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SCHOOL OF GRADUATE STUDENT
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**THE EFFECT OF SERVICE QUALITY ON CUSTOMER
SATISFACTION AT ETHIO TELECOM**

**BY
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DECLARATION

I, the under signed, declare that this thesis is my original work, prepared under the guidance of Shoa Jemal (Asst. Professor). All source of materials used for the thesis have been duly acknowledged. Where information has been derived from other sources, I confirm that this has been indicated in the thesis.

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ENDORSEMENT

This is to certify that this thesis entitled “**THE EFFECT OF SERVICE QUALITY ON CUSTOMER SATISFACTION AT ETHIO TELECOM**”, undertaken by Yisak H/Mariam for the partial fulfillment of Master of Business Administration [MBA] at St. Mary’s University is an original work and not submitted earlier for any degree either at this University or any other University.

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Abbreviations / Acronyms

ETC - Ethiopian Telecommunications Corporation

IBTE - Imperial Board of Telecommunications

ETA - Ethiopian Telecommunication Agency

ETC - Ethiopian Telecommunications Corporation

ET – Ethio Telecom

SME - Small and Medium Enterprises

SOHO - Small Office and Home Office

ADSL – Asymmetric Digital Subscriber Line

VPN – Virtual Private Network

FDRE - Federal Democratic Republic of Ethiopia

NGN - Next Generation Network

ZTE – Zhongxing Telecommunication Equipment

TRE - Telecommunication Regulatory Environment

ISDN- Integrated Services Digital Network

MSAG – Multiservice Access Gateway

ERP- Enterprise Resource Planning

CRM- Customer Relation Management

IPCC – Internet Protocol Contact Center

SERVQUAL: - Service Quality

SPSS - Statistical Package for the Social Sciences

Table of Contents

Acknowledgements	i
Abbreviations / Acronyms	ii
Table of Contents	iii
List of Tables.....	v
List of Figures	vi
Abstract	vii
CHAPTER ONE: INTRODUCTION	1
1.1. Background of the Study.....	1
1.2. Background of the Company	2
1.3. Operational Definition of Key Terms	3
1.4. Statement of the Problem.....	3
1.5. Research Questions	4
1.6. Objectives of the Research.....	5
1.6.1. General Objective.....	5
1.6.2. Specific Objectives.....	5
1.7. Significance of the Research.....	5
1.8. Scope of the Research	5
1.9. Limitations of the Study.....	6
1.10. Organization of the Research	6
CHAPTER TWO: REVIEW OF RELATED LITRATURE	7
2.1. Service.....	7
2.2. Quality.....	7
2.3. Service Quality.....	7
2.4. Service Characteristics and Quality	8
2.5. Customer Satisfaction	9
2.6. Service Quality Dimensions.....	10
2.7. Models for Measuring Service Quality	10
2.7.1. GAP Model	10
2.7.2. The SERVQUAL Model.....	11
2.7.3. SERVPERF Model.....	13
2.7.4. The Grönroos Quality Model	14
2.8. Conceptual Frame Work	15

2.9. Hypothesis of the Study	16
CHAPTER THREE: RESEARCH DESIGN AND METHODOLOGY	17
3.1 Research Design.....	17
3.2 Target Population.....	17
3.3 Sample Size Determination and Sampling Technique.....	17
3.4. Sources of Data	19
3.5. Instrument of Data Collection.....	19
3.6. Reliability Test.....	21
3.7. Sampling Procedure	22
3.8. Methods of Data Analysis.....	22
CHAPTER FOUR: DATA ANALYSIS AND PRESENTATION	24
4.1. Demographic Characteristics of the Respondents	24
4.1.1. Response Rate	24
4.2. Analyses and Interpretations	25
4.2.1. Respondents Characteristics.....	25
4.2.2. Descriptive analyses.....	25
4.2.3. Correlation Analyses.....	27
4.2.4. Regression Analyses	28
4.3. Cross Customer Comparison	31
4.3.1. Service Quality and Organization Type.....	31
4.3.2. Perception of service quality and customer satisfaction	32
4.4. Importance and Perception Gab Analysis	33
CHAPTER FIVE: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS ...	35
5.1. Summary of Findings.....	35
5.2. Conclusions.....	36
5.3. Recommendations	37
5.3.1. Implication for Further Studies	39
References	40
Appendixes	42
Appendix 1:- Enterprise Divisions Organizational Structure	42
Appendix 2:- Questionnaires	44
Appendix 3:- Formula Sheet for ANOVA.....	52
Appendix 4:- Statistical Output.....	53

List of Tables

Table 3. 1, Sample Size Proportion	19
Table 3. 2, Cronbach’s Alpha Test for all Service Quality Dimensions and Customer Satisfaction ..	21
Table 4. 1, Response Rate.....	24
Table 4. 2, Cross Tabulation between Company Category and Respondents’ Department.....	24
Table 4. 3, Descriptive Analysis: Means Score and Standard Deviation of Respondents	26
Table 4. 4, Correlations between Service Quality Dimensions, Over All Service Quality and Customer Satisfaction.....	27
Table 4. 5, Linear Regression Analysis: Customer Satisfaction as Dependent Variable and Each Service Quality Dimensions as Independent Variable	28
Table 4. 6, Comparisons of Service Quality and Customer Satisfaction among Different Organization	31
Table 4. 7, ANOVA Analysis: service quality and customer satisfaction for different customer groups	32
Table 4. 8, ANOVA Analysis: Importance Score among Different Customer Groups	32
Table 4. 9, Importance and Perception Rating of Service Quality Dimensions and Gap.....	33
Table 5. 1, Summary of Hypothesis Testing	36

List of Figures

Figure 2. 1, Gap-Model (Parasuraman et al. 1988 GAP model)	11
Figure 2. 2, SERVQUAL Model	12
Figure 2. 3, Conceptual Framework	15

Abstract

The purpose of the study was to measure the effect of service quality dimensions on customer satisfaction. The relationship between the six service quality dimensions, which are tangibles, reliability, responsiveness, assurance, reliability and network quality with customer satisfaction, is assessed. Differences in the perception of service quality, customer satisfaction and importance rating among different customer group are discussed and SPSS versions 17 was used to analyze data and the relationship between dependent & independent variables.

A total of 325 set of questionnaires distributed to Ethio telecom enterprise customers. The number of questionnaires used for data analysis was 220 representing a response rate of 67.69 % which is acceptable and enough for conducting the necessary statistical tests. For the data analysis process, the statistical techniques were used including descriptive statistics, independent sample mean t-test, Pearson's correlation coefficient (r), regression analysis, and One Way Analysis of Variance (ANOVA). The findings on the relationship between service quality dimensions and customer satisfaction and showed all service quality dimensions are strongly or moderately and highly significantly related customer satisfaction. In addition to this, the customer perceived among different segments are showed momentous differences among different segments of enterprise customers concerning customer satisfaction. Since enterprise customer's perception on the service quality dimensions and overall satisfaction is at lower rate, it is recommended that the ethio telecom company should give priority to the customer and due emphasis and prompt response for the customers whose operation is highly dependent on its services.

Key words: - Service quality, Customer Satisfaction, SERVQUAL model,

CHAPTER ONE

INTRODUCTION

This chapter presents an introduction of the study. It covers the background of the study, ethio telecom and enterprise division, definition of key terms, statement of the problem, research questions, research objectives, significance, and scope of the study.

1.1. Background of the Study

It is known that the provision of world-class telecommunication infrastructure and information have been recognized the world-over as an important tool for socio- economic development for a nation and hence telecom infrastructure is treated as a crucial factor to realize the socio-economic objectives and information communication technology (International Telecommunication Union [ITU], 2009). It is critical not only for the development of the information technology industry, but also has widespread ramifications on the entire economy of the country. To realize this benefit, telecom companies should strive to provide the best service quality to their customers because the key to sustainable and competitive advantage lies in delivering superior service quality that will in turn result in customer satisfaction and financial performance (ITU, 2009).

In addition, various studies show that service quality has positive relationship with customer retention, behavioral intention, and positive word of mouth communication (Reichheld & Sasser, 1990). Also service quality has crucial strategic benefit of contributing to market share and return on investment (Philips, Chang & Buzzell, 1983). Therefore, there is no doubt concerning the importance of service quality as the ultimate goal of service providers throughout the world.

On the other hand greater level of satisfaction lead to increase repurchase chances of customers, reduced customer whip and satisfied customers will also recommend others to use the service provider (Henkel et al., 2006). Also, Kim, Park and Jeong, (2004) found that customers' satisfaction leads to an increased use of current services and creates loyal customers for the future. According to Kim et al., (2004), this in turn, produces higher retention rates among loyal customers, who tend to commit a greater contribution of their category spending for the firm, and are more likely to pursue others to be a part of customers of the firm.

Generally, service quality and customers' satisfaction are interlinked and this creates value for customers and helps them to make decision regarding the justification of service provision. Thus, all elements of service quality have direct bearings on customers' satisfaction and value of service. The

telecom sector like other sectors is not an exception to this rule. As mentioned above, satisfied customers of telecom sector have high extent of usage and intentions to repurchase in future. So, studying the effect of service quality on customer satisfaction in Ethio telecom is critical given the sector has a huge contribution to the Ethiopian economy and its vast customer base expansion. In the following sections, background to the Ethio telecom and the unit of analysis–enterprise division is discussed.

1.2. Background of the Company

The introduction of telecommunications services in Ethiopia dates back to 1894, when Minilik II, the King of Ethiopia, introduced telephone technology to the country. This makes Ethiopian Telecommunications Corporation one of the oldest public telecommunications operators in Africa (Tele Negarit, 2000).

After the end of the war against Italy, during which telecommunication network was destroyed, Ethiopia re-organized the Telephone, Telegraph and Postal services in 1941. In 1952 the Imperial Board of Telecommunications (IBTE) was established by proclamation No. 131/52 in 1952. The Board had full financial and administrative autonomy and was in charge of the provision and expansion of telecommunications services in Ethiopia.

Ethiopian Telecommunication Corporation reborn as Ethio telecom on December 2010 and France telecom take over management. The government came up with the decision of outsourcing ETC's management because the corporation was not able to meet the demands of the fast growing customer demand and need for providing superior quality. The main aim of the new company is to implement state-of-the-art processes, to develop reliable network infrastructures and to provide the best quality of services to Customers.

Currently, Ethio telecom has 12 divisions which fall under Commercial, Network, Information system and Support job fields. Enterprise division is categorized under commercial job family. The division is structured into three departments which further decomposed into different sections (see annex 1).

Currently, ET's enterprise customers are segmented into two, namely: key accounts, and SME and SOHO, based on the number of employees they administer under the company and the amount of capital they have. Customers who have more than 50 employees in their company are segmented as key accounts.

Key account department is classified into eight sections with one Officer, eight Managers & forty three sales executives under it and the two section Complex & Special projects and Sales Admin, are support sections and also Public Enterprises Service & Public Enterprises Service are considered as Service Enterprise.

1.3. Operational Definition of Key Terms

Correlations: - is a statistical measure that indicates the extent to which two or more variables fluctuate together. (<http://whatis.techtarget.com/definition/correlation>)

Service Quality: - is defined as the difference between customer's expectations for the service encounter and the perceptions of the service received.

Service Quality Dimensions: is a model as the main framework for analyzing service quality by the variables of Reliability, Assurance, Responsiveness, Empathy, Tangibles, Network and Price aspects (Parasuraman et al., 1988)

Key Account Customer: - Enterprise customers who have more than 50 employees and/ or have greater than ten million birr capital.

Small Office Home Office and Small & Medium Enterprise : - Collectively called SOHO/SME are small enterprises such as PLCs, internet cafés and other private businesses who have less than 50 employees and/ or have less than ten million birr capital.

Customers Satisfaction: - is stated that a person's feeling of pleasure or disappointment resulting from comparing a product's outcome (perceived performance) in relation to his or her expectation.

1.4. Statement of the Problem

It known that the Ethiopian government is achieving success in different sectors of the economy and able to maintain a double digit economic growth for the last 10 years (Growth and Transformation Plan 1 [GTP 1], 2010) Moreover, in recent years, the government has decided to turn its face towards the improvement of the telecommunication sector, considering it as having a key leverage in the development of the country (see Adam 2010). Due to this, the government has shown strong commitment to improve the telecom sector; as a result the company is perking up the infrastructural facilities of the network through NGN and telecom expansion projects by signing a vendor financing agreement with ZTE and Huawei, Ericson, and ZTE companies in March 2007 and 2013, respectively. By doing this, new technologies were introduced and the network coverage for its products and services became wide and improved. In this regard,, the goals set by the company have only been partially met particularly in increasing the network capacity and customer base. However,

the quality of the service is not up to the level which is expected by ITU standards. Even though, Ethio Telecom is undertaking a huge network expansion projects all over the country, the current service delivery to enterprise customers is not meeting customers' expectations in terms of lack of immediate response, poor customer complaint handling, and mainly dissatisfied customers with respect to the service offering windows and improper utilization of the resources. In addition to this, the Telecommunication regulatory environment (TRE) survey result shows frustration with the quality of service and there is a general feeling that the quality of service has gotten worse (Ethiopia ICT Sector Performance Review, 2010).

