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**Addis Ababa University**  
**College of Business and Economics**  
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**Department of Marketing Management**

The Effect of After Sales Services Quality on Customer  
Satisfaction: The Case of Ethio Telecom

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**June-2019**

**ADDIS ABABA UNIVERSITY  
COLLEGE OF BUSINESS AND ECONOMICS  
SCHOOL OF COMMERCE**

**The Effect of After Sales Services Quality on Customer  
Satisfaction: A Case of Ethio Telecom**

**A Thesis Submitted to the School of Graduate Studies of  
Addis Ababa University School of Commerce in Partial  
Fulfillment for the Award of Master of Arts Degree in  
Marketing Management**

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**June-2019**

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# Declaration

I Dawit Tegene, declare that the work presented in this thesis paper entitled “The Effect of After Sales Services Quality on Customer Satisfaction: A Case of Ethio Telecom” has the original work of mine. It is done and presented under the guidance of my advisor Dr. Mulugeta G/Medhin. This thesis has not been presented for any scholastic achievement in the University and all other materials used in this study are fully acknowledged.

Signature \_\_\_\_\_

Date \_\_\_\_\_

**Dawit Tegene**

# Endorsement

This is to certify that Dawit Tegene has carried out his research work on the topic entitled “The Effect of After Sales Services Quality on Customer Satisfaction: A Case of Ethio Telecom” for the partial fulfillment of Master of Arts in Marketing Management at Addis Ababa University, School of Commerce. This study is an original work and is suitable for submission of Master of Arts Degree in Marketing Management.

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Dr. Mulugeta Gebre-Medhin

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Date & Signature

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## ACRONMYS

ANOVA	Analysis of Variance
BS	Billing Service
CC	Customer Complaint
CPE	Customer Premises Equipment
ET	Ethio Telecom
ES	Enhanced Service
IN	Installation
MS	Maintenance Service
PI	Provision of Information
SAT	Satisfaction
SIM	Subscriber Identity Module
SOHO/SME	Small Home or Home Office/Small and Medium Enterprises
SPSS	Statistical Package for the Social Sciences
UK	United Kingdom
VIF	Variance Inflation Factor

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## **Abstract**

*In recent decades, the topic of after sales services get the highest attention in today's business across the globe since it impacts significantly the customers satisfaction. The general objective of the study was to investigate the factors that influence the customer satisfaction in related with after sales services domain on the telecom sector particularly the case of Ethio Telecom Key Account customers. A sample size of 147 was taken from Key Account customers located at Addis Ababa. Quantitative method of data collection was employed to collect the data through questionnaire. For the proper accomplishment of the study, the primary data were collected using Likert scale type questionnaire. Accordingly, 136 questionnaires were collected representing a 92.5 percent response rate. The study adopted quantitative method and the descriptive as well as inferential analysis has been done using SPSS Version 20. The major finding of the study indicated that after sales service quality i.e. provision of information, installation, billing service, customer complaint handling and enhanced service quality dimensions are positively & significantly affected the customer satisfaction except for one variable out of the total six variables. Moreover, 81.5% of the variations in customer satisfaction are explained by after sales services quality dimensions in Ethio Telecom. Based on the findings of the study, the researcher recommends the company to work on after sales services quality dimensions in providing enough information of product and services, make installations in highest quality with skilled professionals, dispatching quality bill to customers, manage customer complaints quickly and to give maximum focus on the dominate factor which is enhanced service quality (tangibility, reliability, responsiveness, assurance & empathy) to enhance the customer satisfaction.*

**Key words:** *After Sales Services Quality, Customer Satisfaction, Ethio Telecom.*

# Chapter One

## Introduction

### 1.1. Background of the Study

The role of service quality is widely recognized as being a critical determinant for the success of an organization in today's competitive environment. Any decline in customer satisfaction due to poor service quality would be a matter of concern. Consumers being more aware of rising standards in service, prompted by competitive trends, have developed higher expectations. In other words, service quality aspects possess a substantial strategic role for companies. This does not happen only in the pure service sectors, but also in many others where service is a considerable part of the augmented product. Indeed, the concept of “service quality” can be used by all sectors, since practically everywhere, the total product offering is a mixture comprised of tangible and intangible part (Shostack, 1977).

