2009) with the objective of exploring the causal relationship between service quality dimensions and overall service quality, and identifying service quality gaps as experienced by the subscribers of the mobile services of the ETC. The result of the study indicated over all services quality of mobile communications was perceived to be as below average by over half (52.7%) of the respondents, followed by less than one-third (28%) who mentioned it as average, and about one-fifth (19.3%) as above average.

A customer satisfaction survey on ethio telecom mobile services in Ethiopia also conducted by Addis Ababa university; department of economics in December 2012. Satisfaction level of mobile users by their experience in ethiotelecom point of sales was also part of the study. The findings indicate that at national level, overall advice and customers care at ethiotelecom shops on average is rated at 7.2 on a ten point scale. But there is no any study specifically related to service quality and customer satisfaction of ethio telecom call center service.

2.3. Conceptual Framework

The general idea from the past literature is that there is a relationship between customers Satisfaction and service quality; also that service quality could be evaluated with the use Of five service quality dimensions using different service quality model like SERVQUA and SERVPERF which are the most useable even though they have their own criticism and their applicability is vary depend on service type. The empirical studies shows that service quality dimensions have relations with service quality and customer satisfaction. In addition different articles and journals shows that service quality dimensions have their own impact on customer satisfaction but their level of impact is different in between service quality dimensions and among service types.

SERVPERF model is derived from Parasurman's SERVQUAL model which is mainly focus on perceived service quality. The SERVQUAL approach integrates the two constructs (service quality and satisfaction) and suggests that perceived service quality is an antecedent to satisfaction as already stated in theoretical part

After critical review of both theories and empirical studies on service quality and customer satisfaction related to different service sectors, the following conceptual frame work is drawn. The conceptual framework (Figure 2.3.)is drawn by combining service quality dimensions of SERPERF scale derived from the original SERVQUAL model with (Anton, 1997) revised service quality model of call center service. As discussed above, the SERVQUAL model is suitable for measuring service quality and customer satisfaction in different service sectors including retailing services using the service quality dimensions.

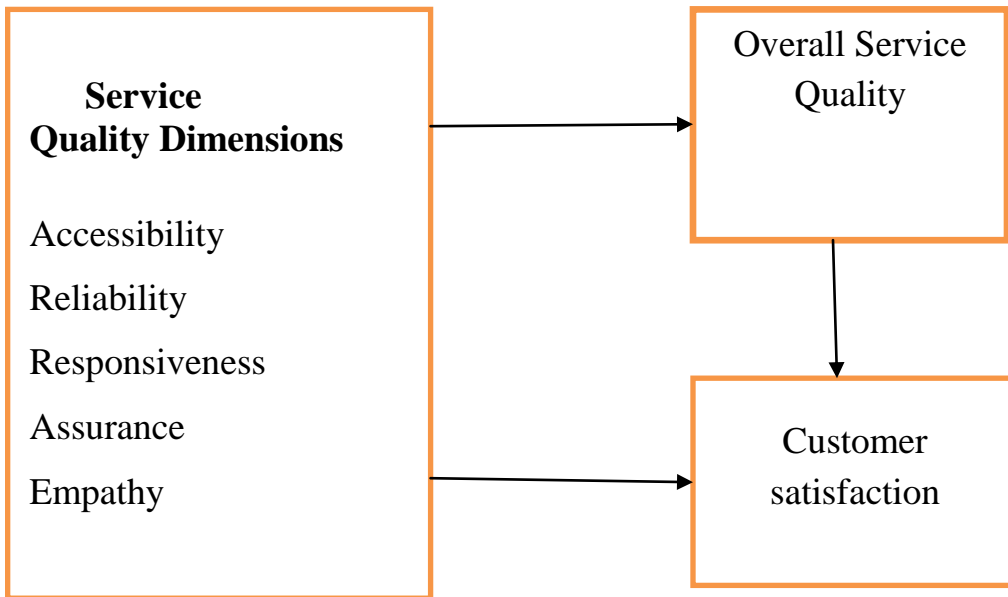


Figure .2.3. Conceptual framework model

Based on the revision made by Parasuraman, (2004) on the SERVQUAL model and (Anton, 1997) revised service quality model, the 22 items of service quality model are listed for this study in order to identify the most important dimensions that matter most to customers and that bring them satisfaction. These 22 items are outlined in the questionnaire.

2.4. Hypotheses of the study

H1: Service quality dimensions contribute positively and significantly to overall service quality

H2: Service quality dimensions contribute positively and significantly to customer satisfaction.

H3: Over all service quality has positive and significant effect on customer satisfaction.

CHAPTER THREE

3. RESEARCH DESIGN AND METHODOLOGY

This chapter discusses methods used in undertaking this study from the collection of data to methods applied to analyze the collected data. Research design, sample and sampling technique, instrument of data collection, data collection procedure and finally data analysis technique are discussed in this chapter.

3.1. Research Design

A research design provides a framework for the collection and analysis of data. This study is conducted as a quantitative research; a research that focuses primarily on the construction of the quantitative data and the research approach was deductive because it is not developing theories rather theory testing. A combination of descriptive and causal (explanatory) research designs are used in this study. The study is descriptive in that it seeks to describe the level of customer satisfaction and service quality in ethiotelecom call center thus, giving an in-depth understanding of the reality of customer satisfaction with service quality in ethio telecom call center. To understand the relationship between service quality dimensions and customer satisfaction as well as the impact of service quality dimensions on over all service quality and customer satisfaction, causal research design was used.

3.2. Population and Sample size

The target population of the study is Ethio telecom major customers in Addis Ababa who have the privilege to access ethio telecom call center 980 and 994 services. The population size of the major customers vary and increasing from time to time. According to the information gathered from marketing department in January 2015, the population size of major customers was 2262. To draw sample size from identified finite population, Krejcie and Morgan (1970) sample table was used. If there is no exact population size in the table from which the sample size could be simply drawn, there are two options. These are either to use the formula or take sample size of the next highest population size from the table. Most commonly the formula is computed based on 95% confidence interval of the accuracy of the sample size. For this study the second option is applied simply by going down to the next highest population which is 2400 and the sample size of the population is 331. By referring this sample table, 331 sample size was drawn for this study.

3.3. Sources and Methods of Data Collection

In gathering necessary data, primary, secondary and tertiary data sources are used to answer research questions. Primary data was mainly obtained through the administering of questionnaires. The questionnaire instrument is consisted of three parts.

The first part contained 6 questions focusing on general background of the respondents (customers) which include customer category, service types currently they are using, their experiences on calling to ethio telecom call center, and their reasons of calls to Ethio telecom call center.

The second part focuses on respondents' perceptions of ethio telecom call center service quality. This part of the questionnaire is developed based on five dimensions of service quality dimensions of the SERVQUAL system.

There was minor modification of the dimensions for the sake of reliability and validity by considering the call center services industry as these are: accessibility, reliability, responsiveness, assurance, and empathy based on Parasuraman et al. (1988). Based on this model, questionnaire is developed by incorporating the five dimensions of service quality and the 22 items of SERVPERF model. The 22 items are distributed among five service quality dimensions as follows: Four items are put under accessibility dimension, five items are related to reliability dimension, four items are related to responsiveness dimension, four items are distributed to assurance dimension and finally the remaining five items are distributed to empathy dimension. The third and the final part has two questions which requested respondents to rate their perception of overall service quality in ethio telecom call center and their level of satisfaction on a five point likert scale during their experience in Ethio telecom call center service.

The questionnaire was first prepared by English and constructive comments were given by my advisor. After modification based on the comments of advisor, it was translated to Amharic language by Zemen translation office and test survey was conducted for 20 respondents and minor modification was done on Amharic version questionnaire based on the comments from test survey to make it clear and understandable.