Therefore, this study was motivated by the need to empirically measure the effects of service quality dimensions on overall service quality and customer satisfaction. The relationship between service quality dimensions on the service quality and customer satisfaction was assessed. The variables under the study were customer satisfaction as dependent variable and tangibles, reliability, responsiveness, assurance, empathy and network quality as independent variables. The demographic variable considered were type of the organization.

1.5. Research Questions

In the research, questioners are used to: obtain maximum information on quality related work in the company, assess the commitment of all workers towards service quality dimensions, and know the awareness of top management on quality.

Generally, five research questions were formulated as follows: The following were the research questions posed by this study:

- Q1** What is the relationship between the service quality dimensions and customer satisfaction in ethio telecom?
- Q2.** What are the major factors that affect customer satisfaction in Ethio telecom, Addis Ababa?
- Q3.** What is the difference among different segments of enterprise customers in the level of customer satisfaction?
- Q4.** Do the SERVQUAL dimensions have a significant and positive influence on the customer satisfaction?
- Q5.** How do network quality factors affect the satisfaction level of customers of Ethio telecom in Addis Ababa?

1.6. Objectives of the Research

1.6.1. General Objective

The general objective of the research is to show the effect of service quality on customer satisfaction by using an integrated SERVQUAL Model.

1.6.2. Specific Objectives

The research has the following specific objectives:-

1. To determine the relationship between service quality dimensions and customer satisfaction in ethio telecom.
2. To examine the relationship between network quality and customers satisfaction.
3. To explore the variation among different segments of enterprise customers in the level of customer satisfaction.

1.7. Significance of the Research

The study is highly useful for the researcher to implement the theoretical knowledge to practical scenario and help to acquire broader knowledge about the subject matter under study. Also the study enables Ethio telecom to be aware of the service quality as perceived by enterprise customers and its effect on customer satisfaction. In addition, the study helps the Ethio telecom management to appreciate the extent of the problems and take appropriate remedial actions. It is also expected that a research contribute in awareness creation concerning the strength of the correlation between service quality and customer satisfaction for researchers.

1.8. Scope of the Research

Though there are many models for measuring service quality, for this study SERVQUAL model of Parasurma et al 1988 is selected on the appropriately selected service quality dimensions that are reliability, assurance, responsiveness, empathy, tangibles, and network in relation to overall service quality and customer satisfaction. The geographical area of study has been limited to ethio telecom enterprise key account customers located in Addis Ababa. Consequently, service quality and customer satisfaction was not evaluated from residential and small and medium enterprise customer point of view. The research was focused on the facts relating to the period of G.C. from 2010-2015.

1.9. Limitations of the Study

As in the case of any other study, number of constraints created limitations. Thus, the study has some limitations such as time constraints to gather important information, financial problems and lack of sufficient literatures on the topic in the Ethiopian context.

1.10. Organization of the Research

This research paper is organized in to five chapters. Chapter one provides a general introduction of this research, including statement of the problem, research questions, operational definitions , main objective and major limitation of the study. Chapter two elaborates an overview of the relevant related literature review available regarding to both service quality and customer satisfaction and research hypothesizes are discussed. Chapter three shows the method of the study which includes design, sampling and method of data analysis's used in the study. In chapter four, data were analyzed from the survey result. Finally, in chapter five of this study, summery of findings are drawn, general conclusions are drawn, possible recommendation to the problems are suggested. In addition, indication of further studies in the area is shown.

CHAPTER TWO

REVIEW OF RELATED LITRATURE

This chapter demonstrates definition of service quality, characteristics and models for measuring service quality, customer satisfaction and conceptual frame work and hypothesis of the study.

2.1. Service

Service according to Phillip Kotler is any activity or benefit that is essentially intangible and does not result in ownership of anything. The production of a service may or may not be tied to a physical product. Service is defined as those activities that are separately identifiable and can provide satisfaction and are not necessarily tied to the sale of a product or another service (Cowell, 1984).

2.2. Quality

According to the American society for quality control, quality is the totality of features and characteristics of a product or service that bear on its ability to satisfy stated or implied needs. Hence quality is an integral part of business. Smith, (1997) in his study of Malcom Baldrige National Quality Award reports in US1987 defines Quality as listening to customers and delivering what they expect. Quality according to Professor Bill Evans asked. A hundred definitions could be elaborated, but the only one right answer is: Quality is what the customer says it is. If we want any business or activity to be really successfully, the very crucial ingredient is customer satisfaction. We have to make perfectly sure that each person in the organization is aware of that vital fact. Each one should do their job having in mind this question: How does this particular operation contribute to customer satisfaction?

2.3. Service Quality

Service quality is defined as the gap between the consumers' expectations and perceptions, that is, the quality of a service will be rated high when the service delivered exceeds the consumers' expectations and will be rated low when it falls short of customers' expectations. If the performance exceeds expectations, the customer is highly satisfied (Kotler, 1999). One of the major ways to differentiate a service firm is to consistently deliver higher quality service than competitors (Kotler, 1999). The key target is to meet or exceed customers' quality expectations. Their expectations are formed by their past experience, word of mouth and service firm advertising. The customers choose providers on this basis, after receiving the service; they compare the perceived with the expected service. Various studies of excellently managed service companies show that they share a number of common practices with respect to service quality. These include: A history of top management to quality, the

setting of high standards, systems for monitoring service performance, and satisfying the employees as well as customers (Ntaayi, 1998).

2.4. Service Characteristics and Quality

Parasuraman et al., (1985) argued that there are four main characteristics of service necessary for full understanding of service quality. These are intangibility, heterogeneity, perishability and inseparability of production and consumption. Unlike a product, the nature of service makes it unable to be possessed, to be tasted, to be kept, to be touched, it remains intangible. Theories and frameworks relating to service are also mostly developed and driven according to these four characteristics of services. It is essential to have a clear understanding of the features and characteristics of service since these characteristics may justify diverse strategies that should be executed when marketing services.

Services are intangible and cannot be measured as goods, which we can describe or measure with great accuracy. Intangibility is known to be the most obvious characteristic of service. In contrast to goods, which are clearly tangible and exist in both time and space, service tends to be reflected in social interactions and social acts and it only depends on time (not space). Because services are performances, rather than objects, they cannot be seen, felt, tasted, heard or smelled in the same manner which goods can be sensed. Due to this service organizations may make additional efforts to make their services visible. The intangible nature of service is argued to be one of the fundamental characteristics of service which differentiates services from goods. Intangibility is seen as the critical products-services distinction from which all other differences emerge Parasuraman et al., (1985).

The acts of providing and receiving services cannot truly be separated from each other, that is, they are inseparable. The inseparability which reflects the simultaneous production and consumption describes the majority of services (Parasuraman et al., (1985). The deliveries of services and products are different. They explain that services are usually offered first; once a customer is interested, the production and consumption are carried out at the same time. Unlike services, products are initially produced in the manufactured, then inventoried and finally sold and consumed.

Parasuraman et al., (1985) also argue that the hallmark of service is its heterogeneity. Due to this characteristic the quality and essence of a service can vary from producer to producer, from customer to customer and from day to day. The heterogeneity and uniqueness of each service delivered lead to difficulties when it comes to assessing, comparing and evaluating service. One possible reason for

this difficulty is that since the nature of service is so heterogeneous there is a lack of standardization on which to base evaluation (Zeithaml et al., 1985).

Another important characteristic of services is perishability. The term perishable refers to the nature of service where it is impossible to save and use in times of need and cannot be inventoried. In other words, the unused service capacity at a certain moment in time cannot be saved or stored for future use. In addition, services cannot be returned or resold upon service delivery (Zeithaml and Bitner, 2000). This perishability of service relates strongly to inseparability. Since services cannot be exactly stored and inventoried, it is not always easy to match supply and demand.

Due to the above characteristics of the services, evaluating their quality is extremely difficult. Service quality is harder to evaluate for the customers than the quality of products, because the person evaluating the service typically does not have the necessary expertise to do it or there are no objective measures. The research results of Parasuraman et al., (1985) also support that in evaluating service quality; customers rely on experience and trust to a greater degree. The service is evaluated not only upon its outcome the process of the service provision will be taken into consideration as well. As opposed to product quality, service quality should be measured during the process itself.

2.5. Customer Satisfaction

Several definitions and models of customer satisfaction have been proposed by various scholars. The focus of much of the research is on the “disconfirmation of expectations” theory which explains that “the customer is satisfied when he or she feels that the product’s performance is equal to or more than what was expected (confirmation). But if perceived performance falls short of his/her expectations (disconfirmation), then the customer is dissatisfied” (Oliver, 1980).

Another model of customer satisfaction defines it as “a complete evaluation of accumulated purchase and consumption experience, which reflects a comparison between the sacrifice experienced and the perceived rewards” (Iglesias & Guillen, 2004). The sacrifice here includes monetary costs of purchasing the service as well as intangible costs such as the time and energy expended to make reservations and arrangements to visit the restaurant. Thus, the premium that the customer has to pay at a fine dining restaurant is traded off against the perceived rewards he obtains. Thus, the level of satisfaction increases if the rewards are greater compared with the sacrifice.

Customer satisfaction is defined a collective outcome of perception, evaluation and psychological reactions to the consumption experience with a product or service (Yi, 1990). Additionally,

Kotler, (2000) also stated that customer satisfaction is a person's feelings of pleasure or disappointment resulting from comparing a product's outcome (perceived performance) in relation to his or her expectation.

2.6. Service Quality Dimensions

Service quality dimensions could differ depending upon the service industry, to which the scale was applied, because of differences in the level of social and economic development. Customers in different countries differently perceive the concept of service quality itself. Consequently, as mentioned in that quality measurements scale should be adapted to the specifics of an individual service industry or even an individual service, and that a general scale shouldn't be used at all. As suggested in those industry-specific measures of service quality might be more appropriate than a single generic scale. And also the generic measure of service quality across industries is not feasible; therefore, future research on service quality should involve the development of industry-specific measures of service quality. In recent years, more attention was paid by researchers and scholars toward the development of an alternative industry specific research instruments for measuring service quality. Consequently, a number of industry specific research instruments have been developed in the past several years in different service settings and various countries and cultural backgrounds.

For these reasons, it has been suggested that developing industry-specific scales for measuring service quality can be more suitable than a single generic scale. Subsequently, a number of specific-industry measures have been developed to measure service quality for example, retail banks (Aldlaign and Buttle, 2002); Internet retailing (Janada, Trocchia, and Gwinner, 2002) and hotels (Akbaba, 2006)

Similar to other industries various researchers use different service quality measures in measuring service quality in telecom environment in previous years. Most researches in the telecom environment use five SERVQUAL dimensions frequently. Reliability is the only dimension used by all 9 studies under investigation. This clearly shows that the dimension is highly contributed to measure the service quality.

2.7. Models for Measuring Service Quality

2.7.1. GAP Model

Pursuant to the GAP-model, the organization and the customer may differ as to how they perceive service performance, and this is caused by the 'gaps' in providing the service (Parasuraman et al., 1988). The researchers identified five gaps.

GAP 1: The customer`s expectations are not known: the buyer`s expectations and the ideas, the management has regarding that differ.

GAP 2: Wrong service quality standards: the difference between management`s ideas, regarding customer expectations and the customers` expectation as to its manifestation in the specifications.

GAP 3: Service performance gap: the difference between the specifications regarding service quality and the actual implementation of the service.

GAP 4: When promises do not match delivery: the difference between the qualities of the service and the qualities of the service as communicated to customers.

GAP 5: When the customer does not receive the expected service: the difference of the quality that the customer expects and the actually perceived service quality.