To ensure customers are satisfied, staff members can be selected to walk around the service area checking that all needs are being properly met. This ensures that customers can voice their dissatisfaction in an environment where the customers while solving their indisputable problems and in turn increase the image of the firm.

According to (Tse and Wilton 1988), satisfaction is the consumer's response to the evaluation of the perceived discrepancy between prior expectations and the actual performance of the product as perceived after its consumption. Attitude also shapes consumer expectations and expectations are, therefore, either positively or negatively inclined. Expectations, according to the disconfirmation paradigm, exert an important influence on customer satisfaction with the service encounter and thus on service quality perceptions (Bitner 1990). Customer satisfaction will occur only through conscious efforts to alter the way the firm's approach to work. Service firms must not only change their attitudes but also change the way they organize their effort.

After sale service consists a continuous interaction between the service provider and the customer throughout the post purchase product life cycle. When product is sold to the customer, this interaction is formalized by a mutually agreed warranty or service contract. The exact terms of the warranty or service contract, the characteristics of the customer base, and nature of the sold product influence the after-sales service provider (Cohen, Agrawal, & Agrawal 2006: Oliva & Kallenberg 2003). As a result, establishing continuous and developing connections with customers will be positively cultivated in the return of investment, customer retention and even enhancing the brand image. In this regard, accomplishing high customer satisfaction level requires producing high quality of products (Hendricks and Singhal 1997). When referring to service providing companies, after-sales services are being treated as one among several supplementary service elements provided by them. On the other hand, when referring to tangible goods, they are mostly seen as operative activities of some or all members of the distribution chain. Such services are the transport/delivery to clients, the installation, the product-related training, the hot line and advice by the help desk, any repairing service and even the recycling process.

After sales service is also a vital source of profit, revenue generation and competitive advantage in various industries. This strategy is also linked with customer relationship marketing. It means that relationship marketing targets for profitable customers through whom relevant strategies can be evolved in terms of customer relationship, trust building. In this relation, after-sales service facilitates interactions with customers and aids develop the relationship (Egonsson, Bayarsaikhan, & Ly 2013).

Reasonably, it can be determined that the better the after-sale service quality an organization provides, the better the organization's profit; plus, valuable long-term relationships can be built. There is a strong correlation between the willingness of customers to pay an increased price and gaining an attractive warranty program with trustworthy after-sales service. Currently most of developed nations and their companies are strongly invested and gave higher attention in providing consistent high quality after sales services. American & European companies received returned materials simply if customers get dissatisfied after they purchased. Telecommunication companies provides wave of monthly billing charges quickly and proactively if any of service interruptions encountered.

Despite the reality of the vital role in executing excellent after sales services, many of Ethiopian Firms are overlook the after sales services issues and concentrated highly on sales transaction activities except in a few electronics shops, some automobile companies that has after sales service station and Ethio Telecom which has post after sale service platform with various channel of mediums.

The company currently reached more than 41.1 Million Subscribers base as per the recent semiannual company report and provides after sales customer services across with different channels of communications which are 994 Contact Center, Social Medias, Online Chat, E-Care, Self-Care, Ethio Shops Representatives and Customer Service Management Specialists. The Contact Centers has been organized with more than 2000 staffs and beside the 994 & 980 short lines, Social Medias, Online Chat, E-Care and Self-Care are managed by the Contact Center staffs. Ethio Shops shall provide sales plus after sales services for all customers for which cases couldn't be resolved thru the Contact Center. The other Channel which is Customer Service Management Section shall manage Key Account customers like AU, UN, AAU, Minister Offices, Embassies and other big Government & Private Companies issues by contacting in person in the customer premises.

The government regulatory body called Telecommunication Agency of Ethiopia has been prepared citizen charter so as to enable to increase excellence of sales and after sales services in related to telecom products. The charter consists the below objectives:

- The Create awareness on products & services provided by ethio telecom and help citizens understand the subscription requirements to get those services
- Provide up-to-date information regarding prices and service delivery time
- Establish transparency and accountability regarding the services provided to citizens
- Provide a system of grievance redressing for complaints raised by citizens
- Serve citizens with courtesy, non-discrimination and respect
- Establish feedback mechanism from citizens to improve service quality
- Enhance citizens' satisfaction through continual improvement of products and service delivery process

This study is presented to identify effect of after sales services quality on customer satisfaction of Ethio Telecom customers the newly reestablished state-owned telecom company before 8 years. The

study will portray the different levels of after sales customer service quality and measure the customer service quality in terms of standard parameters.