The questionnaires are self-administered. Self-administered (completion) questionnaires are a useful way of collecting data. Bryman & Bell, (2007), hails the self-completion questionnaires for a couple of reasons among which are:

1. They are cheaper to administer especially when the sample is widely dispersed.
2. They are quicker to administer since many people can be filling them at the same time.
3. Respondents have some autonomy to respond to questions which avoids biases.

The main drawbacks of self-completions questionnaires include,

1. Low response rate from respondents
2. Some questionnaires are not completely answered.
3. Responses could be biased

Secondary data like Bullets, brochures and company data base were gathered from the company. Tertiary data were gathered from books, journals and articles to review related theories and empirical findings in order to have better understanding of customer satisfaction, service quality and SERVPERF model.

3.4. Sampling Techniques and Approaches to Data Collection

Non probabilistic sampling technique with a combination of purposive and convenient sampling methods is employed to get respond from respondents. First the convenient area for researcher and collaborators in data collection is identified. Then respondents are asked to answer how many times they have been called (accessed) to Ethio telecom call center since last three months irrespective of Ethio telecom call center access number(980 or 994) and respondents who have accessed three and above times are requested to fill the questionnaire.

During the full scale survey the questionnaire is administered to the target population through personal contact by researcher. Respondents are kindly requested to fill the questionnaire to evaluate their perception based on the experience they have at ethio telecom call center service.

3.5. Techniques of Data Analysis

After the relevant data is collected, it is analyzed using statistical package for social sciences (SPSS). Each research questions are answered accordingly and output of the analysis is presented in tables and finally their implications are explained.

Descriptive statistics (like percentage, frequencies and mean) and inferential statistics like correlation, one way anova, linear regression and multiple regressions are applied.

Percentage and frequency is undertaken to discuss the general information of the respondents. In addition, they are applied to assess service quality in ethio telecom call center (call reason) and customer satisfaction on service delivery.

Comparison of mean scores of each service quality dimension is conducted to see on which service quality dimensions ethio telecom call center performing well based on the perception of respondents. In addition, it is applied to evaluate the perception of customers on over all service quality of ethio telecom call center and to evaluate their satisfaction level.

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 relation between the five service quality dimension and customer satisfaction in call center service. Correlation analysis technique is used to check whether or not service quality dimensions and customer satisfaction has relations.

One way ANOVA is conducted to analyze customers' satisfaction level and if there is significant satisfaction difference between customers who have used 980,994 and both access numbers.

Linear regression is applied to evaluate the impact of overall service quality on customer satisfaction. Multiple regression analysis is also undertaken to evaluate the impact of service quality dimensions on overall service quality as well as their impact on customer satisfaction.

3.6. Reliability and Validity

3.6.1. Reliability

This quality criterion of the research refers to the consistency of a measure of a concept. This quality criteria deals with the question whether the results of a study are repeatable (Bryman and Bell, 2007).

Cronbach's alpha is 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 that means; it resulted as a number between 0 and 1. As the result approaches to 1, the more is its internal consistency of the items, which means all the items measures the same variable i.e. over all service quality and customer satisfaction.

3.6.2. Validity

In addition to evaluating reliability of instruments, their validity was also assured by evaluating its construct validity. Construct validity is a measurement of validity of an operationalization (measurement) the extent to which it really measures what it claims to measure. To assure the validity of the dimensions whether they can measure the predefined dependent variables or not different theories and empirical studies were assessed to assure its validity. More over the external validity was also checked. External validity explains that the findings being applicable to other contexts.

External validity is related to generalization (Bryman and Bell, 2003,). In this study the target population was major customers in Addis Ababa and the sample is enough to generalize for the whole population of ethio telecom major customers. So external validity is strong and can be generalized.

3.7. Ethical Considerations

There is a growing emphasis on overcoming the ethical issues in business research because of the increased involvement of social responsibility and consumer's wellbeing (Ghauri and Gronhaug, 2005,). All the information was treated and kept secretly with high confidentiality without disclosure of the respondents' identity. 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.

Moreover, there is no any intention to use unfair means to influence the participants to obtain information. The questionnaire was anonymous and high level of confidentiality is considered. The information gathered through questionnaire was used only for its purpose i.e. for the fulfillment of the requirement of my MA degree.

CHAPTER FOUR

4. DATA ANALYSIS AND DISCUSSIONS

The aim of this chapter is to analyze and discuss the survey finding using different statistical tools. It consists of reliability test, analysis and interpretations of background of the respondents and analysis and interpretations of the different findings from the survey.

4.1. General Information about Respondents

To discuss the general information of the respondents, descriptive statistics (frequency statistics) was used. The general information include: company category, types of ethio telecom services that the companies are currently using, their experience of ethio telecom call center usage, their call center service usage habit including the access numbers and finally their reasons of call. The next table (table 4.1) summarizes all general information of the respondents.

Table 4.1Frequency (General information about the respondents)

Background		Frequency	Percent
Company category	Financial institutions	24	10.2
	Service providers	153	65.1
	Manufacturers	58	24.7
	Total	235	100
Types of ethio telecom services currently using	Fixed line services	212	90.21
	Mobile Services	235	100
	Internet Services	212	90.21
	VPN services	11	4.68
	Total	235	100
Experience of Ethio telecom call center services usage	Less than one year	12	5.1
	One up to three years	35	14.9
	Three up to five years	59	25.1
	Above five years	129	54.9
	Total	235	100
Frequency of call to ethio telecom call center	Three times	23	9.8
	Four times	47	20
	More than four times	165	70.2
	Total	235	100
Usage habit of ethio telecom call center access number	994	161	68.5
	980	12	5.1
	Both	62	26.4
	Total	235	100
Reasons for call to ethio telecom call center	For bill request	177	75.3
	For technical support	151	64.3
	For information request	93	39.6
	For complaint	211	89.8
	For complaint status request	188	80
	For feedback	85	36.2
	Total	235	

Source: Survey result (2015)

Table 4.1 shows the general information of the respondents. Majority of the respondents (companies) are service providing companies which account 65.1% followed by manufacturing companies which shares 24.7%. The lowest share is financial institutions with 10.2%.

From the types of services ethio telecom is providing, more than 90% respondents have been using all fixed line, mobile and internet services. Only 4.68% of respondents are using all services that are fixed line, mobile, internet and VPN services. This shows that the coverage of the services is good except VPN service which is the least.

Concerning the experiences of respondents to ethio telecom call center, majority of the respondents have more than three year experience which counts more than 75% of respondents and only 5.1% of the respondents have less than one year experience. Moreover, around 70.2% of respondents were called to Ethio telecom call center for more than four times and 29.8% of respondents are called to the call center for four and less than four times. This show that the frequency of call to ethio telecom call center is high. From the respondents who have accessed call center, 68.5%, 5.1% and 26.4% are used 994, 980 and both call center access number respectively.

With respect to purposes of calls (call reasons), the survey result shows 89.8% and 80 of the respondents were called for complaint and for complaint status request respectively. Bill request and call for technical support request ranks third and fourth. The lowest reasons for call were for feedback which shares 36.2%. This implies that majority of calls are related to complaint, complaint status request, bill request and technical support request.

To assess for which services of ethio telecom call center the respondents have frequently called, their frequency of calls and reason for calls were asked.

The main services ethio telecom call center is providing are:

- **Monthly bill request-** Customers request their monthly bill amount before the actual settlement whatever the mode of transaction it is.
- **Technical support-** It is providing of online technical support service for all ethio telecom product and services.
- **Information request-** It is one of the ethio telecom call center services which is handling customers' any information request even though it should be related to telecommunication service. Among this services are directory request (other companies service number), country code, service status, PUK code, information related to new services/products.
- **Complaint handling-** It is one of the call center service for which customers can call for complaint related to any ethio telecom services or products. Complaints which cannot be handled at call center level should be escalated to concerned sections and customers should be informed of the probable resolution time.
- **Complaint status request-** Is a service for which customers call to request for status of the complaint.
- **Feedback-** It is one of the call center service in which customers provide feedback related to services of the company.