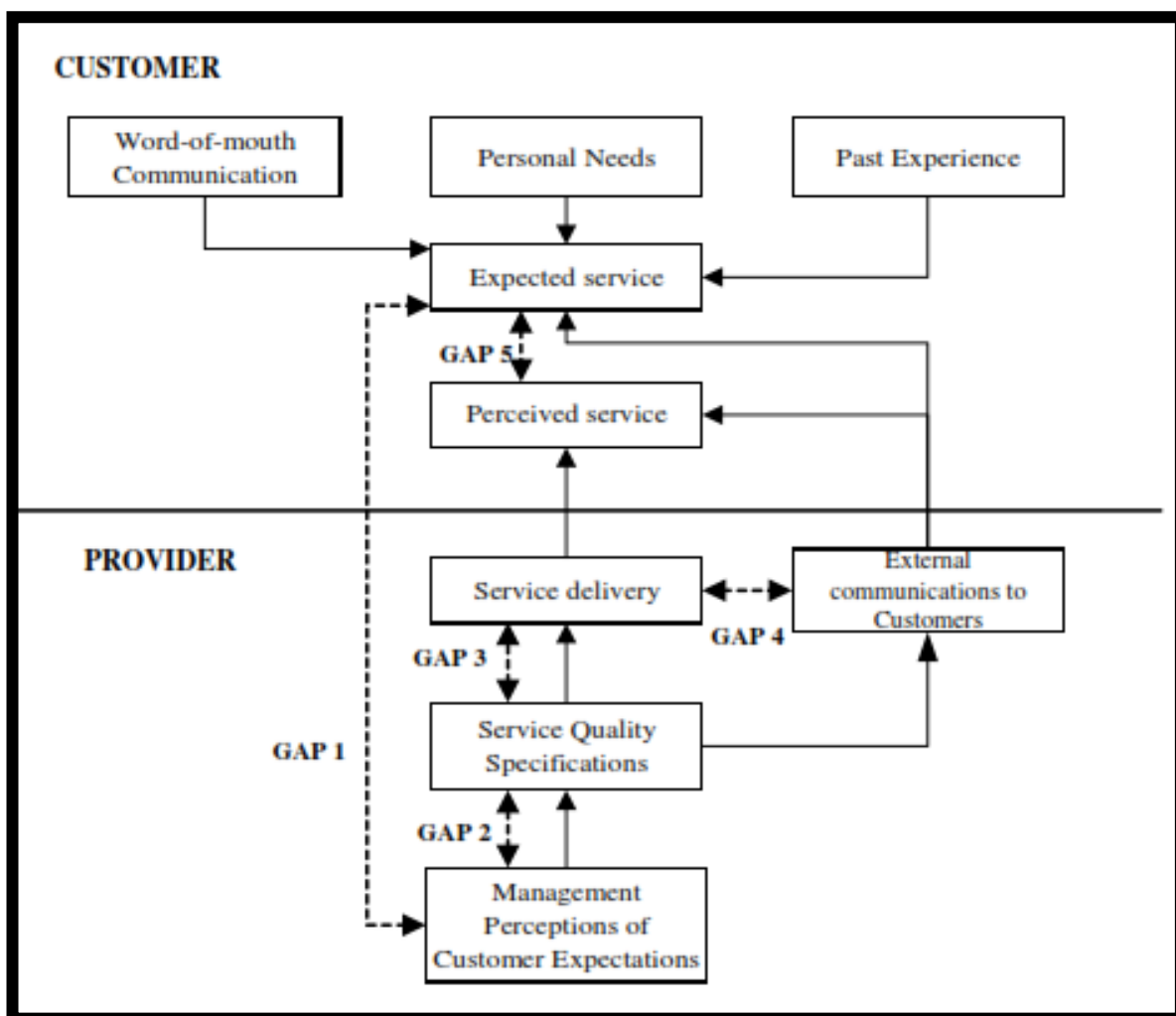


Figure 2. 1, Gap-Model (Parasuraman et al. 1988 GAP model)

2.7.2. The SERVQUAL Model

The most frequently used model in the measurement of service quality is SERVQUAL (Parasuram et al. 1988). Their model is based on the disconfirmation paradigm, according to which service quality is

the result of the comparison of expected versus perceived performance of service. The model prior to SERVQUAL is “the gap model” by the same authors. The gap model presents 5 different gaps which a company should avoid. Gap 5, known as the customer gap, represents the specific construct measured upon in the SERVQUAL model.

SERVQUAL is grounded in the earlier writings of the expectancy-disconfirmation theory in which quality is measured from the difference between the expectations and evaluation of the performance. The results can be categorized as confirmation or disconfirmation and the outcome is the level of satisfaction (Oliver, 1980; Parasuraman et al., 1985). Meanwhile, the incorporation of disconfirmation theory in the model indicates the close relation between service quality and satisfaction.

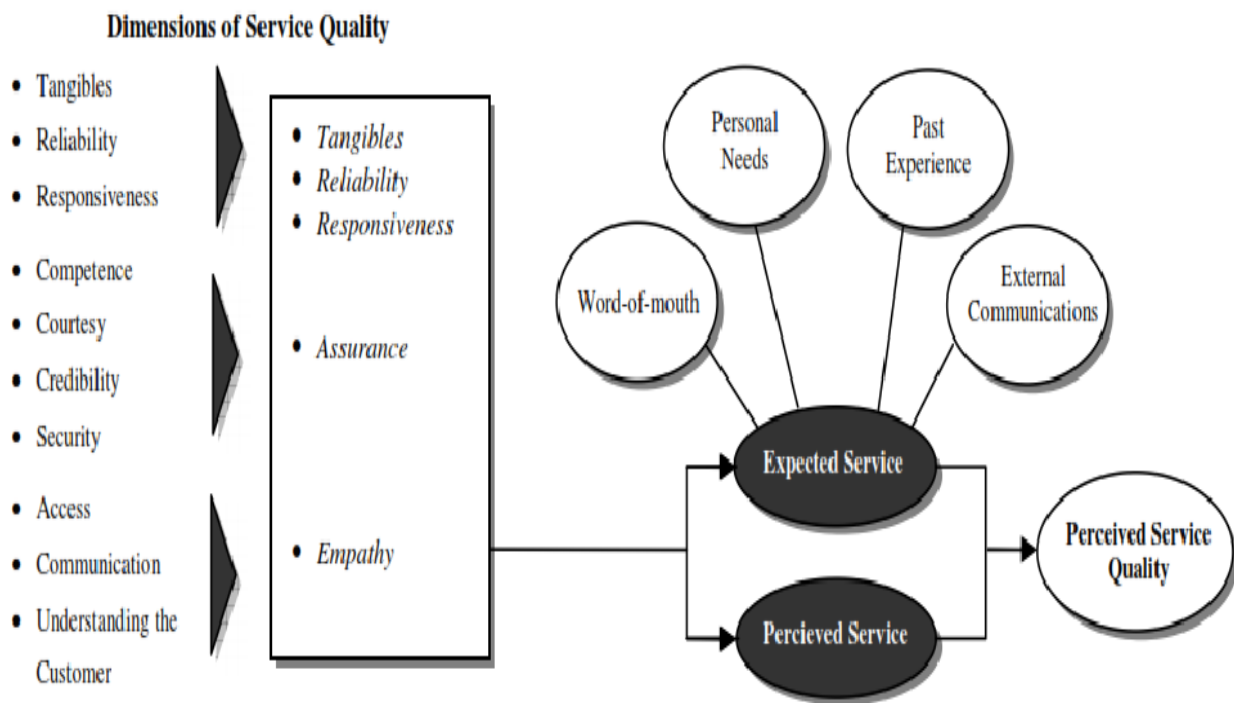


Figure 2. 2, SERVQUAL Model

As a result of several focus group interviews in 4 different service sectors, ten dimensions of service quality (tangibles, reliability, responsiveness, competence, courtesy, credibility, security, access, communication and understanding the Customer) were produced. By means of factor analysis the dimensions were later condensed into five dimensions presented in the model. These five dimensions have become dominant within service quality research and will be listed and briefly described in the following.

Tangibles: The appearance of physical facilities, equipment, personnel and communication materials in the service process, such as cleanliness, appearance of staff and appropriate technical equipment for support and entertainment.

Reliability: The ability to perform the promised service dependably and accurately. For example the consistency in meeting promises and the completion of tasks on-time.

Responsiveness: General willingness to help customers and provide prompt service, which refers to the ability of responding to individual customer requirements and showing sincere interest in problem solving.

Assurance: Includes the competence and courtesy of employees and their ability to convey trust and credibility. The dimension would include staff training in competent and courteous charisma among employees and the feeling of safety in the transactions with the customers.

Empathy: Encompasses the access to customers, communication to customers and understanding of customers resulting in individualized attention to customers.

Parasuraman et al. (1988) define service quality as the gap between customers, expectation of service and their perception of the service experience. Based on Parasuraman et al., (1988) conceptualization of service quality, the original SERVQUAL instrument included 22 items. The data on the 22 attributes were grouped into five dimensions: tangibles, reliability, responsiveness, assurance, and empathy.

$$CS = 122 \sum P_i - E_i 22_i = 1$$

Where, CS = Customer satisfaction or perceived service quality, P_i = the perceived performance level relevant to the i-th statement, E_i = the expected performance level relevant to the i-th statement.

From the above formula it can be observed that the five dimensions have an effect on both the expected and the perceived service, where the disconfirmation between the two constitute the level of perceived service quality in the given process.

2.7.3. SERVPERF Model

The SERVPERF model developed by Cronin & Taylor, (1992), was derived from the SERVQUAL model by dropping the expectations and measuring service quality perceptions just by evaluating the customer's the overall feeling towards the service. This model directly measures the customers' perceptions of service performance and assumes that respondents automatically compare their

perceptions of the service quality levels with their expectations of those services. The SERVPERF scale is identical to the SERVQUAL scale in its dimensions and structure.

$$SQ = 122 \sum P_i - E_i 22_i = 1$$

Where, SQ is perceived service quality, P_i is the perceived performance level relevant to the i -th statement.

The inherent limitations of SERVQUAL contributed for the development of SERVPERF. Cronin and Taylor, (1992) started out by presuming that the conceptual premises of the SERVQUAL model and the methodology of measuring service quality developed from it, are inadequate. They argued that the service quality measurement method, originated from the gap model (perceived performance – minus expectation formula) is not supported by theoretical or empirical research. They pointed out the marketing literature rather supports its measurements made relative to performance.

2.7.4. The Grönroos Quality Model

Grönroos, (1984) defines service quality as the outcome of an evaluation process, where the customers compare their expectations with the service they have received. The customers perceive what customers receive as the outcome of the process in which the resources are used, i.e. the technical or outcome quality of the process. In his model he differentiated between the three components of service quality. The technical aspect (“what” service is provided), the functional aspect (“how” the service is provided) and the image.

‘Technical quality’ represents what the customer actually receives from the total service as a result of the process and is further known as the outcome dimension. Services are designed to produce a somehow ‘tangible’ outcome and therefore customers can think of the quality of services varying according to the outcome received (Grönroos, 1984). Generally technical quality is what the customers receive as the result of using the actual service (result dimension).

‘Functional quality’ dimension is how the customer receives the service and it concerns the process of delivering the service. The process delivery is conceived of as the moment of truth because it encompasses the crucial moment in the service experience where the business is truly exposed to the customer through interaction with customers. Generally functional quality is how the service is provided, according to subjective perception of the customer and the customer evaluates the service procedure (process dimension).

A third dimension identified by Grönroos is the corporate image of the service provider i.e. the customers' view of the company. Also it shows how the characteristics, originated by and connected to the technical and functional service quality, such as traditions, policies, social connections, service standards, and goodwill are mingled.

2.8. Conceptual Frame Work

The aim of this section is to summarize the idea the researcher obtained from past literature and to bring out the contributions for this study area.

Thus, purpose of this study is to examine how tangibility, reliability, responsiveness, assurance, empathy and network quality of services which are the independent variables can bring effect on the dependent variables, customer satisfaction and overall service quality at ethio telecom. Based on this the below model is developed. (See figure 2.3) (source Oliver, 1980; Parasuraman et al., 1985)

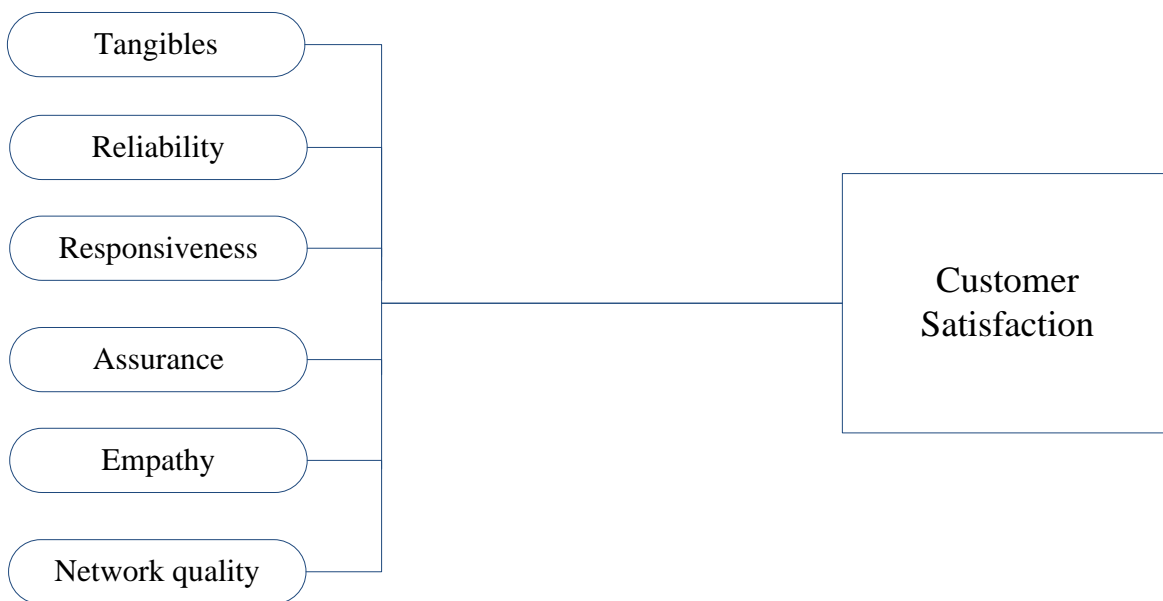


Figure 2. 3, Conceptual Framework

2.9. Hypothesis of the Study

Based on the developed model , six research hypotheses were tested for this study. The hypotheses tested were:

- H1: Tangibles have significant positive influence on customers' satisfaction in ethio telecom enterprise customers.
- H2: Reliability has significant positive effect on customers' satisfaction in ethio telecom enterprise customers.
- H3: Responsiveness has significant positive effect on customer satisfaction in ethio telecom enterprise customers.
- H4: Assurance has significant positive effect on customers' satisfaction in ethio telecom enterprise customers.
- H5: Empathy has significant positive link effect on customers' satisfaction in ethio telecom enterprise customers.
- H6: Network has significant positive link effect on customers' satisfaction in ethio telecom enterprise customers.