This study will have significant impact to Ethio Telecom in terms of determining the major quality problems and positive outcomes persisting in after sales customer services giving to customers and has a great deal of impact on customer satisfaction.

Therefore, this study aims to analyze the current quality of after sales customer services provided and its relationship with customer satisfaction of Ethio Telecom customers with respect to the after-sales service quality determinants of provision of information, installation, maintenance service, billing service, customer complaint handling and enhanced service quality dimensions.

## **1.2. Background of the Organization and Industry**

Telecommunications service was introduced in Ethiopia by Emperor Menelik II in 1894 when the construction of the telephone line from Harar to the capital city, Addis Ababa, was commenced. Then the interurban network continued to expand satisfactorily in all other directions from the capital. Many important centers in the Empire were interconnected by lines, thus facilitating long distance communication with the assistants or operators at intermediate stations frequently acting as verbal human repeaters between the distant calling parties (Ethio Telecom 2018).

As a continuation of the 2005/06 – 2009/10 five-year plan and after concentrating its efforts on education, health and agriculture, the Ethiopian government has decided to focus on the improvement of telecommunication services, considering them as a key lever in the development of Ethiopia. Ethio telecom is born, on 29th November 2010, from this ambition of supporting the steady growth of our country, within the Growth and Transformation Plan (GTP), with ambitious objectives for the year 2015. The Ethiopian government has decided to transform the telecommunication infrastructure and services to world class standard, considering them as a key lever in the development of Ethiopia. Thus, ethio telecom is born from this ambition to bring about a paradigm shift in the development of the telecom sector to support the steady growth of our country (Ethio Telecom 2018).

Currently the company has been organized under 22 Divisions for which lead by Chief Officers under the direct management of Chief Executive Officer of Ethio Telecom Mis. Frehiwot Tamiru.

The number of human resources reached more than 15,000 in 2018 as per the primary source found from Human Resource Division.

In line with this Ethio Telecom the giant state-owned telecom company currently provides a number of telecom service offers to customers located all over the country. Beside the various offers provided to customers, after sales customer services are the major issues of telecom companies these days.

As part of the 2015 Eptica Multichannel Customer Experience Study, ten UK Telco's were evaluated on their ability to provide service across the email, web, Twitter and chat channels. The key finding was of a sector that is struggling to cope with today's multichannel world, with wide differences in response rates between channels:

- On average telecoms companies answered 60% of questions asked online – down 3% since 2014
- Online performance varied considerably – one company answered 80% of questions, another managed just 40%
- Just two companies successfully responded to an email question, with the time taken varying between 4 hours 34 minutes to nearly 50 hours
- On a positive side 30% of telcos offered chat (the highest percentage of any sector), with all of them providing an answer through the channel
- Twitter performance remained static, with 60% of tweets answered. However average speed had improved dramatically, with the time to answer plummeting from 12 hours to just 4
- There were wide variances on Twitter – one company answered in 3 minutes; another took over 18 hours

Consumers now rely on telecoms operators more than ever. As services become ever more complex and competition increases the customer experience will be the key differentiator when it comes to retaining consumers and reducing churn. Operators need to ensure they are delivering the multichannel experience that customers demand – before they get dissatisfied and either terminate their contract or switch to the competition (eptica 2015).

### 1.3. Statement of the Problem

Buyer seller relationship for the long time is very important this can be strengthening through after sales services. After sales services keeps the customers satisfied, it thus influences customer purchase intentions and increases the profitability of the firm. After sales service encompasses of installation services, function aids, spare parts, repair and maintenance and enhancements to keep the products in workable condition (Danish & Sanatullah 2011).

Moreover, according to (Oliver 2007) as cited by (Datsomor & Henry 2012), for the automobile industry, made up of dealers and manufacturers, customer satisfaction through quality service remains one of the main factors affecting customer loyalty. On the other hand, according to (Lin 2009) as cited by (Kindye 2011), only 4% of dissatisfied customers complain, and eventually one dissatisfied customer tells nine other people about the problem. Hence, customer satisfaction plays an important role for the success and continuous existence of the company.