4.2. Reliability Test

Reliability is the quality of a measurement procedure to provide repeatability and accuracy. A construct is said to be reliable if it brings the same result when we use it multiple times (Bhattacharjee 2012).

Table 4.2. Cronbach's Alpha (Reliability analysis)

Dimensions	Cronbach's Alpha value	Number of items
Accessibility	0.602	4
Reliability	0.634	5
Responsiveness	0.693	4
Assurance	0.686	4
Empathy	0.586	5
Overall scale reliability	0.894	22

Source: survey result (2015)

Because the study used a multiple-item construct measure to the respondents, the extent to which respondents rate these items in a similar manner (internal consistency) was computed including all items. For reliability test, Cronbach's alpha is used. Cronbach's alpha is a coefficient of reliability used to measure the internal consistency of a test or scale. As the number approach to 1 the more is its internal consistency of the items to measure service quality, implies that all items measures the same variable.

For internal reliability (consistency of the research instrument), reliability test for all service quality dimensions was done. Therefore, the overall reliability of the scale was found to be 0.894 (table 4.2) which indicates the acceptability of the items.

Moreover, the scale consistency of each dimensions adapted from the combination of service quality dimensions of Parasuraman(1985) and Anton(1997) namely accessibility, reliability, responsiveness, assurance and empathy were also computed with the value of 0.602, 0.634, 0.693, 0.686 and 0.586 respectively as table 4.2 shows.

4.3. Relationship between Call Reasons and Customer Satisfaction

To analyze the satisfaction level of customers who have visited ethio telecom call center for different services of ethio telecom call center, mean comparison was used as table 4.3 shows.

Table 4.3Mean (Call reasons and customer satisfaction)

Call reasons and customer satisfaction	Mean	N	Std. Deviation
for bill request	2.03	177	0.815
for technical support	1.87	151	0.569
for information request	2.18	93	0.846
for complaint	2.07	211	0.848
for complaint status	2.18	188	0.85
for feedback	2.35	85	0.855
Customer satisfaction	2.23	235	0.858

Source: Survey result (2015)

From table 4.3, as the mean value shows the satisfaction level of respondents for all types of call center services are low that means all are rated below average. As customer satisfaction index (CSI) in literature review, CSI below 50 (in this case below 2.5) are put under rejection zone which implies that customers are highly dissatisfied and if they get other options they might be shifted. Respondents who have visited call center for feedback are comparatively satisfied with the mean value of 2.35 followed by those who have visited call center for information request and those called for complaint status request with the value of 2.35 and 2.18 for information request and complaint status request respectively. Respondents who have called for complaint, bill request and for technical support are highly dissatisfied with the mean value of 2.07, 2.03 and 1.87 respectively.

4.4. Service Quality Dimensions, Overall Service Quality and Customer Satisfaction

Respondents' perception towards ethio telecom call center service quality is measured through five service quality dimensions with their 22 items using SERVPERF model. Respondents' perception towards over all service quality and their satisfaction level also measured using their mean score. Table 4.4 shows respondents' perception towards service quality dimensions, over all service quality and customer satisfaction.

Table 4.4 Descriptive statistics (Perception of SQ dimensions, over all service quality and customer satisfaction)

Variables	N	Minimum	Maximum	Mean	Std. Deviation
Accessibility	235	1	4	2.4	0.736
Reliability	235	1	4	2.17	0.61
Responsiveness	235	1	4	2.44	0.788
Assurance	235	1	4	2.12	0.679
Empathy	235	1	4	2.36	0.66
Over all service quality	235	1	5	2.23	1.04
Customer satisfaction	235	1	4	2.1	0.834

Source: Survey result (2015)

As table 4.4 shows perception of respondents on responsiveness and accessibility is good compared to other service quality dimensions which have mean score of 2.44 and 2.40 respectively. Empathy has moderate perception with mean score of 2.36 as well as reliability and assurance have least perception with mean value of 2.17 and 2.12 respectively.

From this finding, ethio telecom call center service is good in responsiveness that means informing the exact time of service delivery, having good willingness to support customers and their quick respond of customer request are good compared to other dimensions.

Respondents' perception towards accessibility like number of calls attempted before getting agents, length of time holding on and probability of being transferred to other agent is good.

However service quality of reliability items like providing service at schedule time, performing service right the first time and service quality of assurance items like employee knowledge and courtesy of call center is not good which is the least.

From table 4.4 above the mean of perception of respondents with over all service quality and customer satisfaction is low which are 2.23 and 2.10 respectively. In general this table shows over all service quality and customer satisfaction is low.

According to Anton (1997) there are three zones of perception of service performance which are preference zone, acceptance zone and rejection zone, by customer satisfaction index (CSI). According to him CSI with > 85 is considered to be in preference zone, CSI in between 50-84 is considered as acceptance zone and CSI with < 50 is in rejection zone which is below average.

4.5. Relationship between Service Quality Dimensions, Service Quality and Customer Satisfaction

Correlation analysis is used to assess the relationship among service quality dimensions, over all service quality and customer satisfaction. Correlation analysis deal with relationships among variable and helps to gain insight in to the direction and significance of relation between the variables. Correlation coefficient take values between -1 and 1 ranging from being negatively correlated (-1) to uncorrelated (0) to positively correlated (1). According to Dancey and Reidy(2004), a correlation result which is 0 indicates zero correlation , a result between 0.1 to 0.3 indicates weak correlation, a result which is between 0.4 to 0.6 indicates moderate correlation and a correlation coefficient between 0.7 to 0.9 indicates a strong correlation and a result which is equal to 1 indicates perfect correlation.

Table 4.5 shows the relationship among service quality dimensions, over all service quality and customer satisfaction. As the table shows, all service quality dimensions have positive and significant relationship with over all service quality even though their correlation is different among service quality dimensions. Reliability and assurance have better relationship with over all service quality with moderate coefficient value of .678 and .621 respectively followed by empathy which has coefficient value of .547. Accessibility and responsiveness have comparatively low relationship with over all service quality with correlation coefficient value of .26 and .234. According to Dancey and Reidy(2004), there is a positive correlation between all service quality dimensions and over all service quality in ethio telecom call center.

Table 4.5: Correlation (Relationship among Service quality dimension, over all service quality and customer satisfaction)

Correlations	Access ibility	Reliab ility	Respons iveness	Assuran ce	Empat hy	Over all service quality	Customer satisfaction
Accessibility	1						
Reliability	.632**	1					
Responsiveness	.795**	.589**	1				
Assurance	.466**	.771**	.446**	1			
Empathy	.605**	.735**	.567**	.567**	1		
Over all service quality	.260**	.678**	.234**	.621**	.547**	1	
Customer satisfaction	.497**	.465**	.495**	.501**	.458**	.413**	1

Source: Survey result (2015)

Correlation analysis was undertaken to discuss the relationship between service quality dimensions and customer satisfaction. According to table 4.5 all service quality dimensions and customer satisfactions have positive and significant relationship.

Like the relationship between service quality dimensions and over all service quality, the strength of correlation is different between service quality dimensions and customer satisfaction. Assurance, accessibility and responsiveness have better correlation with correlation coefficient value of .501, .497 and .495 respectively. Empathy has the lowest correlation coefficient value of .458. This implies that the better the quality of service with service quality dimensions items of assurance, accessibility and responsiveness items the higher the level of customer satisfaction.

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 .413. Parasuraman, Zeithmal and Berry (1985, 1988) point out that service quality and customer satisfaction are 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.

4.6. Customers' Satisfaction Difference Based on Access Number

Ethio telecom call center service has two main access numbers for its customers all over the country. The first one is 994 access numbers which is dedicated for all levels of customers that means for residential, major and critical customers. The second access number is 980 which are dedicated only for major and critical customers.