CHAPTER THREE

RESEARCH DESIGN AND METHODOLOGY

This chapter presents the research design, target population, sampling procedure, sample size determination, sample size proportion, sources of data, method of data collection, reliability test and methods of data processing and analysis.

3.1 Research Design

The study has a quantitative research design. Specifically, correlation technique was utilized on a cross sectional survey data. The study also followed a descriptive design as it sought to describe in detail the state of customer satisfaction and service quality in ethio telecom Company. Thus, descriptive statistics such as frequency, percentage, mean and standard deviations were used to assess service quality and measure customer satisfaction. To empirically measure the effect of service quality on customer satisfaction among ethio telecom enterprise customers, a structured questionnaire survey was used to mainly obtain data to test the main hypothesis that relates to the correlation of service quality dimensions with service quality and customer satisfaction.

3.2 Target Population

The population of this study was enterprise key account customers in Addis ababa. The justification for selecting the Addis ababa as a location to conduct the survey pertains to the fact that the majorities of Ethio telecom enterprise customers are concentrated in Addis ababa, which accounts about 47.3% of the total enterprise customers and account for more than 85% of key account customers. This implies that more than half of the total enterprise key account customers are from Addis Ababa. Specifically, more than 60% of ADS L, 35% of fixed line and 80% of post paid mobile customers are found in Addis Ababa (Marketing plan for Ethio telecom Enterprise customers, 2014). So, a sample taken from Addis Ababa is more likely best represents Ethio telecom key account customers.

3.3 Sample Size Determination and Sampling Technique

The sample frame for this study was obtained from ethio telecom Enterprise division sales Executives data base as of November. The sample frame for this study is 2044 enterprise key account customers out of these, 325 respondents were selected using a stratified simple random sampling that use all the basic services from Ethio telecom such as fixed line, mobile and broadband internet. The samples were taken based on the Krejcie and Morgan (1970) method of selecting samples. These customers are selected from five major enterprise key account sub segments such as financial institutions,

service enterprises (Public and private), production & industry organizations, international organizations and embassies and government institutions. And the below sample size determination equation was applied:

$$S = \frac{X^2 * N * p * (1 - P)}{[d^2 * (N-1) + X^2 * P * (1-P)]}$$

Where:

S = Required Sample size

X = Z value (e.g. 1.96 for 95% confidence level)

N = Population Size

P = Population proportion (expressed as decimal) (assumed to be 0.5 (50%))

d = Degree of accuracy (5%), expressed as a proportion (.05); It is margin of error

Source for the above formula: Krejcie, R.V. & Morgan, D.W. (1970).

As target population is 2,044 enterprise key account customers head offices and branches in Addis Ababa and assuming that these customers are more or less homogenous in the major aspects critical to the study, a confidence level of 95 % is sufficient with a margin of error of 5 %. This would yield a sample size of 325 customers.

The stratified simple random sampling technique was used in the study because ethio telecom enterprise segment consists of various sub-segments or groups and this helps to increase representativeness of the sample. This is done by identifying enterprise key account customers under each stratum namely Government and Administration, Financial Institutions, Services Enterprise (Private and public), International Organizations, Embassies and NGOs, and Production and Industries. Proportional sample size is selected from each stratum using simple random sampling. Based on this 77, 72, 54, 92, and 32 samples were taken from Services Enterprise (Private and public), Financial Institutions, International Organizations, Government and Administration and Production and Industries respectively. From these questionnaires a total of 67% usable response rate is achieved.

Table 3. 1, Sample Size Proportion

Customer category	No. of Key account customers					Sample taken from each customer (in %)				
	Government & Administration	Financial Institutions	Service Enterprises Service (Private and Public)	International Organizations, Embassies and NGOs	Production and Industries	Government & Administration	Financial Institutions	Service Enterprises Service (Private and Public)	International Organizations, Embassies and NGOs	Production and Industries
	580	452	486	338	188	92	72	77	54	30
Total.	2044					325 ~ 15.90% of the target population				

Source: Key account department dashboard (January, 2015)

3.4. Sources of Data

The study was used both secondary data and primary data sources. The primary data was obtained from the company’s enterprise customers through questionnaire distribution having open-ended type questionnaire, while secondary data were obtained from different company sources, library and other sources such as internet search. Primary data offers tailored and original information while secondary data gives opportunity to support and check the primarily collected data with already existed information.

3.5. Instrument of Data Collection

The study used self-administered questionnaires. The questionnaires were prepared in English and separated into four main parts/modules. A group of marketing experts evaluated the questionnaires before distribution and administration.

Part 1 intended to measure respondents’ basic information related to the type of the organization and the type of services they were offered by ethio telecom..

Part 2, Explored customer’s perception level of service quality items using SERVPERF model. The five SERVEPERF dimensions (tangibles, reliability, assurance, empathy and responsiveness) were modified and used to measure functional quality (see the Appendix). Modification of the instrument for different service settings is supported by different researchers for example Babaku and Boller, (1992) proposed that a service quality measurement scale should be adapted to the specific service environment. Cronin and Taylor’s SERVPERF discard the expectations of SERVQUAL in favour of mere ‘performance measures’ included in the scale. This model is selected due to the criticisms on

SERVQUAL and service studies have shown that the performance only measure SERVPERF scale outperform the disconfirmation based SERVQUAL scale (Cronin & Taylor, 1992).

The questions were reviewed and rephrased in order to fit the telecommunication environment and one service quality dimension with additional dimension that pertains to network quality. This dimension is in line the technical quality dimension proposed by Gronroos, (1984) which could be used to measure service quality and very relevant in the case of the telecom sector.

In addition to the structured questionnaires, in-depth interviews with Ethio telecom customers and providers were conducted to generate items to assess network quality.

For both the functional and technical quality respondents were asked to express their perception on service quality of Ethio-telecom. The questions were on a 7-point Likert scale. The reason to select the scale was to provide enough response options to users.

An illustration of the Likert scale ranges and service quality attribute perceptions is provided below:

- The seven scale range point are:-
- 1) Strongly Disagree
 - 2) Disagree
 - 3) Mildly Disagree
 - 4) Neutral
 - 5) Mildly Agree
 - 6) Agree
 - 7) Strongly Agree

Service Quality Attribute Perception

	Strongly Disagree	Disagree	Mildly disagree	Neutral	Mildly agree	Agree	Strongly Agree
Providing services at the promised time	1	2	3	4	5	6	7

Part 3 of the questionnaire assessed the customer satisfaction of Ethio telecom customers measured using overall satisfaction measures. Overall satisfaction refers to the customers overall evaluation of the service quality delivered by Ethio telecom. The indicator of this measure used a single question to which respondents were asked to rate their satisfaction on seven point Likert scale ranging from 1- very dissatisfied and 7- very satisfied (see below)

Service Quality Attribute Perception

	Strongly Disagree	Disagree	Mildly disagree	Neutral	Mildly agree	Agree	Strongly Agree
	1	2	3	4	5	6	7
Reliability (the ability to perform the promised service in an adequate & reliable manner)							

Finally, before administering the questionnaires were tested to identify if the major dimensions were captured. The test was conducted mainly to find out whether the questionnaires are easily understandable as well as whether there exist any vague or confusing items in the questionnaires.

3.6. Reliability Test

Since survey method was the main strategy used for collecting data in this study, the reliability of the scale was first set under a reliability test to check whether the collected data is free from random error. As suggested by Parasurama et al. (1988) it can be appropriate to modify the items of SERVQUAL instrument to make the survey more relevant to the context of a particular service environment. Therefore, the instrument was maintained service quality dimensions (tangibles, reliability, responsiveness, empathy, assurance) and it included another dimension–network. The questionnaire with six dimensions (tangibles reliability, responsiveness, assurance, empathy, and network) and 31 items were developed and distributed to enterprise key accounts customers as a pilot survey to test the fittest of the instrument to measure the effect of service quality on customer satisfaction.

Table 3. 2, Cronbach’s Alpha Test for all Service Quality Dimensions and Customer Satisfaction

Number of Valid Cases	Cronbach's Alpha Based on Standardized Items	Number of Items
220	0.870	31

As we can see from the above table the overall reliability test was conducted for a total of 220 cases with 31 question items of each case. As a result, the overall Cronbach’s α for the surveys designed for this study is 0.870, which is well over the accepted limit of 0.70. All individual items in the questionnaires Cronbach’s α alpha is more than 0.85 (See Appendix 4.1). Therefore the result shows that the results extracted from the questionnaire are highly reliable.

3.7. Sampling Procedure

Prior to the main survey, the questionnaire was tested to identify whether the questionnaire is able to capture the required data as expected by the researcher. The test is conducted mainly to find out whether the questionnaire is easily-understandable as well as whether there were any vague and confusing questions in the questionnaire.

To get the cooperation of participants and to administer the instruments, some steps were followed. Before directly approaching the target samples, efforts were made to get the cooperation of Ethio telecom enterprise customers to create conducive conditions for distributing questionnaires. The main survey were distributed to the customers and collected from November 7 to 15. After selecting the samples randomly they were categorizing to six locations and distributed. The customers were given one day to feel the questionnaire and collected in the next day.

3.8. Methods of Data Analysis

The data analyses were conducted using SPSS (Statistical Package for the Social Science) version 17 application program. The major statistical techniques applied include descriptive statistics (percentage, measures of central tendency, and measures of dispersion); statistical tests (comparisons of mean scores); correlation and regression analysis as well as Analysis of one-way analysis of variance. To test hypotheses one and two (that deals mainly the relationship between each service quality dimension with customer satisfaction) correlation and regression analysis were used.

- ↳ The correlation analysis was used to explore the relationship (both magnitude and direction) between service quality dimensions and customer satisfaction.
- ↳ Liner regression analysis was used to determine to what extent changes in the six service quality dimensions can be attributed to changes in customer satisfaction.

To test hypotheses three and four, (the difference in service quality and customer satisfaction among different sub segments) ANOVA was applied to see the difference in perception of service quality and customer satisfaction among sub segments of ethio telecom enterprise customers. By using ANOVA whether there are statistical significant differences between multiple means (i.e. the means of sub segments) by comparing variances were investigated. (See Annex 3 for formula sheet for ANOVA).

The study's dependent variable is the customer satisfaction and is denoted by $—Y$ in the below relationship functional equation. And there were six independent variables in which their coefficients

were estimated after the data collection and analysis. These are the six SEVQUAL dimensions (Tangibles, Responsiveness, Reliability, Assurance, Empathy and Network).

The mathematical representation of the above relationship is displayed as.

$$Y = a + \beta_1x_1 + \beta_2x_2 + \beta_3x_3 + \beta_4x_4 + \beta_5x_5 + \beta_6x_6$$

Where, Y = Customer satisfaction, and X_i = Dimensions of service quality,

(Namely: X_1 = Tangibles X_2 = Responsiveness X_3 = Reliability X_4 = Assurance X_5 = Empathy X_6 = Network quality aspects) and a is the constant (Y intercept) while β_i is the coefficient of the predictors.

CHAPTER FOUR

DATA ANALYSIS AND PRESENTATION

Data analysis and interpretation of the study are explicitly shown in this chapter. It consists of response rate, respondents' characteristics, descriptive analysis of service quality and customer satisfaction, relationship between service quality and customer satisfaction, and cross customer comparison.

4.1. Demographic Characteristics of the Respondents

Demographic characteristics including: customer segment level and response towards all variables were summarized using frequencies and percentages.

4.1.1. Response Rate

A summary of response rate is presented by the following table 4.1. Out of 325 set of questionnaires, 229 were returned, yielding a 70.46% of response rate. However 9 questionnaires were not included due to incompleteness. The number of questionnaires for data analysis was 220 representing a response rate of 67.69 % which is acceptable and enough for conducting the necessary statistical tests. In all customer categories the response rate is above 50% with the exception of the international organization and NGO's. This is due to difficulty in accessing the companies especially embassies during distributing and collecting questionnaires.