As per the observations made at Sales and Customer Service Divisions of Ethio Telecom, plus the day to day work interactions with customers, the current vital issue at the industry is keeping customer relationship well and providing sustainable quality after sales services. As we know and officially posed on its website, ethio telecom customer base was reached more than 67M, however as per the company's semi-annual report, the new stat of customer base is 41.11 for which base only the active customers, hence this shows there is high churn rate due to termination of subscription contract. As per the information found from Retention & Loyalty Section, the main reason of the churn rate is lack of quality after sales services like maintenance, installation and billing services.

Ethio Telecom has been achieved number of successes especially in the last nearly two decades especially in enhancing accessibility and boosting revenue, however, there are plenty of customers complaining year to year by the company due to various barriers of after sales services quality like installation, maintenance, bill complaint handling, line shifting, SIM replacement & etc. even if there are various aftersales service platforms & solutions that the company tried to avail to customers. Hence, as the aftersales services quality has very essential to the company, the current quality and its impact need to be examined and addressed in order to maximize customer satisfaction.

Beside the practical gaps, the topic of after sales service didn't get still much more attention even if progress has been observed somehow, as some of research studies are released internationally and in local as well. According to (Dr. Rajasekhara 2010) conducted research on assessment of customer satisfaction the case of Ethio Telecom, whereas (Ahmed 2018) shown the relationship between after sale services and customer satisfaction of Pakistan Telecommunication Company.

In addition to these, many of research works often used SERVQUAL/SERVPERF service quality measurement models for after sales services quality too, but it seems much better using the most reliable and valid dimensions like provision of information, installation, maintenance service, billing service, customer complaint handling and enhanced service quality for which they are the best fit measures of "aftersales services quality" rather than the SERVQUAL/SERVPERF dimensions.

Therefore, the motive to conduct this study is to examine the impact of after sales services on customer satisfaction the case of Ethio Telecom for which the company engaged in telecom operation activities, plus to diminish the gap existed on researches in related with after sales services particularly on telecom sector.

Hence, this study purposes to identify the impact of after sales customer service quality in related with customer satisfaction and pinpoint possible areas of improvement and recommend new approach in order to fulfill customers after sales services quality requirements. Consequently, this study will hopefully lead to enhance knowledge and understanding about the concept and practices of after sales service quality and its effect on customer satisfaction in the telecom industry in Ethiopia.

#### **1.4. Research questions**

The research questions of this study are as follows:

1. Does provision of information (PI) affect satisfaction (SAT) of Ethio Telecom Key Account customers?
2. Does installation (IN) affect satisfaction of Ethio Telecom Key Account customers?
3. Does maintenance service (MS) affect satisfaction of Ethio Telecom Key Account customers?
4. Does billing service (BS) affect satisfaction of Ethio Telecom Key Account customers?

5. Does customer complaint (CC) handling related activities affect satisfaction of Ethio Telecom Key Account customers?
6. How does enhanced service (ES) quality affect satisfaction of Key Account customers?

## **1.5. Objective of the Study**

### **1.5.1. General objectives**

The general objective of this research paper is to identify the effect of the after-sales customer services quality on customer satisfaction.

### **1.5.2. Specific objectives**

The study has the following specific objectives: -

1. To examine the relationship between enhanced service quality dimensions and customer satisfaction in the telecom sector.
2. To examine how does the provision of information after sales service affect customer satisfaction of Ethio Telecom Key Account customers.
3. To examine how does installation affect customer satisfaction of Ethio Telecom Key Account customers.
4. To examine how does maintenance service affect customer satisfaction of Ethio Telecom Key Account customers.
5. To examine how does billing service affect customer satisfaction of Ethio Telecom Key Account customers.
6. To examine how does customer complaint handling related after sales activities affect customer satisfaction of Ethio Telecom Key Account customers.

## **1.6. Scope & Limitation of the study**

### **1.6.1. Scope**

This study focusses on examining the effect of after sales service quality on customer satisfaction with the concept, which is embraced with provision of information, installation of the product, billing service, maintenance service, customer complaint handling and enhanced service quality.

Analyzing the effect of quality of after sales customer services on customer satisfaction of Ethio Telecom's all product users in the entire country is very tough and difficult. Therefore, this study

will concentrate on analyzing quality of after sales customer services on customer satisfaction in the case of Ethio Telecom's Key Account customers situated in Addis Ababa.