Mean score and one way Anova is used to analyze the satisfaction level and whether there is significant satisfaction difference among customers who have used these access numbers. Table 4.6 shows the survey result.

Table 4.6 Mean and one way anova analysis (Customer satisfaction based on access numbers)

Access number	N	Mean	Std. Deviation	Mean Square		F	Sig.
				Between Groups	Within Groups		
994	161	2.14	0.83	7.353	.638	11.54	0.00
980	12	3.0	1.128				
Both	62	2.62	0.615				
Total	235	2.10	.834				

Source: Survey result (2015)

As the survey result shows based on the mean value, those respondents who were used 994 access number are highly dissatisfied with mean value of 2.14 than those who were used 980 whose mean value is 3.00 and those who were use both 994 and 980. This shows that there is satisfaction difference among customers using different access numbers. To analyze whether the differences were significant or not, one way anova is applied. Based on the above table, the satisfaction difference is significant with p value= 0.00 which is less than 0.05. The significance of F value in this analysis indicates that the variation explained by the model is not due to chance.

4.7. Impact of Service quality Dimensions on over all Service Quality

The main assessment in this part is impact of each independent variable on dependent variable. In addition, the existence of multicollinearity of variables was analyzed. Multicollinearity is a situation when a big correlation occurred between two or more predictor variables. Statisticians say the greater multicollinearity above 0.7 correlation coefficient value between two variables; the less precise are the estimates of individual regression parameters. This is because when two or more variables are highly correlated, they all convey the same information. Table 4.5 shows there are three dimensions with correlation value above 0.7 hence multi collinearity diagnosis and multiple regression analyses were undertaken.

This can pick up on problems with multicollinearity that may not be evident in the correlation matrix. Moreover, the Durbin-Watson statistical analysis was undertaken to test for the presence of serial correlation among residuals. The presence of serial correlation implies that the size of the residual for one case has impact on the size of the residual for the next case. The value show that there is existence of serial correlation among service quality dimensions and overall service quality as it is 2.5 from appendix 2.6. Usually Durbin Watson statistical value should range from 0-4.

Table 4.7 Multiple regression Analyses (Multicollinearity and impact of each service quality dimensions on service quality).

Dimensions	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	-0.187	0.19		-0.989	0.324		
Accessibility	0.299	0.11	0.212	2.717	0.007	0.32	3.129
Reliability	0.969	0.15	0.57	6.446	0.000	0.249	4.022
Responsiveness	0.208	0.098	0.158	2.132	0.034	0.352	2.84
Assurance	0.347	0.106	0.227	3.277	0.001	0.404	2.476
Empathy	0.342	0.107	0.217	3.209	0.002	0.424	2.361

Source: Survey result (2015).

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 $1 - R^2$ 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 4.7 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.

The independent variables estimated to predict over all service quality are accessibility, reliability, responsiveness, assurance and empathy. All these independent variable are significant predictors of service quality with a p value < 0.05 but reliability, assurance and empathy have great significance in predicting over all service quality of ethio telecom call center with p value of 0.00, 0.001 and 0.002. Moreover, the standardized coefficient β in the table shows the impact of independent variables have on over all service quality. All service quality dimensions have positive impact on service quality of call center even though their impact is different. Reliability, assurance and empathy have comparatively high impact on over all service quality of call center with β value of 0.57, 0.227 and .0.217 respectively and responsiveness has the least positive impact with β value=0.158.

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 accessibility, reliability, responsiveness, assurance and empathy). In this case, the value is 0.55 which can be expressed by percentage (0.55*100) this means that this model explains by 55 percent of the variance to overall service quality.

There is no over estimation of the model as the adjusted R square value (appendix 2.6) shows because it has almost the value approaches to the normal R square i.e. 54.5%. In case of small sample size, adjusted R square value should be checked to avoid over estimation of the model by R square value. As depicted in the ANOVA table (appendix 2.6), 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.

4.8. Impact of Service quality Dimensions on Customer Satisfaction

Multiple regressions analysis was applied again to assess the impact of service quality dimensions on customer satisfaction. Table 4.8 shows the SPSS result of the analysis.

Table 4.8 Multiple regression analyses (Impact of service quality dimension on Customer satisfaction)

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	0.172	0.182		0.946	0.345		
Accessibility	0.203	0.105	0.18	1.927	0.05	0.32	3.129
Reliability	0.21	0.144	0.199	1.409	0.002	0.249	4.022
Responsiveness	0.203	0.094	0.149	2.24	0.002	0.352	2.84
Assurance	0.447	0.102	0.365	4.4	0.00	0.404	2.476
Empathy	0.176	0.102	0.139	1.72	0.08	0.424	2.361

Source: Survey result (2015)

The values of tolerance for all independent variables (accessibility, 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.

In evaluating each independent variables' impact on dependent variable (customer satisfaction), the table shows assurance, reliability, responsiveness and accessibility have significant impact on customer satisfaction of ethio telecom call center. The magnitudes of the impact coefficient β values are also positive for all independent variables. Assurance has the biggest impact with value of $\beta = 0.365$ on customer satisfaction followed by accessibility and responsiveness compared to other variables. Empathy has the lowest positive and insignificant impact with value of $\beta = 0.139$. But this dimension has significant impact on service quality so that it should be part of dimension in the model.

As the value of R squared (Appendix 2.7) shows, in aggregate the dependent variable (customer satisfaction) is explained (impacted) by all independent variables (accessibility, reliability, responsiveness, assurance and empathy) by 36.5 percent which shows the evaluation of the model. This R square is not over estimated while evaluating the model's fitness as its variation from adjusted R square is not big.

4.9. Impact of Overall Service quality on Customer Satisfaction

Linear regression analysis is used to investigate the impact of overall service quality on customer satisfaction. Table 4.9 shows the survey result of the two variables.

Table 4.9 Linear regression analysis (Impact of overall service quality on customer satisfaction)

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	1.357	0.118		11.5	0.00
Over all service quality	0.332	0.048	0.413	6.92	0.00

Source: Survey result (2015)

Over all service quality has significant positive impact with p value = 0.00 on customer satisfaction of ethio telecom call center. The directions of the impact also positive with coefficient β value of 0.413 which indicate that based on this model overall service quality has significant impact on customer satisfaction with β value=0.413. In general the regression analysis shows that all independent variables listed in the model have significant and positive impact on dependent variables except empathy.

4.10. Summary of Hypotheses Testing

After the analysis of all survey result, the hypothesis tests are summarized.

Table 4.10. Summary of hypothesis testing

Hypothesis	Statistical test	Result
H1 Service quality dimensions contribute positively and significantly to overall service quality	Multiple regression	Supported
H2 Service quality dimensions contribute positively and significantly to Customer satisfaction except empathy	Multiple regression	Supported except for empathy.
H3 Over all service quality dimensions contribute positively and significantly to customer satisfaction	Linear regression	Supported

Source: Survey result (2015)

CHAPTER FIVE

5. SUMMARY, CONCLUSION AND RECOMMENDATIONS

This chapter is the final chapter which contains summary of the findings, conclusion, recommendations, limitations and future implication of the study.

5.1. Summary of Findings

The main objective of the study was to assess the overall service quality and customer satisfaction with ethio telecom call center and to investigate the impact of service quality dimensions on customer satisfaction. In this study hypothesis were also developed to investigate how service quality dimensions can affect customer satisfaction.

To meet this objective, quantitative research strategy was adopted and convenience sampling technique was used to collect quantitative data from ethio telecom customers. Descriptive statistics like frequency, mean and correlation analysis techniques were applied to analyze background information of respondents, to analyze respondents' perception on service quality and satisfaction as well as relationship between service quality dimensions, overall service quality and customer satisfaction. In addition, inferential like one way annova and regression analysis techniques were used. One way annova was applied to investigate customers' satisfaction difference based on call center access number. Regression analysis technique was undertaken to investigate impacts of service quality dimensions on customer satisfaction as well as to test the hypothesis developed.