Table 4. 1, Response Rate

Company Category	Number of Customers	Number of Sample	Response Rate	Percent of Response Rate
Government Organization	580	92	40	43.48%
Financial Institutions	452	72	54	75%
Service Enterprise (Private and Public)	486	77	76	98.7%
International Organizations, Embassies & NGOs	338	54	19	35.18%
Production and Industries	188	32	31	96.87%
Total	2044	325	220	67.69%

Source: Structured Questionnaire Survey (2015)

4.2. Analyses and Interpretations

4.2.1. Respondents Characteristics

The respondents' characteristics in terms of both respondent department and company category are shown in Table 4.2

Table 4. 2 Cross Tabulation between Company Category and Respondents' Department

Company Category	Respondent Department				Total
	Front Office Staffs	Management Body	MIS / Network Administration	Others	
Government Organization	12	19	3	6	40 (18.2%)
Financial Institutions	21	9	11	13	54 (24.5%)
Service Enterprises (Private and public)	30	13	13	20	76 (34.5%)
International Organizations, Embassies & NGOs	6	4	4	5	19 (8.6%)
Production and Industries	14	7	4	6	31 (14.1%)
Total	83 (37.7%)	52 (23.6%)	35 (15.9%)	50 (22.7%)	220 (100%)

Source: Structured Questionnaire Survey (2015)

The majority of the respondents are front office staffs which account for 37.7 % of respondents. From the remaining respondents management body, others and MIS or network administration account for 23.6%, 22.7% and 15.9% respectively. On the other hand, service organizations represent 34.5%, financial institutions 24.5%, government organization 18.2%, Production and industries 14.1% and international organization and NGO's accounts for 8.6% of the total respondent rate in the data.

4.2.2. Descriptive analyses

Table 4.3, summarizes the score of service quality dimensions, and customer satisfaction score by using the descriptive analysis. The mean, standard deviation, and the interpretation of mean scores of customers' perception toward service quality of Ethio telecom enterprise customers are presented in the below table.

Table 4. 3, Descriptive Analysis: Means Score and Standard Deviation of Respondents

Dimensions	N	Minimum	Maximum	Mean	Std. Deviation
Tangible	220	2.25	6.00	4.2000	0.62602
Reliability	220	1.60	6.00	3.3127	0.79956
Responsiveness	220	1.75	5.75	3.2807	0.94417
Assurance	220	1.50	6.25	3.7125	0.90408
Empathy	220	2.20	5.80	3.8945	0.72639
Network quality	220	1.50	5.75	3.0670	0.86159
Customer Satisfaction	220	1.25	5.75	3.0227	0.85977

Source: Structured Questionnaire Survey (2015)

As presented in Table 4.3, customers’ perception of tangibility was rated high comparatively (mean= 4.2). This may indicate that most Ethio telecom customers agree that the company has up-to-date equipment, appealing facility and neat appearance of employees. Reviews of documents also show that the company currently has modern equipment such as 3G &4G modems, IPCC, MSAG, ERP, CRM and better data center (Ethio telecom, 2015).

Customers rating of reliability item also show that there is dissatisfaction on the items (mean = 3.31). This reflects the consistency and dependability of Ethio telecom performance in providing service as promised and by time that has shown weakness. On the contrary, the same respondents mildly agree that Ethio telecom keeps customer records accurately.

Also, assurance and empathy dimensions are among the most highly rated service quality dimensions (mean = 3.71 and mean = 3.89 respectively) next to tangibility (mean = 4.2). These shows customers have neutral opinion about the service quality of Ethio telecom with regards to these dimensions.

From all service quality dimensions, the lowest score is shown on the network quality (mean = 3.067). This implies that customers’ perception of the technical service quality of ethio telecom is unsatisfactory. Respondents perception about the broadband internet speed and an interruption of different services is low (mean = 2.75 and mean = 2.87 respectively). Also ethio telecom customers mildly agree that Ethio telecom have adequate network coverage and good quality of voice during the call and the score of responsiveness was the lowest next to

network service quality dimensions (mean = 3.28). This reflects the consistency and dependability of Ethio telecom is not up to the expectations of customers in terms of providing prompt services and readiness in handling customers request within reasonable time.

Analysis of individual service quality item shows that convenient business or operating hours, up-to-date equipment, and employees’ appearance shows the highest mean score in the study. On the other hand, the respondents rating for providing the service as promised, the level of customer rating is the lowest service quality items in this study (mean = 2.7). In addition to this, the mean score for providing prompt service, internet speed and un-interruption of services shows among the lowest rating (mean < 3.0) (see Appendix 4.2)

Generally, Table 4.3 indicates the customers’ perception of service quality dimensions and satisfaction level is found to be low especially for network quality and customer satisfaction.

4.2.3. Correlation Analyses

Correlation analyses were used to assess the associations between each service quality dimension, and customer satisfaction.

As shown in Table 4.4, the results of the correlation analysis indicate that all service quality dimensions positively relate to customer satisfaction. Reliability and responsiveness have strongly and highly significantly related to customer satisfaction of Ethio telecom services ($r = 0.73, p = 0.000$ and $r = 0.72, p = 0.000$ respectively). Furthermore, network quality, assurance and empathy have a moderate, yet highly significant correlation with customer satisfaction ($r = 0.433, p = 0.000, r = 0.425, p = 0.000$ and $r = 0.439, p = 0.000$, respectively). But, tangibility has a weak but significant relationship with customer satisfaction ($r = 0.137, p = 0.043$) (see table 4.4)

Table 4. 4, Correlations between Service Quality Dimensions, Over All Service Quality and Customer Satisfaction

		Tan	Rel	Res	Ass	Emp	NQu	CS
Tan	Pearson Correlation	1						
	Sig. (2-tailed)							
Rel	Pearson Correlation	.122	1					
	Sig. (2-tailed)	.071						
Res	Pearson Correlation	.171*	.736**	1				
	Sig. (2-tailed)	.011	.000					
Ass	Pearson Correlation	.083	.382**	.435**	1			
	Sig. (2-tailed)	.218	.000	.000				

Emp	Pearson Correlation	.164*	.511**	.477**	.332**	1		
	Sig. (2-tailed)	.015	.000	.000	.000			
NQu	Pearson Correlation	.012	.324**	.279**	.336**	.291**	1	
	Sig. (2-tailed)	.865	.000	.000	.000	.000		
CS	Pearson Correlation	.137*	.730**	.721**	.433**	.425**	.439**	1
	Sig. (2-tailed)	.043	.000	.000	.000	.000	.000	

Source: Structured Questionnaire Survey (2015)

Finally, the correlation analysis results also indicate that all the independent variables (predictor variable) have correlation with the dependent variables. There is no strong correlation coefficient among the predictor variable which is not greater than 0.75 and this clearly shows there is no multicollinearity problem in the predictor variable. These imply that the data is suitable for conducting regression analysis.

4.2.4. Regression Analyses

Linear regression analysis was performed using all service quality dimensions as independent variables, and customer satisfaction as dependent variable. Here, the main aim was to see the extent to which customer satisfaction affected by service quality dimensions shown in terms of coefficients of determination (R squared value), the regression coefficients (Beta coefficients) and the p-values for the significance of each relationship.

To explore the relationship between overall customer satisfaction and service quality, the six dimensions of quality were taken as independent variables in this study. The overall customer satisfaction for the Ethio telecom services as rated by customers is used as a dependent variable.

Table 4. 5, Linear Regression Analysis: Customer Satisfaction as Dependent Variable and Each Service Quality Dimensions as Independent Variable

Dimensions	Adjusted R Square	Beta coefficient	P value
Tangibles	0.014	0.043*	0.043
Reliability	0.530	0.730***	0.000
Responsiveness	0.517	0.721***	0.000
Assurance	0.184	0.433***	0.000
Empathy	0.177	0.425***	0.000
Network Quality	0.189	0.439***	0.000

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Source: own computation from the field data

Table 4.5 presents the results of the separate simple regression analyses of each of the output measures (customer satisfaction) on each of the six quality dimensions. All the regression coefficients (Beta coefficients) between service quality dimension and customer satisfaction have positive values. And the SERVQUAL dimensions separately have different significant levels. That is:

There is a positive and statistically significant ($p < 0.001$, $\beta = 0.730$) relationship between reliability and overall customer satisfaction. Hence, hypothesis two (H2) is supported, that is: reliability has significant positive influence on customer satisfaction is supported. Moreover, among the six service quality dimensions, reliability is the strongest predictor of overall satisfaction. The implication of this result, the behavior of ethio telecom employees creates confidence in customers; the services are provided at the promised time; ethio telecom employees do understand the specific needs of their customers; and maintaining error free customer profile records accurately have a significant and positive influence on customer satisfaction.

Table 4.5 above also shows that there is also positive and statistically significant ($p < 0.001$, $\beta = 0.721$) relationship between responsiveness and overall customer satisfaction. And next to reliability aspect, responsiveness is the second most predictor of overall customer satisfaction among the entire service quality dimensions used in this study. Thus, this finding confirms hypothesis three (H3) that responsiveness has significant positive effect on customer satisfaction. The result indicates that, the attributes of a responsiveness items such as ethio telecom employees are keeping customers informed when service will be performed; employees who involve in the delivery of the service (such as front line and sales persons) will give prompt service & will be busy to respond to customers 'request promptly and are willing to help to customers have significant effect on customer satisfaction.

Further, there is as well a positive and statistically significant ($p < 0.001$, $\beta = 0.439$) relationship between network quality and overall customer satisfaction. Hence, hypothesis six (H6) is supported, that is: network quality has significant positive influence on customer satisfaction is supported. This finding supports the study of Joshi et al., (2010); Negi (2009) and Wang & Lo (2002) that network quality is the t predictor of service quality in the telecom sector. The implication of this result, the availability of adequate network coverage, no noise during a call, no interruption during a call & internet use and consistence speed of internet service of ethio telecom have a significant and positive influence on customer satisfaction.

Further there is also a positive and significance relationship between overall customer satisfaction and assurance (at $p < 0.001$, $\beta = 0.433$) and empathy (at $p < 0.001$, $\beta = 0.425$). The result indicates that, the attributes of assurance like ethio telecom employees have the knowledge to answer customers questions , ethio telcom employees are install confidence in the customers and customers will feel assured and feel safe in their transaction have positive and significance effect on customer satisfaction. And hence, hypothesis four (H4) is accepted. And the attributes of empathy (ethio telecom employees will be consistently nice or courteous with customers, will give customer individual attention; further when a customer faces a problem, employees of service provider do show a sincere interest in solving it; and overall employees of service provider do have their customer's best interests at heart) have a positive significance influence on customers satisfaction. Hence, hypothesis five (H5) is accepted.

On the other hand, among the six service quality dimensions tangibles also have a positive (at $p < 0.05$, $\beta = 0.043$) and statistically moderate significance relationship with overall customer satisfaction. This means that compare to the other factors, tangibles have moderate significant effect on customer satisfaction, in ethio telecom. Thus, hypothesis one (H1): tangibles have significant positive influence on customer satisfaction is accepted. This shows tangibles like having up-to-date equipments and materials, having visual appealed physical facilities; well dressed and neat employees have a moderate significant effect on customer satisfaction. This result is expected because telecom services, specifically internet and other services are purchased once and consumed remotely and doesn't need a continuous involvement of employees throughout the delivery of the service. Therefore, tangible may not be strongly significant effect to customers' satisfaction.

Again, to explore the relationship between overall service quality and the six dimensions of service quality were taken independent variables in this study. The overall service quality for the Ethio telecom services as rated by customers is used as a dependent variable.

4.3. Cross Customer Comparison

4.3.1. Service Quality and Organization Type

In order to investigate whether differences exist between the five customer segments of enterprise customers the researcher performed variety of descriptive and inferential statistics.

Table 4.6 , shows that the greatest proportion of ethio telecom customer segments expressed their mild disagreement to the extent to which ethio telecom have the features described by the service quality dimensions. The mean score for the customer satisfaction shows that international, financial and service organizations explained their disagreement on customer satisfaction. On the contrary, government organization mildly agrees about the customer satisfaction.

Table 4. 6, Comparisons of Service Quality and Customer Satisfaction among Different Organization

Organizational type	Customer satisfaction		
	N	Mean	Std. Deviation
Government Organization	40	3.9125	0.70381
Financial Institutions	54	2.5000	0.70209
Service Organizations (Private and public)	76	2.7928	0.48715
International organizations & NGO's	19	2.6184	0.63118
Production& Industries	31	3.5968	0.96107
Total	220	3.0227	0.85977

Source: Own computation from the field data

As indicated in table 4.6 there is a difference in the ratings between different customer categories. Government organizations and production organizations show higher score in both the rating of the service quality dimensions and customer satisfaction as compared to other segment (with mean = 3.9125 and mean= 3.5968 respectively). On the contrary, service organizations, financial institutions and international organizations score the lowest in the service quality dimension and customer satisfaction as indicated in Table 4.6. This may be due to their dependence on the ethio telecom offer to deliver superior services to the customers (see Appendix 4.5).