The main reasons Addis Ababa key account is selected: first most of key account customer (85 %) concentrated on Addis Ababa. Secondly, Addis Ababa key account customer use all kind of product and service while most of regional customers use only few services which mean Addis Abeba customers have better knowledge about subject matter. Lastly, Ethio Telecom deploy the same process and procedure to all Key Account customer in regard of their geographical location difference.

### **1.6.2. Limitation**

The study lacks to address and get responses or feedbacks from all Ethio Telecom customers in all over Ethiopia and the result found in Addis Ababa couldn't represent the overall after sales customer service satisfaction picture of other areas of the country plus other categories of customers like Residential & SOHO/SME. In addition, due to financial and time constraint the study will be limited to few sample sizes of customers as there are huge number of telecom product users in the entire city.

### **1.7. Significance of the Study**

The results of this study could have the following significance:

- This research work shall add value on the effect of after sales service quality on customer satisfaction in the Telecom Sector in Ethiopia to the literature depending on after sales services quality dimension.
- This study will have positive impact for the Ethio Telecom Company in terms of addressing after sales customer's service quality requirements.
- It will help the regulatory body to make committed Ethio Telecom more in satisfying customer's high level of after sales service requests.
- The research can serve as reference for other researcher who wants to undertake research in related subject.
- The preparation of this research paper will help the researcher to develop practical experience on how to undertake research.

## 1.8. Organization of the Paper

The paper has been organized in five chapters. Chapter one contains the introduction. It includes background of the study, statement of the problem, objectives, significance and scope of the study. The research methodology to be used, the types and method of data collections, data analysis and budget requirement are included in the second chapter. The third chapter constitutes the related literature review of the study. Chapter four has focused on data analysis and interpretation. The final chapter presents the conclusion and recommendations of the preceding four chapters.

## 1.9. Definition of Terms

**After Sales Service:** According to (Muhammad et al. 2011) after sales service is defined as customer support following the purchase of a product or service. It is usually formalized by a warranty or service agreement between the service provider and the customer.

**Quality:** (Zeithaml & Bitner 2006) mentioned that, ‘Service quality is a focused evaluation that reflects the customer’s perception of specific dimensions of service namely reliability, responsiveness, assurance, empathy, tangibles.’ Based on the assessment of service quality provided to the customers, business operators are able to identify problem quickly, improve their service and better assess client expectation.

**Customer Satisfaction:** According to (Rigopoulou, et al. 2008) customer satisfaction is the state of mind that customers have about a company when their expectations have been met or exceeded over the lifetime of the product or service.

# Chapter Two

## Review of Related Literature

### 2.1. Theoretical Review

#### 2.1.1. Introduction

Almost all consumer durable goods need post sales servicing. After sales service is an important aspect of a marketing transaction. Such service covers repairs, spare parts and smooth maintenance at lower charges after the product has been sold and being used. The need for such services arises to prevent dissatisfaction, frustration and ill will among customers against the manufacturer's product (Memoria & Suri 2006). Market Research emphasizes the importance of After sales service for marketing of costly and durable goods. If company provides prompt and effective after sales service than the buyer takes decision to purchase that product.

Front line employees play an extra ordinary role in service value chain, discussed by many authors and researchers. Employees that work at consumer service positions in the organization must interact with the customers; they must deliver high satisfaction to them. However, the capabilities of these front-line workers to satisfy customers mainly depend on the environment the organization provides to these employees. Strategic human resource practices that create productivity at work environment are directly related with organizational outcomes i.e. efficiency, quality service and satisfaction of customer. Through many ways' customer can be contacted, these may be from physical direct interaction to contact indirectly by letter post, internet and telephone but the main theme is customer interaction (Zomerdijk & de Vries 2007). It is very important to note that after sale is a key to support marketing performance and to increase customer loyalty, productivity in long run (Saccani, 2006).

(Forooz & Rostami 2006) have shown after sale service advantages like: - Competitive advantage, Customer satisfaction, long-term customer relationship, customer retention and loyalty, new product success and development, high profit, differentiation and branding. Henley center headlight vision (Anon 2007) shows more than 1,800 customers who had purchased all the automotive brands sold

in the U.S, Excellent service not only reinforces relationships with customers who already feel loyal to a brand. It can also defuse ill will that causes disaffected customers to bad-mouth the brand.