The study revealed different findings. From the background information of the respondents more than 90% of the respondents are using all services of ethio telecom except VPN service.

VPN service coverage is the least from other services. Regarding the experience and usage habit of ethio telecom call center services, more than 80% of the respondents have been using for more than four years and 70.2% of respondents were called more than four times to ethio telecom call center with in specified time period (with in three month). Related to access number usage habit, 68.5%, 5.1% and 26.4% of respondents were using 994, 980 and both access numbers respectively. This shows that 994 is highly accessed by customers than 980 access number. Based on call center services, purposes (reasons) of calls also analyzed. The survey finding shows that 89.8% of calls are related to complaint followed by complaint status request, bill request and technical support request. The least reason of call is related to feedback.

Varied mean scores of customer satisfaction are found across six main services of ethio telecom call center (call reasons.) All values of mean score are bellow average. Comparatively, the higher mean score are observed on feedback, complaint status and complaint handling which show better satisfaction. Respondents who were called for technical support are the most dissatisfied.

Mean score comparison was also conducted to evaluate customers perception on service quality dimensions, overall service quality and customer satisfaction. Based on the finding of the mean value of table 4.4, respondents are perceived that service quality of responsiveness dimension is good followed by accessibility which counts 2.44 and 2.4. Empathy is moderate with mean value of 2.36 and assurance is the least followed by reliability with mean value of 2.12 and 2.17 respectively. The mean value of perceived over all service quality and customer satisfaction are 2.23 and 2.10 which are below average based on CSI (customer satisfaction index).

Correlation coefficient statistics shows that reliability and assurance service quality dimensions have strong and significant relationship with over service quality with coefficient value of 0.678 and 0.621 respectively. Responsiveness and accessibility have lower correlation with service quality compared to other service quality dimensions.

Significant relationships were also detected between service quality dimensions and customer satisfaction. Assurance, accessibility and responsiveness have higher relationship with customer satisfaction having beta coefficient value of 0.501, 0.497 and 0.495 respectively.

The finding also indicated that there is significant relationship among independent variables (service quality dimensions). Relatively stronger correlation is scored between assurance and reliability followed between empathy and reliability.

The correlation analysis also found that there is significant and positive relationship between overall service quality (independent variable) and customer satisfaction (dependent variable) with beta coefficient value of 0.413. In general, all independent variables have significant relationship with dependent variables at $p < 0.01$ even though their strength is different.

As one way anova shows there was satisfaction difference between customers who have used 994, 980 and both access numbers. The mean score indicated that respondents who have used 980 are satisfied than those who have used 994 and both access numbers with the mean score of 3.00. As table 4.6 shows there is significant difference with $p = 0.00$ which is less than 0.01. Again it is found out that the significant satisfaction difference computed is supported by the value of F and it implies that the existence of satisfaction difference was not by chance.

After testing the relationship of all independent and dependent variables, the existence of multi collinearity among these variables was checked and there is no multi collinearity among them except between reliability and assurance which lead to the analysis of regression.

Regression analysis (both linear and multiple regression analysis was undertaken to investigate impacts of each independent variables on dependent variable. All Service quality dimensions namely: accessibility, reliability, responsiveness, assurance and empathy have significant impact on overall service quality of ethio telecom call center with $p < 0.05$ even though their impact is different.

Reliability service quality dimension has strongest impact on service quality with $\beta = 0.57$ followed by assurance with $\beta = 0.227$ and the third is accessibility with $\beta = 0.212$. Responsiveness has the least impact on service quality with $\beta = 0.158$. This indicates that reliability, assurance and accessibility dimensions have greater impact on service quality than other dimensions. As R square value shows, overall service quality (dependent variable) is explained by the model which includes accessibility, reliability, responsiveness, assurance and empathy. The R square value is 0.55 which implies that overall service quality is aggregately impacted or explained by all service quality dimensions by 55%.

Another finding of this study was that all service quality dimensions have significant impact on customer satisfaction except empathy though still their impact is different. The most significant impact is shown in assurance dimension with $p = 0.00$ and $\beta = 0.365$ followed by reliability dimension with $\beta = 0.199$. Based on the finding the impact of empathy is not significant in case of ethio telecom call center as the $p = 0.08$. The R square value show that the independent variables (accessibility, reliability, responsiveness and assurance) are explains dependent variable (customer satisfaction) by 36.5% which evaluates the model. It was also found out that overall service quality has significant and moderate impact on customer satisfaction as the $p = 0.00$ and $\beta = 0.413$.

Finally, the hypotheses developed in this study were tested and the result shows that all service quality dimensions have significant and positive impact on service quality. Moreover, all service quality dimensions have significant and positive impact on customer satisfaction except empathy which has insignificant impact on customer satisfaction. Overall service quality has also significant and positive impact on customer satisfaction.

5.2. Conclusion

The main aim of the study was to assess service quality and customer satisfaction as well as to examine the impact of various service quality dimensions on service quality and customer satisfaction in ethio telecom call centers and to find out important dimensions of services having greater influence on service quality and customer satisfaction. Accordingly, five service quality dimensions (accessibility, reliability, responsiveness, assurance and empathy) were hypothesized to evaluate service quality and customer satisfaction.

As the finding shows numbers of incoming calls to ethio telecom call center were huge. Moreover, the frequency of calls are different among types of service ethio telecom call center is providing as majority of calls were related to complaint, complaint status request, bill and technical support request. The mean score of customer satisfaction for each call reasons show that customers are not satisfied in all call reasons as the mean values are below average. The most dissatisfied respondents are those who have called for technical support request. According to Anton (1997) customer satisfaction index (CSI), if the score is less than 50 in this case less than 3, customers are under rejection zone which implies that there is high dissatisfaction and low loyalty so that they might shift to other competitors if any.

Customers' perception of all service quality dimensions is not good as it is below average. In addition, their perceived overall service quality and customer satisfaction is below average. As many empirical studies proved that service quality dimensions, service quality and customer satisfaction are highly related and interdependent. According to Sureshchandar et al., (2002), customer satisfaction should be seen as a multi-dimensional construct just as service quality.

Since the mean value of overall service quality and customer satisfaction is low (below average), it is concluded that over all service quality of call center is not good and customers are not satisfied with the services of ethio telecom call center.

As the result of correlation analysis shows all service quality dimensions have positive and significant relationship with over all service quality. The highest relationship is between reliability dimension and over all service quality and the lowest relation is between responsiveness and over all service quality. This implies that the higher the services of reliability items like providing service as promised and at scheduled time, the higher the overall service quality and vice versa. In addition, the relationship between service quality dimensions and customer satisfaction was analyzed and the result shows all service quality dimensions have positive and significant relation with customer satisfaction. The highest relationship is between assurance and customer satisfaction followed by between accessibility and customer satisfaction. The lowest relationship is between empathy and customer satisfaction. There is also positive relationship between overall service quality and customer satisfaction which implies the higher the quality of overall service, the higher the level of customer satisfaction. From this finding, it is concluded that Ethio telecom can improve its service by focusing on all service quality dimensions and at the same time it can increase customer satisfaction by focusing on overall service quality and important dimensions.

Based on the finding, there is satisfaction difference among customers who have accessed 994, 980 and both access numbers. Respondents who have accessed 980 are comparatively satisfied than those who have accessed 994 and both access number. That means, customers who have accessed 994 are the most dissatisfied.

In investigating the impact of service quality dimensions (independent variables) on service quality and customer satisfaction (dependent variables), it is foundout that all service quality dimensions have significant impact on service quality and all service quality dimensions have significant impact on customer satisfaction except empathy but there impact is different.