4.3.2. Perception of service quality and customer satisfaction

Analysis of variance was used to assess whether the above differences are statistically significant differences between the mean score of different customer segments by comparing variances. The results are shown in Table 4.7.

Table 4. 7, ANOVA Analysis: service quality and customer satisfaction for different customer groups

	Mean Square Between Groups	Mean Square Within Groups	F	Sig.
Tangible	0.917	0.382	2.399	0.043
Reliability	12.259	0.423	28.974	0.000
Responsiveness	14.187	0.644	22.025	0.000
Assurance	13.911	0.574	24.244	0.000
Empathy	8.519	0.379	22.479	0.000
Network quality	7.231	0.622	11.633	0.000
Customer Satisfaction	15.941	0.456	34.928	0.000

Source: Own computation from the field data

As seen from Table 4.7, there is difference in the perception of service quality and customer satisfaction among different groups of customers pertaining to the six service quality dimensions. Accordingly, all the six dimensions were found to have statistically significant differences among the different segments, as indicated by the mean score that compares the variances. Customer satisfaction, reliability and assurance shows significant difference (F = 39.762, P<0.001, F= 28.974, p < 0.001 and F= 24.244, p < 0.001 respectively.) the large F value (the ratio of mean square difference between groups difference to within the group difference) shows the difference is due to different group or segment effect. On the other hand, tangible show the smallest difference among different segments with F value 2.399 but is borderline significant p < 0.05).

Table 4. 8, ANOVA Analysis: Importance Score among Different Customer Groups

	Mean Square Between Groups	Mean Square Within Groups	F	Sig.
Tangibles	3.846	1.472	2.614	0.036
Reliability	0.866	0.736	1.176	0.322
Responsiveness	4.655	0.996	4.677	0.001
Assurance	5.876	1.408	4.177	0.003
Empathy	1.973	1.051	1.877	0.116
Network quality	0.611	1.639	0.373	0.828

Source: Own computation from the field data

As Table 4.8 shows, there is significant difference in the respondents rating of six service quality dimension for tangibles, responsiveness and assurance ($p < 0.05$). Even though the difference among different segment group is significant in the level of difference in the rating is small. Comparatively, large difference is shown in responsiveness rating which is $F=4.677$ International and financial organizations rate this dimension highly important and on the other hand government organizations' rating is lower as compared to other segments (see Annex 4.8). For all significant differences, the F value is less than 7. On the other hand difference in the importance rating for reliability, empathy and network quality is insignificant ($p > 0.1$). The mean score for these dimensions is almost similar.

4.4. Importance and Perception Gab Analysis

Since respondents rated both the importance and the performance of service quality items in seven point Likert scales, it is possible to ascertain the degree of association between the two sets of items.

Table 4. 9, Importance and Perception Rating of Service Quality Dimensions and Gap

	Perception Mean	Rank	Importance Mean	Rank	IP gap	Rank
Tangibles	4.20	1	5.20	6	1.00	6
Reliability	3.31	4	6.21	1	2.90	2
Responsiveness	3.28	5	5.90	3	2.62	3
Assurance	3.71	3	5.61	4	1.90	4
Empathy	3.89	2	5.57	5	1.68	5
Network quality	3.06	6	5.98	2	2.92	1

Source: Own computation from the field data

As shown in table 4.9 regarding the relative importance rating of service quality dimensions given by customers; reliability is mentioned as the most important dimension in service quality evaluation of respondents with a score of 6.2 followed by network quality (5.9). This result is consistent with other previous researches carried out on service quality. The customer also rate responsiveness, assurance and empathy is 5.9, 5.6 and 5.5 respectively. On the other hand the dimension tangibility is given the lowest score (5.2) when compared to the important rating of other service quality dimensions. From this it can be said that customers of Ethio telecom do not attach more emphasis on the equipment, facility and employees appearance when compared to other service quality dimension items. Surprisingly those

service quality dimensions rated highly importance show low performance in the perception score.

Examination of the each service quality items reveal that in general, performance ratings were lower than importance ratings and indicates that there is some room for improving service quality. Also respondents find service quality dimensions more important than what is actually delivered. Consequently, this clearly shows that consumers would not be fully satisfied with service quality dimensions. Higher performance and importance gap is observed in network quality, reliability and responsiveness (2.92, 2.9 and 2.61 respectively). In addition it is an indication of what the marketer could do to improve performance and perceived customer ethio telecom can significantly improve customer perceptions of its service quality by paying particular attention to the items which have the highest gab.

Paired sample t test was used to see the difference in the perception of service quality dimensions and importance rating. The result shows that importance rating is significantly greater than perception rating and it statistically significant difference is observed in all service quality dimensions ($p=0.000$). See Appendix 4.8

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

This chapter focuses on the summary of findings, conclusions and recommendations of the study. It covers major conclusions and recommendations of the study with major implications for further research shown.

5.1. Summary of Findings

From the analyses, the researcher has tried to present the major findings. From the descriptive analysis, the researcher observed that, the response to the questionnaire items when analyzed in terms of the customers questions were ranging from strongly disagree to strongly agree but the overall mean score of respondents for all the dependent and independent variable's item of the questionnaire was medium (average).

The mean score for the independent variables of tangibility, reliability, responsiveness, assurance, empathy and network factors was 4.20, 3.31, 3.28, 3.71, 3.89 and 3.06 respectively while the mean score for the dependent variable of overall service quality and customer satisfaction was 3.13 and 3.02 respectively. Here, the mean score for tangibility is the highest while the mean score for customer satisfaction is the lowest. This implies enterprise customers in the company have relatively good feelings and agreed that the company has up-to-date equipments, appealing, facility and neat appearance of employees and their feeling towards the customer satisfaction factors such as satisfied with ethio telecom service of internet is lower. From all the independent variables the mean score for network quality (3.067) is the lowest which implies that customers' perception of the technical service quality is unsatisfactory.

Regarding to the testing of research hypothesizes, the results indicate that: the relationship between service quality dimensions and customer satisfaction is positive and statistically significant. And the relationship and the influence of the services quality dimensions and customer satisfaction were analyzed using linear regression models. As a result the SERVQUAL dimensions separately have different significant levels. Means among the six service quality dimensions, reliability is the strongest predictor of overall satisfaction. And among the entire service quality dimensions used in this study next to reliability aspect, responsiveness is the second most predictor of overall customer satisfaction and followed by

network quality, assurance , empathy and tangible factors. And tangibility has the moderate relation with the customer satisfaction. And the hypothesis testing is summarized in the below table:

Table 5. 1, Summary of Hypothesis Testing

Hypothesis	Statement of the hypothesis	Status
H	There is a positive relationship between each SERVQUAL dimension and customers satisfaction; means:	
H1	The tangibles have significant positive influence on customers' satisfaction	Accepted at $p < 0.05$, $r^2 = 0.014$, & $\beta = 0.043$
H2	Reliability has significant positive effect on customer satisfaction	Accepted at $p < 0.001$, $r^2 = 0.530$, & $\beta = 0.730$
H3	Responsiveness has significant positive effect on customer satisfaction	Accepted at $p < 0.001$, $r^2 = 0.517$, & $\beta = 0.721$
H4	Assurance has significant positive effect on customer satisfaction	Accepted at $p < 0.001$, $r^2 = 0.184$, & $\beta = 0.433$
H5	Empathy has significant positive link with customer satisfaction	Accepted at $p < 0.001$, $r^2 = 0.177$, & $\beta = 0.425$
H6	Network quality has significant positive influence on customer satisfaction	Accepted at $p < 0.001$, $r^2 = 0.189$, & $\beta = 0.439$

Source: Own computation from the analyzed data

5.2. Conclusions

The conclusions related to this study are presented in this section. The purpose of this study was to answer and test the proposed objectives and hypotheses. Accordingly, data were collected, analyzed and interpreted using various methods. From the study findings it can be concluded that;

↳ Among the six service quality dimensions used to measure customer perception and satisfaction to ethio telecom services, except tangibility the five service quality were reported to be strongly significant particularly, reliability, responsiveness and network quality dimensions were very important for customer satisfaction. The results of the study also reveal that network quality was essential to the customer which clearly shows that customers pay due attention on the output of services apart from the process of service delivery and functional service quality.

↳ The findings of the study showed that there is a strong significant relationship between the six service quality dimension and customer satisfaction, except moderate for

tangibility. Reliability and responsiveness have the strongest relationship with the customer satisfaction as analyzed by using linear regression model. Thus, reliability and responsiveness shows high beta coefficient which indicated a strong influence on the dependent variable (customer satisfaction).

- ↳ The result shows there is a different in the rating between different customer segments , accordingly financial institution , international organizations & embassies and service enterprise were dissatisfied with ethio telecom service but Government organizations and production & industries organization have slightly better satisfaction for both overall service quality and customer satisfaction. This is may be due to their dependence on ethio telecom offer to deliver high quality of service to their customers.
- ↳ Significant differences among different segments of enterprise customers were found concerning customer satisfaction. Tangibility compared to other service quality dimensions, was reported to have moderately significant difference.
- ↳ Moreover, customer perceived performance is significantly lower than customer perceived importance for all six service quality dimensions. Ordered by need of improvement the dimensions (based on gap analysis) are: 1) network quality, 2) reliability, 3) responsiveness, 4) assurance, 5) empathy, 6) tangibles. These findings provide useful directions and clear indications where Ethio telecom should focus their efforts in order to improve customer satisfaction.

5.3. Recommendations

As clearly indicated in the analysis and conclusion Ethio telecom enterprise customers perception about service quality dimensions and overall satisfaction is at lower rate. In order to perform well in service quality dimensions and satisfy customers, the following recommendations may help to address the problems identified.

- ↳ Reliability is the most predictor of service quality and customer satisfaction Therefore, ET should improve provisioning of its services and delivering the services as promised time to the customers, improve in creating error free customer profile and improving resources management related to recording and documentation systems and simplify or modernize its bill payment systems.

- ↳ Responsiveness has also significant effect on determination of customer satisfaction. ET should improve the responsiveness by improving the commitment of its employees to keep customers informed when service will be performed, to give prompt service & to be busy to respond to customers 'request promptly and willing to help to customers. Network quality is also the third predictor of service quality and customer satisfaction Therefore, ET should improve its network coverage available, high and consistence speed, because it is the network quality in which customers are complaining.
- ↳ Regarding to the assurance and empathy dimensions, since these two factors have also significant effect on determination of customer satisfaction, ET has to give a due attention on improving the issues that affect them. ET should improve the assurance of its broadband internet service provisioning; this is related with how ET's performance in creating assurance for customers by showing whether their requests are duly/properly followed up. This can be done by improving the knowledge, motivation and commitment of its employees, especially these who involve directly or indirectly in the provisioning of its services; where by providing different training or incentive schemes ET has to minimize customer-to-employee contacts so as to minimize problems related with employee behaviors, this also can be improved by modernizing and improving its customer care and service processes, easing the accessibility to its toll-free numbers and websites for customers for clarification of problems and to know account status. In addition to improving its records management and customer problem handling process, ET should also simplify or modernize its bill payment systems and scratch cards distribution systems.
- ↳ Focus should be given to the following three dimension of service quality namely reliability network quality and responsiveness. This is due to their higher effect on customer satisfaction. Also these variables perceived as highly important and IP gap is large. As a result improving these service quality dimensions have significant effect on customer satisfaction. Emphasis should be given on more important service quality dimensions for which customers are not satisfied. There is a need for the company to focus on the service quality dimensions that are rated important by the customer. Management effort and intensive strategy should be geared towards improving the reliability, network quality and responsiveness service quality dimensions.

↳ Since customers' dissatisfaction and importance rating on the service quality dimension is different, the company should give priority to the customer. The company should give due emphasis and prompt response for the customers whose operation is highly dependent on Ethio telecom services. For example financial institution should get quick response for their problem as compared to other customers.

5.3.1. Implication for Further Studies

This study assessed only the effect of service quality on customer satisfaction by only studying enterprise key account customers. So, it is difficult to assert that customers of Ethio telecom are satisfied or dissatisfied based on this study. This is due mainly it did not consider sample groups from residential and small and medium enterprise customers. Therefore, it is imperative to undertake further studies that consider the limitations in this regard and broaden the scope.

Another issue that needs to be looked into is the image of the company, which has a strong effect on the perceptions of service quality and customer satisfaction. To this end, it would be good if future studies focus on the use other relevant models such as the Gronroos model of service quality, which focuses on measuring service quality based on three parameters namely functional quality, technical quality and image of the company.

In general, it would be valuable to conduct further research concerning employing concepts such as customer satisfaction with usage rate, intention to use new service and financial performance to provide more in-depth insight.