According to (Potluri & Hawariat 2010), delivery of after-sales service is becoming increasingly critical as businesses do everything in their power to be more cost-effective, boost profit margins, and meet customer demand for a product or service.

### **2.1.2. Definition of After Sales Services**

After sales services defined by various business related topic authors. Thus, according to (Adrian, et al.1995) in today's marketing environment, an increasingly important source of competitive advantage is the way we serve customers. In recent years, more and more organizations focus their attention on retaining existing customers rather than attracting new ones. According to (Kotler 2002), attracting a new customer is five times greater than the cost to keep a current customer happy. (Gaiardelli, et al. 2007) define after sale service as those activities taking place after the purchase of the product and devoted to supporting customers in the usage and disposal of the goods to make them loyal.

According to (Muhammad et al. 2011) after sales service is defined as customer support following the purchase of a product or service. It is usually formalized by a warranty or service agreement between the service provider and the customer. By providing after sales services, the company facilitates the customer's attainment of the initially perceived value of the product (during purchase).

Whereas according to (Rigopoulou, et al. 2008) after-sales services are often referred to as "product support activities", meaning all activities that support the product-centric transaction. Furthermore, as stated in (Potluri & Hawariat 2010) the term "after-sales services" has been approached in the literature under two broad perspectives. When referring to service providing companies, after-sales services are being treated as one among several supplementary service elements provided. On the other hand, when referring to tangible goods, they are mostly seen as operative activities of some or all members of the distribution chain.

### 2.1.3. Components of After Sales Services

According to (Shaharudin et. al. 2009), the after-sale service value line includes timely delivery, installation of the product to customer, good warranty terms and time, enhanced service quality, proper feedback from consumer about the whole service, product and work according to majority recommendations of the consumer. All these after sale value line are considered vital part of after sale service, and through proper usage of this value line organization can increase customer satisfaction and enhance the productivity of the organization.

After sales service is an emerging concept which is embraced with timely delivery, installation of the product, issue of warranty, service quality and proper feedback from consumer.

The below 5 components are the major after sales service quality dimensions:

1. **Timely Delivery**- Delivery of the product characterized by two dimensions i.e. speed and reliability (Michael 2001) and ensuring that right product at right time in right quantity from right source delivered to right person at right price.
2. **Installation**- Installation is to fix product, installation is first component of after sale or delivery of the product and is considered to generate more profitable sale. The basic reason for offering installation to consumers is after sale economies, to take competitive advantage and customer demand (Oliva & Kallenberg 2003).
3. **Good Warranty Terms**- Warranty is assumed an obligation for seller; it is a responsibility for seller and a satisfaction for the buyer that the product will run in long term (Udell & Anderson 1968).
4. **Enhanced Service Quality**- This is one of the main categories where organization face problems these days, this problem is mainly in service sector where consumer often complaint about the quality of service. It happens when consumer use the product or service and feels uncomfortable with it. It also arises when consumer do not like the quality of after sale service like warranty, installation and delivery services. To retain and satisfy consumer to greater extent it is necessary that service quality should be high (Cronin & Taylor 1992).
5. **Proper Feedback from Consumer**- Customer feedback is considered very important these days. Organizations are more customer oriented therefore they want to know

customer needs in the product or service. Such information can be useful in designing products and services that are more useful for customers they tend to purchase their product and hire their services. When a customer is dissatisfied with the product or service, there are two options available to the customers. The first one is to leave the product and chose among the other products available. The second option is to make suggestions or complaints for the same product; this response from the customers is vital for the organization to improve (Barlow & Moller 1996).