For instance, reliability and assurance have higher impact on over all service quality and customer satisfaction followed by accessibility in the case of ethio telecom call center. Responsiveness dimension has low significant impact compared to other dimensions.

Overall service quality has also significant impact on customer satisfaction in ethio telecom call center. This implies that ethio telecom can improve its call center service quality and customer satisfaction by improving service quality of all dimensions and by giving special attention to some dimensions like reliability, assurance and accessibility.

5.3. Recommendations

As presented in the findings of the study all five dimensions of service quality have significant and positive impact on service quality and customer satisfaction except empathy. So working to improve these service quality dimensions will contribute to the overall service quality and customer satisfaction. Based on the survey results, the following recommendations are given.

To improve service quality related to accessibility dimension – This dimension has significant impact on service quality and customer satisfaction. Respondents perceived service quality and satisfaction is low even though it is good compared to others. Ethio telecom should improve the accessibility of its call center through:

- ❖ To improve its call center accessibility, the company should implement multiple channels of communication like internet, video chat, integrated voice record (IVR) which leads to contact center servicer other than using only voice call.
- ❖ The company should have measurable and achievable key performance indicators. As Anton stated, all operational measurements (key performance indicators) identified have impact on accessibility of call center. First call resolution, agent hung up and call transfer to other agents are among key performance indicators on which ethio telecom should work hard to improve service accessibility.

- ❖ The company needs to assess its call center man power versus daily incoming calls and should take corrective action to improve its accessibility. From the finding it was stated that the frequency of calls are high which has impact on accessibility of call center. Because the more the number of idle agents in work place the more the accessibility of call center for the customers.

To improve service quality dimension related to reliability- As stated in summary, reliability dimension has greater impact on service quality and customer satisfaction. As respondents' perceived service quality and satisfaction is low, ethio telecom should improve all items of reliability dimension to improve its service quality and customer satisfaction through:

- ❖ Implementing different kinds of motivational schemes to call center agents which will encourage employees to provide appropriate service to customers which could increase customer satisfaction.
- ❖ Keeping automation of latest systems. The company is showing good progress in implementing modern systems automation like IPCC (Internet Protocol call center and CRM (Customer relationship management), full implementation of these systems is recommended. This will help to provide prompt and error free service to customers.
- ❖ Implementation standardized work process and procedures related to call center service is important. These include setting achievable KPI (Key performance indicators) and standardized call quality monitoring parameters. Implementations of these procedures help to minimize the variation between agents in handling customers.
- ❖ Moreover, the company should implement operational level agreement (OLA) with its different stake holders in the company related to call center services because complaints which could not be handled by call center agents should be escalated

to concerned sections or departments. This will lead to provide prompt service as promised.

To improve service quality dimension related to responsiveness- This dimension is related with willingness and promptness in delivering service for instance ethio telecom should:

- ❖ Provide continuous on job and off job training to call center agents specifically on communication skill, complaint as well as customer handling skills which will improve the service interaction between the company and customers at call center level. Moreover, this will help to provide quick response to customers instead of escalating each and every complaint to other body of the company.

To improve service quality related to assurance- According to the finding customers perceived service quality and satisfaction related to assurance is the least among five service quality dimensions. In addition, its impact on service quality and customer satisfaction is second and first respectively compared to other service quality dimensions. This dimension measures the agents' behavior while handling customers, their knowledge related to company's service and product including technical skill.

- ❖ In addition to hiring qualified and technically matured manpower, there should be continuous trainings related technical skills of ethio telecom services and products. This will help to instill confidence to customers on the ability of call center agents in handling technical support related requests. As the finding shows customers called related to technical support request are the most dissatisfied.

In general, all Service quality dimensions listed in the model of the study have impact on over all service quality and customer satisfaction of ethio telecom call center.

Based on these dimensions, customers' perceived over all service quality and satisfaction is low and there is customer satisfaction difference based on access number they have used.

For instance, ethio telecom should work hard on all these service quality dimensions to improve its service quality and customer satisfaction of call center and specifically services of 994 access number.

5.4. Limitations and Direction for Future Research

There are some limitations associated with this study that need to be explained. Firstly, the results obtained from this study cannot be generalized to a wide range of residential customers as the perceived satisfaction level might be different based on access number they are using. Second it is geographically limited to ethio telecom major customers in Addis Ababa.

Carrying out this study on customers with different level was another limitation because customers' expectation could be different based on their level. Moreover, there were no adequate prior studies in Ethiopia related to call center service. However, the above limitations are less significant compared to the importance of carrying out this type of study.

The purpose of this study was to find how customers of ethio telecom call center perceive service quality and to measure their satisfaction. Knowing how customers perceive service quality and being able to measure service quality can benefit management of ethio telecom by providing reliable data that can be used to monitor and maintain improved service quality.

Findings also show that customers' perceived service quality and satisfaction is low and this therefore means ethio telecom should work hard on all dimensions of service quality in order to bring higher perceived service quality and customer satisfaction.

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APPENDIX

Appendix 1: Questionnaire

Appendix 1.1: Questionnaire (English Version)



Addis Ababa University

School of Commerce

Marketing Management Graduate Program

Questionnaire

Survey on service quality perceptions and customer satisfaction in Ethio telecom call center service.

Dear respondent, my name is GosayeGebre and I am a graduate student at Addis Ababa university school of commerce. The purpose of this study is to measure service quality and the level of customer satisfaction in Ethio telecom call center. Your kind cooperation will help in getting reliable data and I want to assure that it will be used only for this study. Please try to answer all stated questions.

If you have any questions, please contact me through my: -

Email: gosaye.gebre@yahoo.com

Phone number: 0911509862

I thank you in advance!

Part one:

General information about the respondents

Please tick your response with “√” mark

1. Company category:

Financial institution

Service provider

Manufacturer

2. From services provided by ethio telecom, which services do you currently using?(Please tick on as many services as applicable)

Fixed line telephone services

Internet service

Mobile services

VPN service

3. How long you have been using Ethio telecom call center service?

Less than one year

Three up to five years

One up to three years

Above five years

4. How many times you have been called to ethio telecom call center since last three months?

Three times

More than four years

Four times

5. Which Ethio telecom call center access numbers you have been used to contact Ethio telecom call center agents?

994

980

Both

6. What were the reasons of your calls to ethio telecom call center? (Please tick on as many reasons as applicable)

For bill request

For Complaint

For technical support

For complaint status request

For information request

For Feedback

Part two:

The statements deal with the perceptions of service experienced in ethio telecom call center. Please show the extent to which these statements reflect your perception of service in ethio telecom call center. Please circle a number that shows your level of agreement with the following statements.

(1-Strongly disagree, 2-Disagree, 3-Neutral, 4-Agree, 5-Strongly agree)

Service quality dimensions	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Accessibility					
The number of calls you attempted before getting Ethio telecom call center agent is few	1	2	3	4	5
The length of time you spent on hold waiting for the first Ethio telecom call center agent to answer your call is short	1	2	3	4	5
The length of time placed on hold by Ethio telecom call center agent is short	1	2	3	4	5
The probability of transferring your call to another Ethio telecom call center agent is low	1	2	3	4	5
Reliability					
Ethio telecom call center provides services at scheduled times as promised	1	2	3	4	5
When you have a problem, Ethio telecom call center shows a sincere interest in solving it	1	2	3	4	5
Ethio telecom call center performs the service right the first time	1	2	3	4	5
Ethio telecom call center insists on error free records	1	2	3	4	5
Ethio telecom call center provides its service at the time it promises to do so	1	2	3	4	5
Responsiveness					
Employees in ethio telecom call center tell customers exactly when service will be performed	1	2	3	4	5
Employees in ethio telecom call center gives your prompt service	1	2	3	4	5
Employees in ethio telecom call center are always willing to help you	1	2	3	4	5
Employees in ethio telecom call center are never too busy to respond to your request	1	2	3	4	5