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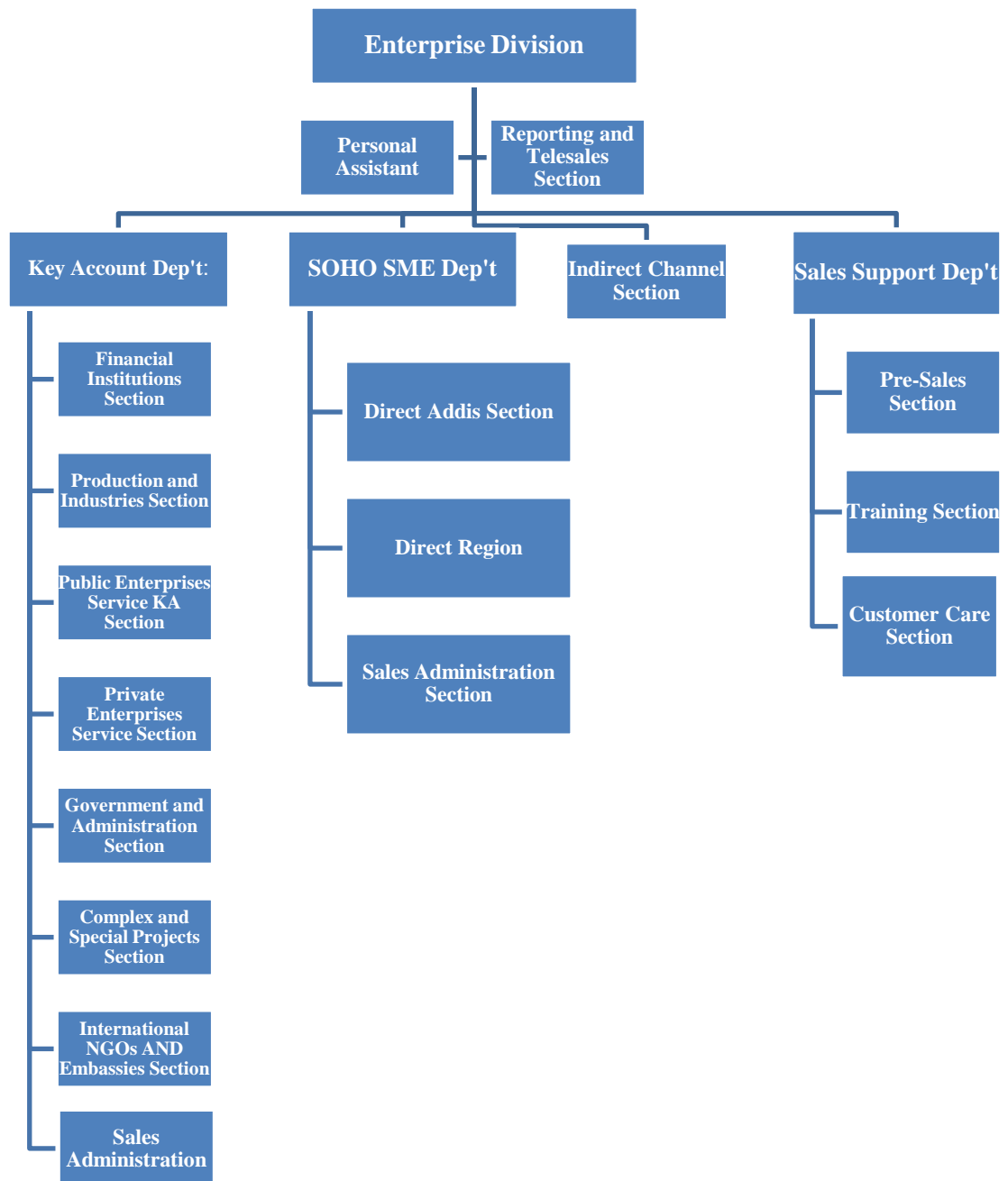
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Appendixes

Appendix 1:- Enterprise Divisions Organizational Structure



Appendix 2:- Questionnaires



ST. MARY'S UNIVERSITY SCHOOL OF GRADUATE STUDIES

Dear respondent,

I am post graduate student in MBA from St. Mary's University. This questionnaire is part of the research project conducted for the fulfillment of the requirements in Master of Business Administration. The objective of this study is to empirically measure the Effect of service quality on customer satisfaction at **Ethio telecom**.

Please complete this questionnaires survey to the best of your abilities. In all questions, the researcher kindly asks you for your personal opinion about Ethio telecom services. All information provided will be treated confidential and will be processed anonymously.

I would like to warmly thank you for scarifying your time to help me with my research.

Kind Regards!

Yisak H/mariam

Email: Yisakh5@gmail.com

Mobile: +251 911 509746

Part I Company & Respondents Information

- Please indicate your company basic information in the following questions.
(X)

Company Category

Government Organizations	<input type="checkbox"/>	International Organizations, Embassies & NGOs	<input type="checkbox"/>
Financial Institutions	<input type="checkbox"/>	Production & Industry	<input type="checkbox"/>
Service Enterprises (Private)	<input type="checkbox"/>	Service Enterprises (Public)	<input type="checkbox"/>
		Others	<input type="checkbox"/>

Department of Respondent

Front Line Staffs	<input type="checkbox"/>	MIS or Network Administration	<input type="checkbox"/>
Management Body	<input type="checkbox"/>	Others	<input type="checkbox"/>

Type of Ethio telecom services used by the company

Fixed Line	<input type="checkbox"/>	Broadband Internet	<input type="checkbox"/>
		ISDN	<input type="checkbox"/>
Mobile	<input type="checkbox"/>	All (Fixed line, Mobile & Broadband Internet)	<input type="checkbox"/>
	<input type="checkbox"/>		
VPN			
3G VPN	<input type="checkbox"/>		

Part II Perceived Service Quality

The following set of statements relate to your feelings about Ethio Telecom service quality. For each statement, please show the extent to which you believe Ethio Telecom has the feature described by the statement. Circling “7” means you strongly agree that Ethio telecom has that feature; circling “1” means you strongly disagree. Source; (Cronin & Taylor, 1992)

1. Service Quality Dimensions

1.1.Tangibles

Tangibles	Strongly Disagree	Disagree	Mildly Disagree	Neutral	Mildly Agree	Agree	Strongly agree
Up-to-date equipments.	1	2	3	4	5	6	7
Visually appealing facilities.	1	2	3	4	5	6	7
Staffs are well dressed and appear neat.	1	2	3	4	5	6	7
Visually appealing materials associated with the service.	1	2	3	4	5	6	7

1.2.Reliability

Reliability	Strongly Disagree	Disagree	Mildly Disagree	Neutral	Mildly Agree	Agree	Strongly agree
Providing services as promised.	1	2	3	4	5	6	7
Dependability in handling customers' service performed.	1	2	3	4	5	6	7
Performing the services right the first time.	1	2	3	4	5	6	7
Providing services at the promised time.	1	2	3	4	5	6	7
Maintaining error-free customer records.	1	2	3	4	5	6	7

1.3.Responsiveness

Responsiveness	Strongly Disagree	Disagree	Mildly Disagree	Neutral	Mildly Agree	Agree	Strongly agree
Keeping customers informed about when services will be performed.	1	2	3	4	5	6	7
Prompt service to customers.	1	2	3	4	5	6	7
Willing to help customers.	1	2	3	4	5	6	7
Readiness to respond to customers' requests.	1	2	3	4	5	6	7

1.4.Assurance

Assurance	Strongly Disagree	Disagree	Mildly Disagree	Neutral	Mildly Agree	Agree	Strongly agree
Employees who instill confidence in customers.	1	2	3	4	5	6	7
Making customers feel safe in their transaction.	1	2	3	4	5	6	7
Employees are consistently courteous.	1	2	3	4	5	6	7
Employees are Knowledgeable to answer customer questions.	1	2	3	4	5	6	7

1.5. Empathy

Empathy	Strongly Disagree	Disagree	Mildly Disagree	Neutral	Mildly Agree	Agree	Strongly agree
Employees give customers individual attention.	1	2	3	4	5	6	7
Employees who deal with customers in a caring fashion.	1	2	3	4	5	6	7
Having the customer's best interest at heart.	1	2	3	4	5	6	7
Employees understand the need of their customers.	1	2	3	4	5	6	7
Having convenient business hour.	1	2	3	4	5	6	7

1.6. Technical quality

Technical quality	Strongly Disagree	Disagree	Mildly Disagree	Neutral	Mildly Agree	Agree	Strongly agree
There is no noise during call.	1	2	3	4	5	6	7
There is good speed of internet.	1	2	3	4	5	6	7
The call and internet can be used without interruption.	1	2	3	4	5	6	7
Adequate network coverage	1	2	3	4	5	6	7

Part III Satisfaction

Please indicate how satisfied you are with the current Ethio Telecom Services.

Satisfaction	Highly Dissatisfied	Dissatisfied	Mildly Dissatisfied	Neutral	Mildly Satisfied	Satisfied	Highly Satisfied
Overall, how satisfied are you with Ethio telecom services?	1	2	3	4	5	6	7
Overall, how satisfied are you with Fixed line services?	1	2	3	4	5	6	7
Overall, how satisfied are you with Mobile services?	1	2	3	4	5	6	7
Overall, how satisfied are you with Internet services?	1	2	3	4	5	6	7

Part IV Perceived Importance of Service Quality Dimensions

The following set of statements relates to your feelings about the strategic importance of each feature of Ethio telecom Service quality dimensions for your company. Circling “7” means you consider the feature highly important, circling “1” means it is highly unimportant.

Importance of Service Quality Dimensions for your company	Highly Unimportant	Unimportant	Mildly Unimportant	Neutral	Mildly Important	Important	Highly Important
Tangibles: the physical appearance of the service, equipments, facilities, tools & the staff.	1	2	3	4	5	6	7
Reliability: the ability to perform the promised service in an adequate & reliable manner.	1	2	3	4	5	6	7
Responsiveness: capacity to solve the customer problems & serve customers quickly.	1	2	3	4	5	6	7
Assurance: Knowledge & courtesy of employees.	1	2	3	4	5	6	7
Empathy: care & personalized attention given by the company to the customer.	1	2	3	4	5	6	7
Network quality: voice quality, good internet speed & uninterrupted services.	1	2	3	4	5	6	7

Appendix 3:- Formula Sheet for ANOVA

Formula Sheet for ANOVA

$$SSTR = \sum n_j (\bar{x}_{.j} - \bar{x})^2$$

$$MSTR = \frac{SSTR}{t-1}$$

$$SSE = \sum \sum (x_{ij} - \bar{x}_{.j})^2$$

$$MSE = \frac{SSE}{N-t}$$

$$SST = \sum \sum (x_{ij} - \bar{x})^2$$

$$F = \frac{MSTR}{MSE}$$

$$SST = SSTR + SSE$$

ANOVA Table				
Source of Variation	Sum of Squares	Degrees of Freedom	Mean Square	F
Treatments	SSTR	t-1	MSTR	
Error	SSE	N-t	MSE	
Total	SST	N-1		

Appendix 4:- Statistical Output

4.1 Preliminary Analysis

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.861	.870	31

Reliability Test Service quality items

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Tangibles					
Up-to-date equipment.	103.8182	298.031	.130	.269	.863
Visually appealing facilities.	104.2227	300.996	.056	.213	.865
The Staffs are well dressed & appear neat.	104.0909	297.097	.185	.191	.862
Visually appealing materials associated with the service.	104.2500	304.389	-.023	.390	.868
Reliability					
Providing services as promised.	105.5045	275.384	.756	.819	.848
Dependability in handling customers' service performed.	105.0318	299.099	.117	.402	.863
Performing the services right the first time.	104.9318	282.009	.487	.438	.854
Providing services at the promised time.	105.1909	277.352	.568	.637	.852

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Maintaining error-free customer records.	104.2545	283.213	.445	.318	.855
Responsiveness					
Keeping customers informed about when services will be performed.	104.6636	280.197	.461	.645	.855
Prompt service to customers.	105.3545	276.467	.743	.808	.849
Willing to help customers.	105.2136	283.557	.631	.566	.853
Readiness to respond to customers' requests.	104.8273	277.303	.542	.638	.853
Assurance					
Employees who instill confidence in customers.	104.8955	284.140	.406	.560	.857
Making customers feel safe in their transaction.	104.3182	289.926	.274	.483	.860
Employees are consistently courteous.	104.8864	284.238	.422	.454	.856
Employees are Knowledgeable to answer customer questions.	104.2318	288.672	.276	.286	.861
Empathy					
Employees give customers individual attention.	104.9773	285.073	.435	.610	.856
Employees who deal with customers in a caring fashion.	104.4455	293.097	.205	.366	.862
Having the customer's best interest at heart.	104.7864	287.529	.364	.358	.858