(Potluri & Hawariat 2010) mentioned that the major tasks related to after-sales services of fixed lines in ETC are: -

- **Provision of information.** Customer may require information about products and services, availability, delivery dates, and prices. They may require information on progress, e.g. what is happening with their order or fault.
- **Service delivery.** It is required that the service provider to undertake a series of tasks which may vary from product to product and from service to service. Delivery is the setting up, by the service provider, of all the components required for the operation and maintenance of a service as defined in the service specification and to be used by the customers.
- **Maintenance and repair service.** This service function includes all activities associated with repair from the instant a service does not offer one or more of the specified features to the instant these features are restored for use by the customer. The process must also be consistent from the customer's perspective, irrespective of which product or service is being repaired.
- **Billing service.** Billing is common to almost all services that are not provided free of charge. Inaccurate, illegible, or incompatible bills disappoint customers. Customers usually expect bills to be clear, informative, itemized in ways that make it clear how the total was computed.
- **Customer complaints handling.** Complaint is the result of an organizations service failures that occurs for many reasons. Any type of service failures brings about negative feelings and responses from customers. Complaining customers

need quick responses. Thus, if an organization welcomes and encourages complaints, it must be prepared to act on them quickly.

According to (Loomba 1998), the main objective of the after-sales is to keep the customer satisfied through trust, credibility and sense of security conveyed by the organization, and building lasting relationships that contribute to increased performance for sustainable results. (Forooz & Rostami 2006) have shown after sale service advantages like: -

- Competitive advantage
- Customer satisfaction
- Long- term customer relationship, customer retention and loyalty
- New product success and development
- High profit
- Differentiation
- Branding

(Gaiardelli, et al. 2007) said an effective after-sales service protocol is essential to streamline service management and meet customer's expectations, it can let you experience customer delight, while also saving on your bottom-line and it generates profit. Henley center headlight vision (Anon 2007) shows more than 1,800 customers who had purchased all the automotive brands sold in the U.S, Excellent service not only reinforces relationships with customers who already feel loyal to a brand. It can also defuse ill will that causes disaffected customers to bad-mouth the brand.

#### **2.1.4. Service Quality**

Delivering quality service is considered an essential strategy for success and survival in today's competitive environment (Parasuraman, Zeitham & Berry 1985). According to them, defining service quality is difficult than defining goods quality because of three characteristics of service – intangibility, heterogeneity & inseparability.

First most services are intangible because they are performance rather than objects. Most services cannot be counted, measured, inventoried, tested and verified in advance of sale to assure quality (Parasuraman et al. 1985).

Second services, especially those with high labor content, are heterogeneous; their performance often varies from producer to producer from customer to customer and from day to day. Consistency to behavior from service personnel (i.e. uniform quality) is difficult to assure, because what firms intended to deliver may be entirely different from what the customer received (Booms & Bitner 1981).

Third production and consumption of many services are inseparable and lingered as a consequence quality in service is not engineered at manufacturing plant and delivered intact to the customer (Parasuraman et al. 1985).

So, examination of literature by (Gronroos 1982) and (Lehtinen 1982), and (Lewis & Booms 1983) on service quality suggests three underlining themes.

- Service quality is more difficult for consumer to evaluate than good quality
- Service quality perceptions result from a comparison of consumer expectations with actual service performance
- Quality evaluations are not made solely on the outcome of service, they also involve evaluations of the process of service delivery

Service quality is defined as “the difference between customer expectations and perceptions of service” or “as the customers’ satisfaction or dissatisfaction formed by their experience of purchase and use of the service” (Gronroos 1984 and Parasuraman et al.1988).

According to (Rajnish K. et al. 2010) there are several reasons why customers must be given quality service. Most important of them are:

- Industry has become so competitive that customers now have variety of alternatives, if the customer is lost, it can be extremely difficult to win back the individual and
- Most customers do not complain when they experience problems. These customers simply opt out and take their business elsewhere.

#### **2.1.4.1. Service Quality Models**

According to (Ali, Setareh & Dr. Rohaizat 2015), service quality measurement is the significant managerial tool to understand consumers’ needs and wants by analyzing the experience of consumers in the service provided. It can help firms to find their weaknesses and advantages to make

a better service for consumers. Moreover, the most important role of service quality is by affecting the customers' satisfaction. High service quality strongly and positively influences customers' satisfaction and consumers' loyalty. Furthermore, it can influence customers' intention to repurchase. Therefore, firms need to measure the consumers' perception of the service quality to offer a better service and improve their firm in today's competitive market.

Although there is no general agreement on one particular model as the measurement of service quality perception, there are some efficient models offered by researchers during decades of study in this area. Some generic and specific models were proposed, but all of them have their own advantages and shortages.

Some of the main and most used service quality models which are more accepted in field of service quality measurement evaluated in this section.