Assurance					
The behavior of employees in the ethio telecom call center instills confidence in you	1	2	3	4	5
You feel safe in your transactions with the ethio telecom call center	1	2	3	4	5
Employees in ethio telecom call center are consistently courteous with you	1	2	3	4	5
Employees in ethio telecom call center have the knowledge to answer your questions	1	2	3	4	5
Empathy					
Ethio telecom call center gives you individual attention	1	2	3	4	5
Ethio telecom call center has operating hours convenient to you	1	2	3	4	5
Ethio telecom call center has employees who deal with you in a caring fashion	1	2	3	4	5
Ethio telecom call center has best interest of you at heart	1	2	3	4	5
Employees in ethio telecom call center understand your specific needs	1	2	3	4	5

Part three:

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

(1- Highly Dissatisfied, 2- Dissatisfied, 3-Neutral, 4- Satisfied, 5-highly satisfied)

Overall level service quality and satisfaction	Strongly dissatisfied	Dissatisfied	Neutral	Satisfied	Strongly satisfied
Over all, the service quality of ethio telecom call center service is good	1	2	3	4	5
In general, I am satisfied with the services of ethio telecom call center	1	2	3	4	5

ክፍል አንድ

ጠቅላላ መረጃ

እባክዎን በመልስዎ ላይ የ "✓" ምልክት ያድርጉ

1. በየትኛው የደንበኝነት ምድብ ውስጥ ይመደባሉ ?

የፋይናንስ ድርጅት

የአገልግሎት ድርጅት

የምርት ድርጅት

2. በኢትዮጵያ ሌሎች ሚሰጡ አገልግሎቶች በአሁኑ ሰዓት የትኞቹን አገልግሎቶች እየተጠቀሙ ነው?
ከአንድ በላይ የሚጠቀሙ ከሆነ እባክዎ ምልክት ያድርጉባቸው::

መደበኛ የቴሌፎን አገልግሎቶች

የሞባይል አገልግሎቶች

የኤንተርኔት አገልግሎቶች

የቪ.ፒ.ኤን አገልግሎቶች

3. የኢትዮጵያ ሌሎች ሚሰጡ አገልግሎትን መጠቀም ከጀመሩ ምን ያህል ጊዜ ይሆናል?

ከ 3 ከ 5 ዓመት

ከ 3 ድረስ ከሶስት ዓመት ከ 5 ዓመት በላይ

4. ካለፉት 3 ወራት ውጪ ህሉምን ያህል ጊዜ ወደ ኢትዮጵያ ሌሎች ሚሰጡ አገልግሎቶች ይመለሱ?

ሶስት ጊዜ ካራት ጊዜ ካራት እና ከአራት በላይ

5. ከኢትዮጵያ ሌሎች ሚሰጡ አገልግሎቶች ጋር ለመገናኘት የትኛውን የኢትዮጵያ ሌሎች ሚሰጡ አገልግሎት ገናኛተ ጠቅመዎል ?

994 980 ሌላ

6. ወደ ኢትዮጵያ ሌሎች ሚሰጡ አገልግሎቶች ወሰን ስንት ምክንያት ምንነብር? (ከአንድ በላይ ምክንያት ከሆነ ምልክት ያድርጉ)

ወራዊ ሂሳብ ለመጠየቅ ቅሬታ

የቴክኒክ እገዛ ለመጠየቅ ላይ እንደ ደረሰ ለመጠየቅ

መረጃ ለመጠየቅ አስተ ለመስጠት

ክፍል ሁለት

የሚከተሉት ዐረፍተነገሮች የኢትዮጵያ ፌዴራላዊ ዲሞክራሲያዊ ጥሪ ሚኒስቴር የሥራ ጥራት ገጽታዎች የሚያመለክቱ ናቸው።

እርስዎ ወደ ኢትዮጵያ ፌዴራላዊ ዲሞክራሲያዊ ጥሪ ሚኒስቴር የሥራ ጥራት ገጽታዎች የሚያመለክቱ ናቸው።

እባክዎ ንክሚከተሉት ውስጥ በሚሰጡት ቁጥር ላይ ያህን ድምጽ ያስጡ።

(1- በጣም አልሰማምም፣ 2- አልሰማምም፣ 3- ገለልተኛ፣ 4- እሰማለሁ፣ 5- በጣም እሰማለሁ)

ከአገልግሎት ጥራት አኳያ	በጣም አልሰማምም	አልሰማምም	ገለልተኛ	እሰማለሁ	በጣም እሰማለሁ
ተደራሽነት					
የኢትዮጵያ ፌዴራላዊ ዲሞክራሲያዊ ጥሪ ሚኒስቴር የሥራ ጥራት ገጽታዎች የሚሰጡት አገልግሎት ጥራት ነው።	1	2	3	4	5
የኢትዮጵያ ፌዴራላዊ ዲሞክራሲያዊ ጥሪ ሚኒስቴር የሥራ ጥራት ገጽታዎች የሚሰጡት አገልግሎት ጥራት ነው።	1	2	3	4	5
የኢትዮጵያ ፌዴራላዊ ዲሞክራሲያዊ ጥሪ ሚኒስቴር የሥራ ጥራት ገጽታዎች የሚሰጡት አገልግሎት ጥራት ነው።	1	2	3	4	5
የሥራ ጥራት ገጽታዎች የሚሰጡት አገልግሎት ጥራት ነው።	1	2	3	4	5
ተአማኒነት					
የኢትዮጵያ ፌዴራላዊ ዲሞክራሲያዊ ጥሪ ሚኒስቴር የሥራ ጥራት ገጽታዎች የሚሰጡት አገልግሎት ጥራት ነው።	1	2	3	4	5
የሥራ ጥራት ገጽታዎች የሚሰጡት አገልግሎት ጥራት ነው።	1	2	3	4	5
የሥራ ጥራት ገጽታዎች የሚሰጡት አገልግሎት ጥራት ነው።	1	2	3	4	5
የሥራ ጥራት ገጽታዎች የሚሰጡት አገልግሎት ጥራት ነው።	1	2	3	4	5
ምላሽ መስጠት					
በኢትዮጵያ ፌዴራላዊ ዲሞክራሲያዊ ጥሪ ሚኒስቴር የሥራ ጥራት ገጽታዎች የሚሰጡት አገልግሎት ጥራት ነው።	1	2	3	4	5
በኢትዮጵያ ፌዴራላዊ ዲሞክራሲያዊ ጥሪ ሚኒስቴር የሥራ ጥራት ገጽታዎች የሚሰጡት አገልግሎት ጥራት ነው።	1	2	3	4	5
በኢትዮጵያ ፌዴራላዊ ዲሞክራሲያዊ ጥሪ ሚኒስቴር የሥራ ጥራት ገጽታዎች የሚሰጡት አገልግሎት ጥራት ነው።	1	2	3	4	5
በኢትዮጵያ ፌዴራላዊ ዲሞክራሲያዊ ጥሪ ሚኒስቴር የሥራ ጥራት ገጽታዎች የሚሰጡት አገልግሎት ጥራት ነው።	1	2	3	4	5

ማረጋገጫ					
በኢትዮጵያ ፌዴራላዊ ዲሞክራሲያዊ ጥሪ ሚኒስቴር የሥራ ጥራት ገጽታዎች የሚሰጡት አገልግሎት ጥራት ነው።	1	2	3	4	5
በኢትዮጵያ ፌዴራላዊ ዲሞክራሲያዊ ጥሪ ሚኒስቴር የሥራ ጥራት ገጽታዎች የሚሰጡት አገልግሎት ጥራት ነው።	1	2	3	4	5