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Employees understand the need of their customers.	104.3182	288.592	.285	.268	.860
Having convenient business hour.	103.4773	293.136	.283	.447	.859
Network Quality					
There is no noise during call.	105.0409	286.204	.386	.471	.857
There is good speed of internet.	105.5455	290.742	.315	.420	.859
The call and internet can be used without interruption.	105.4227	284.446	.396	.472	.857
Adequate network coverage	104.9045	297.137	.122	.266	.865
Customer Satisfaction					
Overall, how satisfied are you with Ethio telecom services?	105.3545	276.823	.755	.837	.849
Overall, how satisfied are you with Fixed line services?	104.8955	287.793	.359	.494	.858
Overall, how satisfied are you with Mobile services?	104.9773	278.123	.534	.518	.853
Overall, how satisfied are you with Internet services?	105.8636	282.776	.510	.494	.854

4.2. Descriptive Analysis: Means Score and Standard Deviation of Respondents

Service quality dimension and Items	Mean	Std. Deviation
Tangibles		
Up-to-date equipment.	4.4773	1.22546
Visually appealing facilities.	4.0727	1.26209
The Staffs are well dressed and appear neat.	4.2045	1.06800
Visually appealing materials associated with the service.	4.0455	1.29901
Reliability		
Providing services as promised.	2.7909	1.13150
Dependability in handling customers' service performed.	3.2636	1.14419
Performing the services right the first time.	3.3636	1.30491
Providing services at the promised time.	3.1045	1.36592
Maintaining error-free customer records.	4.0409	1.33897
Service quality dimension and Items		
Mean		
Std. Deviation		
Responsiveness		
Keeping customers informed about when services will be performed.	3.6318	1.46991
Prompt service to customers.	2.9409	1.10671
to help customers.	3.0818	.96639
Readiness to respond to customers' requests.	3.4682	1.42511
Assurance		
Employees who instill confidence in customers.	3.4000	1.38617
Making customers feel safe in their transaction.	3.9773	1.40593
Employees are consistently courteous.	3.4091	1.33649
Employees are Knowledgeable to answer customer questions.	4.0636	1.50359
Empathy		
Employees give customers individual attention.	3.3182	1.25281
Employees who deal with customers in a caring fashion.	3.8500	1.41752
Having the customer's best interest at heart.	3.5091	1.28387
Employees understand the need of their customers.	3.9773	1.47566
Having convenient business hour.	4.8182	1.10360
Network Quality		
There is no noise during call.	3.2545	1.30986
There is good speed of internet.	2.7500	1.19598
The call and internet can be used without interruption.	2.8727	1.39542

Adequate network coverage	3.3909	1.40836
Overall Customer Satisfaction		
Overall, how satisfied are you with Ethio telecom services?	2.9409	1.07744
Overall, how satisfied are you with Fixed line services?	3.4000	1.27998
Overall, how satisfied are you with Mobile services?	3.3182	1.40079
Overall, how satisfied are you with Internet services?	2.4318	1.21252

4.3. Correlation Analysis among Different Service Quality Dimension and Customer Satisfaction

		Tan.	Rel.	Res.	Ass.	Emp.	NQu.	CS
Tan	Pearson Correlation	1						
	Sig. (2-tailed)							
Rel	Pearson Correlation	.122	1					
	Sig. (2-tailed)	.071						
Res	Pearson Correlation	.171*	.736**	1				
	Sig. (2-tailed)	.011	.000					
Ass	Pearson Correlation	.083	.382**	.435**	1			
	Sig. (2-tailed)	.218	.000	.000				
Emp	Pearson Correlation	.164*	.511**	.477**	.332**	1		
	Sig. (2-tailed)	.015	.000	.000	.000			
NQu	Pearson Correlation	.012	.324**	.279**	.336**	.291**	1	
	Sig. (2-tailed)	.865	.000	.000	.000	.000		
CS	Pearson Correlation	.137*	.730**	.721**	.433**	.425**	.439**	1
	Sig. (2-tailed)	.043	.000	.000	.000	.000	.000	.043

*. Correlation is significant at the 0.05 level (2tailed).

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

4.4. Stepwise Regression: Service Quality Dimensions and Customer Satisfaction

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					Square Change	F Change	df1	df2	Sig. F Change
1	.730 ^a	.532	.530	.58935	.532	2.481E2	1	218	.000
2	.760 ^b	.578	.574	.56116	.046	2.345E1	1	217	.000
3	.803 ^c	.645	.640	.51615	.067	4.050E1	1	216	.000

- a. Predictors: (Constant), Reliability
- b. Predictors: (Constant), Reliability, Network quality
- c. Predictors: (Constant), Reliability, Network quality, Responsiveness

ANOVA^d

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	86.169	1	86.169	248.091	.000 ^a
	Residual	75.717	218	.347		
	Total	161.886	219			
2	Regression	93.552	2	46.776	148.541	.000 ^b
	Residual	68.334	217	.315		
	Total	161.886	219			
3	Regression	104.342	3	34.781	130.554	.000 ^c
	Residual	57.544	216	.266		
	Total	161.886	219			

- a. Predictors: (Constant), Reliability
- b. Predictors: (Constant), Reliability, Network quality
- c. Predictors: (Constant), Reliability, Network quality, Responsiveness
- d. Dependent Variable: Customer Satisfaction

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	.424	.170		2.497	.013
Reliability	.785	.050	.730	15.751	.000
2 (Constant)	-.006	.184		-.034	.973
Reliability	.706	.050	.656	14.077	.000
Network Quality	.225	.047	.226	4.842	.000
3 (Constant)	-.113	.170		-.663	.508
Reliability	.409	.066	.381	6.245	.000
Network Quality	.208	.043	.209	4.852	.000
Responsiveness	.348	.055	.382	6.364	.000

- a. Dependent Variable: Customer Satisfaction

4.5. Comparison between Different Service Quality Dimensions and Customer Satisfaction

		N	Mean	Std. Deviation	95% Confidence Interval for Mean	
					Lower Bound	Upper Bound
Tangible	Government	40	3.9938	.66383	3.7814	4.2061
	Financial	54	4.1759	.53560	4.0297	4.3221
	Service	76	4.2763	.58249	4.1432	4.4094
	International	19	4.4737	.56455	4.2016	4.7458
	Production	31	4.1532	.78708	3.8645	4.4419
	Total	220	4.2000	.62602	4.1168	4.2832
Reliability	Government	40	4.1450	.65787	3.9346	4.3554
	Financial	54	2.9778	.78348	2.7639	3.1916
	Service	76	3.0237	.46184	2.9181	3.1292
	International	19	2.9368	.72127	2.5892	3.2845
	Production	31	3.7613	.73470	3.4918	4.0308
	Total	220	3.3127	.79956	3.2065	3.4190
Responsiveness	Government	40	4.0813	.84426	3.8112	4.3513
	Financial	54	2.7639	.83046	2.5372	2.9906
	Service	76	3.1217	.67515	2.9674	3.2760
	International	19	2.7763	.74487	2.4173	3.1353
	Production	31	3.8468	.99933	3.4802	4.2133
	Total	220	3.2807	.94417	3.1552	3.4061
Assurance	Government	40	4.2688	.60018	4.0768	4.4607
	Financial	54	2.9815	.79629	2.7641	3.1988
	Service	76	3.6941	.76223	3.5199	3.8683
	International	19	3.5921	.76017	3.2257	3.9585
	Production	31	4.3871	.85107	4.0749	4.6993
	Total	220	3.7125	.90408	3.5924	3.8326
Empathy	Government	40	4.4750	.69973	4.2512	4.6988
	Financial	54	3.8926	.57062	3.7368	4.0483
	Service	76	3.5368	.59617	3.4006	3.6731
	International	19	3.3895	.63761	3.0822	3.6968
	Production	31	4.3355	.60967	4.1119	4.5591
	Total	220	3.8945	.72639	3.7980	3.9911
Network quality	Government	40	3.6813	.82234	3.4183	3.9442
	Financial	54	2.8565	.97565	2.5902	3.1228
	Service	76	2.8553	.62352	2.7128	2.9977
	International	19	2.6184	.64209	2.3089	2.9279
	Production	31	3.4355	.82150	3.1342	3.7368
	Total	220	3.0670	.86159	2.9526	3.1815
Service Quality	Government	40	4.0250	.61966	3.8268	4.2232
	Financial	54	2.6481	.75629	2.4417	2.8546
	Service	76	2.9079	.40588	2.8151	3.0006
	International	19	2.5263	.51299	2.2791	2.7736
	Production	31	3.7097	.93785	3.3657	4.0537
	Total	220	3.1273	.83976	3.0157	3.2389
Customer Satisfaction	Government	40	3.9125	.70381	3.6874	4.1376
	Financial	54	2.5000	.70209	2.3084	2.6916
	Service	76	2.7928	.48715	2.6814	2.9041
	International	19	2.6184	.63118	2.3142	2.9226
	Production	31	3.5968	.96107	3.2443	3.9493
	Total	220	3.0227	.85977	2.9085	3.1370

4.6. ANOVA Analysis of variance of perception of service quality and customer satisfaction

		Sum of Squares	df	Mean Square	F	Sig.
Tangible	Between Groups	3.666	4	.917	2.399	.051
	Within Groups	82.159	215	.382		
	Total	85.825	219			
Reliability	Between Groups	49.037	4	12.259	28.974	.000
	Within Groups	90.967	215	.423		
	Total	140.004	219			
Responsiveness	Between Groups	56.747	4	14.187	22.025	.000
	Within Groups	138.484	215	.644		
	Total	195.230	219			
Assurance	Between Groups	55.642	4	13.911	24.244	.000
	Within Groups	123.361	215	.574		
	Total	179.003	219			
Empathy	Between Groups	34.076	4	8.519	22.479	.000
	Within Groups	81.478	215	.379		
	Total	115.553	219			
Network quality	Between Groups	28.925	4	7.231	11.633	.000
	Within Groups	133.649	215	.622		
	Total	162.574	219			
Service Quality	Between Groups	65.667	4	16.417	39.762	.000
	Within Groups	88.769	215	.413		
	Total	154.436	219			
Customer Satisfaction	Between Groups	63.763	4	15.941	34.928	.000
	Within Groups	98.123	215	.456		

4.7. Importance Score Comparison among Different Service Quality Dimensions and Customer Satisfaction

		N	Mean	Std. Deviation	95% Confidence Interval for Mean	
					Lower Bound	Upper Bound
Tangible	Government	40	5.00	1.086	4.65	5.35
	Financial	54	5.02	1.296	4.66	5.37
	Service	76	5.57	1.100	5.31	5.82
	International	19	5.11	1.449	4.41	5.80
	Production	31	4.97	1.329	4.48	5.46
	Total	220	5.20	1.231	5.04	5.37
Reliability	Government	40	6.13	.822	5.86	6.39
	Financial	54	6.39	.856	6.16	6.62
	Service	76	6.32	.820	6.13	6.50
	International	19	6.26	.933	5.81	6.71
	Production	31	6.03	.948	5.68	6.38
	Total	220	6.25	.859	6.14	6.37

Responsiveness	Government	40	5.50	1.132	5.14	5.86
	Financial	54	6.19	.992	5.91	6.46
	Service	76	5.72	.974	5.50	5.95
	International	19	6.42	.769	6.05	6.79
	Production	31	6.00	1.000	5.63	6.37
	Total	220	5.90	1.031	5.76	6.03
Assurance	Government	40	5.38	.979	5.06	5.69
	Financial	54	5.46	1.463	5.06	5.86
	Service	76	6.05	1.118	5.80	6.31
	International	19	5.42	1.305	4.79	6.05
	Production	31	5.23	.956	4.88	5.58
	Total	220	5.61	1.220	5.45	5.78
Empathy	Government	40	5.43	.984	5.11	5.74
	Financial	54	5.37	1.104	5.07	5.67
	Service	76	5.61	1.021	5.37	5.84
	International	19	6.00	1.054	5.49	6.51
	Production	31	5.77	.920	5.44	6.11
	Total	220	5.57	1.033	5.44	5.71
Network quality	Government	40	5.88	1.223	5.48	6.27
	Financial	54	5.87	1.374	5.50	6.25
	Service	76	6.11	1.184	5.83	6.38
	International	19	6.05	1.580	5.29	6.81
	Production	31	5.94	1.209	5.49	6.38
	Total	220	5.98	1.273	5.81	6.15

4.8. Paired sample t test between service quality dimensions perceptions and importance rating

	Mean	Std. Deviation	Std. Error Mean	t	df	Sig. (2-tailed)
Tangible perception	4.2000	.62602	.04221	-10.948	219	.000
Tangibles importance	5.20	1.231	.083			
Reliability perception	3.3127	.79956	.05391	-32.817	219	.000
Reliability importance	6.25	.859	.058			
Responsiveness perception	3.2807	.94417	.06366	-26.748	219	.000
Responsiveness importance	5.90	1.031	.069			
Assurance perception	3.7125	.90408	.06095	-17.932	219	.000
Assurance importance	5.61	1.220	.082			
Empathy perception	3.8945	.72639	.04897	-18.492	219	.000
Empathy importance	5.57	1.033	.070			
Network quality perception	3.0670	.86159	.05809	-27.819	219	.000
Network quality importance	5.98	1.273	.086			