Appendix 2: Statistical output

Appendix 2.1: Background information of the respondents

customer category					
	Frequency	Percent	Valid Percent	Cumulative Percent	
Valid	financial institution	24	10.2	10.2	10.2
	service provider	153	65.1	65.1	75.3
	manufacturer	58	24.7	24.7	100.0
	Total	235	100.0	100.0	

Types of ET services currently using

fixed line service					
	Frequency	Percent	Valid Percent	Cumulative Percent	
Valid	not ticked	23	9.8	9.8	9.8
	ticked	212	90.2	90.2	100.0
	Total	235	100.0	100.0	

mobile service					
	Frequency	Percent	Valid Percent	Cumulative Percent	
Valid	ticked	235	100.0	100.0	100.0

internet service					
	Frequency	Percent	Valid Percent	Cumulative Percent	
Valid	not ticked	23	9.8	9.8	9.8
	ticked	212	90.2	90.2	100.0
	Total	235	100.0	100.0	

VPN service					
	Frequency	Percent	Valid Percent	Cumulative Percent	
Valid	not ticked	224	95.3	95.3	95.3
	1	11	4.7	4.7	100.0
	Total	235	100.0	100.0	

Reasons for call

for bill request		Frequency	Percent	Valid Percent	Cumulative Percent
	not ticked	58	24.7	24.7	24.7
Valid	ticked	177	75.3	75.3	100.0
	Total	235	100.0	100.0	

for technical support		Frequency	Percent	Valid Percent	Cumulative Percent
	not ticked	84	35.7	35.7	35.7
Valid	ticked	151	64.3	64.3	100.0
	Total	235	100.0	100.0	

for information request		Frequency	Percent	Valid Percent	Cumulative Percent
	not ticked	142	60.4	60.4	60.4
Valid	ticked	93	39.6	39.6	100.0
	Total	235	100.0	100.0	

for complaint		Frequency	Percent	Valid Percent	Cumulative Percent
	not ticked	24	10.2	10.2	10.2
Valid	ticked	211	89.8	89.8	100.0
	Total	235	100.0	100.0	

for feedback		Frequency	Percent	Valid Percent	Cumulative Percent
	not ticked	150	63.8	63.8	63.8
Valid	ticked	85	36.2	36.2	100.0
	Total	235	100.0	100.0	

How long you have been using call center services

		Frequency	Percent	Valid Percent	Cumulative Percent
	less than one year	12	5.1	5.1	5.1
	one up to three years	35	14.9	14.9	20.0
Valid	three up to five years	59	25.1	25.1	45.1
	above five years	129	54.9	54.9	100.0
	Total	235	100.0	100.0	

how many times you have been called to cc since last 3 months

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid three times	23	9.8	9.8	9.8
Valid four times	47	20.0	20.0	29.8
Valid more than four times	165	70.2	70.2	100.0
Total	235	100.0	100.0	

which access number you have been used

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 994	161	68.5	68.5	68.5
Valid 980	12	5.1	5.1	5.1
Valid both	62	26.4	26.4	26.4
Total	235	100.0	100.0	100.0

Appendix 2.2: Reliability test

Reliability Statistics

Cronbach's Alpha	N of Items
.894	22

Reliability Statistics

Dimensions	Cronbach's Alpha	N of Items
Accessibility	.602	4
Reliability	.634	5
Responsiveness	.693	4
Assurance	.686	4
Empathy	.586	5

Appendix 2.3: Descriptive statistics (Perceptions of service quality dimensions, over all service quality and customer satisfaction)

Descriptive Statistics

	N	Mean	Std. Deviation
Accessibility	235	2.4011	.73674
Reliability	235	2.1711	.61088
Responsiveness	235	2.4447	.78896
Assurance	235	2.1223	.67951
Empathy	235	2.3643	.66029
Over all service quality	235	2.23	1.038
Customer satisfaction	235	2.10	.834
Valid N (listwise)	235		

Appendix 2.4: Correlation Analyses (Service quality dimension, over all service quality and customer satisfaction)

	Accessibility	Reliability	Responsiveness	Assurance	Empathy	Over all service quality	Customer satisfaction
Accessibility	1	.632**	.795**	.466**	.605**	.260**	.497**
Reliability	.632**	1	.589**	.771**	.735**	.678**	.465**
Responsiveness	.795**	.589**	1	.446**	.567**	.234**	.495**
Assurance	.466**	.771**	.446**	1	.567**	.621**	.501**
Empathy	.605**	.735**	.567**	.567**	1	.547**	.458**
Overall Service Quality	.260**	.678**	.234**	.621**	.547**	1	.413**
Customer Satisfaction	.497**	.465**	.495**	.501**	.458**	.413**	1

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

Pearson correlation.

Appendix 2.5: One way anova (Satisfaction difference based on access numbers)

Descriptives

Customer satisfaction

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum	Between-Component Variance
					Lower Bound	Upper Bound			
994	161	2.14	.833	.066	2.01	2.27	1	4	.125
980	12	3.00	1.128	.326	2.28	3.72	1	4	
both	62	2.682	.615	.078	1.67	1.98	1	4	
Total	235	2.10	.834	.054	1.99	2.21	1	4	
Model			.799	.052	2.00	2.20			
Random Effects				.265	.96	3.24			

ANOVA

customers satisfaction

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	14.707	2	7.353	11.524	.000
Within Groups	148.042	232	.638		
Total	162.749	234			

Appendix 2.6: Multiple regressions (Impact of service quality dimensions on service quality)

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.745 ^a	.555	.545	.700	2.500

a. Predictors: (Constant), Empathy, Responsiveness, Assurance, Accessibility, Reliability

b. Dependent Variable: Over all service quality

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	139.838	5	27.968	57.036	.000 ^b
	Residual	112.289	229	.490		
	Total	252.128	234			

a. Dependent Variable: Over all service quality

b. Predictors: (Constant), Empathy, Responsiveness, Assurance, Accessibility, Reliability

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-.187	.190		-.989	.324		
	Accessibility	.299	.110	.212	2.717	.007	.320	3.129
	Reliability	.969	.150	.570	6.446	.000	.249	4.022
	Responsiveness	.208	.098	.158	2.132	.034	.352	2.840
	Assurance	.347	.106	.227	3.277	.001	.404	2.476
	Empathy	.342	.107	.217	3.209	.002	.424	2.361

a. Dependent Variable: Over all service quality

Appendix 2.7: Multiple regressions (Impact of service quality dimensions on Customer satisfaction)

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.604 ^a	.365	.351	.672	2.147

a. Predictors: (Constant), Empathy, Responsiveness, Assurance, Accessibility, Reliability

b. Dependent Variable: Customer satisfaction

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	59.395	5	11.879	26.320	.000 ^b
	Residual	103.354	229	.451		
	Total	162.749	234			

a. Dependent Variable: Customer satisfaction

b. Predictors: (Constant), Empathy, Responsiveness, Assurance, Accessibility, Reliability

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.172	.182		.946	.345		
	Accessibility	.203	.105	.180	1.927	.055	.320	3.129
	Reliability	.21	.144	.199	1.409	.160	.249	4.022
	Responsiveness	.203	.094	.149	2.240	.026	.352	2.840
	Assurance	.447	.102	.365	4.400	.000	.404	2.476
	Empathy	.176	.102	.139	1.720	.087	.424	2.361

a. Dependent Variable: Customer satisfaction

Appendix 2.8: Linear regression Analyses (The impact of overall service quality on customer satisfaction)

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.413 ^a	.170	.167	.761

a. Predictors: (Constant), Over all service quality

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	27.731	1	27.731	47.856	.000 ^b
	Residual	135.018	233	.579		
	Total	162.749	234			

a. Dependent Variable: Customer satisfaction

b. Predictors: (Constant), Over all service quality

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.357	.118		11.494	.000
	Over all service quality of call center services is good	.332	.048	.413	6.918	.000

a. Dependent Variable: Customer satisfaction