### **1. Gronroos Model**

The early conceptualization of service quality model is formed by (Gronroos 1982, 1984). He believed that if a firm wants to be successful, it is vital for the business operator to understand the customers' perception on the service provided. Service quality management means matching the perceived quality with expected quality and keeping this distance as small as possible in order to reach customers' satisfaction.

He suggested three dimensions of service quality. The first dimension, Technical (outcome) means what customers received as a result of interaction with a service firm. The other component is Functional (process) which means how a technical service received by customer. The way of service process is very important in customers' evaluation on the service quality. However, the service outcome received by the customers is upon their desire and the process of receiving service has influence onto the customers' evaluation and view of the service. By comparing these two factors of service the quality expected and received by the customers, we can get the perceived service quality. The third dimension of service quality in this model is Corporate Image which is the customers' view of corporate or brand. The customers' expectation is influenced by their view of the firm and it is the result of how customers perceived firm services. Therefore, the image is built up by the technical quality and functional quality.

## 2. Service Quality GAP Model

Gronroos model was based on disconfirmation model that puts perceived service against expected service. Disconfirmation model is based on product quality literature which is the base of service quality. Based on disconfirmation model, (Parasuraman et al. 1985) suggested a new model for service quality measurement by measuring the gap between perceived service and expected service. In this exploratory study, they found five gaps between expectation and perception in service quality to be measured.

**Gap 1:** The difference between consumers' expectations and management perceptions of the customers' expectations

**Gap 2:** The difference between management perceptions of consumers' expectation and service specifications

**Gap 3:** The difference between service quality specifications and service provided

**Gap 4:** The difference between service provided and external communications to the customers

**Gap 5:** The difference between customers' expectation and consumers' perception of the service. This gap depends on four gaps associated with service quality delivered on marketer side. Gap 5= f (Gap1, Gap2, Gap3, Gap4)

## 3. SERVQUAL Model

Parasuraman et al., (1985; 1988) attempted to take the advantage of comparing with Gronroos model by suggesting the measurement for service quality. SERVQUAL model is a useful tool for managers to identify the gaps in their service (Seth, Deshmukh, & Vrat 2005). This model is the most used by scholars and practitioners. Although SERVQUAL is the most famous model in service quality after years of researching in this model. The measurement dimensions are reliability, responsiveness, assurance, tangibles, and empathy.

## 4. SERVPERF Model

In 1992, Cronin and Taylor suggested the refined model by considering performance as the only factor needs to be measured for service quality. They argued that service quality is a consumers' attitude and the performance (perceived service) of the service is the only measurement for service

quality. Investigating service quality relationship with consumers' satisfaction and purchase intention was their study; they believe service quality is an antecedent of consumers' satisfaction. They suggested a new model for service quality based on SERVQUAL with respect to the conceptualization and measurement of service quality which used performance as the only measurement for service quality model called SERVPERF. In this new model, (Cronin and Taylor 1992) proceeded to measuring performance (perceived service) with the same dimensions as reliability, responsiveness, assurance, tangibles, and empathy for service quality measurement.

## **5. Hierarchical Model**

In 2001 Brady and Cronin proposed a new hierarchical model by developing previous models. They adopted (Dabholkar, Thorpe & Rentz 1996) idea that service quality perception is multilevel and multidimensional. They tried to develop SERVQUAL dimensions by refining its dimensions to what should be reliable, responsive, empathic, assured, and tangible. Brady and Cronin believed that SERVQUAL dimensions need to be specifically defined. They adopted two dimensions from (Gronroos's 1984) model; interaction quality between consumers and employees (i.e., functional quality) and outcome (i.e., technical quality). The third dimension adopted from (Rust & Oliver 1994) is service environment. Because of the theoretically strong support for multidimensional and multilevel of service quality, they suggested three sub-dimensions for each dimension; attitude, behavior, and expertise for interaction quality dimension, ambient condition, design, and social factors for environment quality, and waiting time, tangibles, and valence for outcome quality dimension. By specifying these factors, they determined what should be reliable, responsiveness, and empathy as suggested in SERVQUAL model.

## **6. Industry-specific service quality models**

Although some of the proposed models have strong validity and are applicable for measuring service quality in many service industries, researchers found that most of them have lack of generalizability for all businesses (Seth et al., 2005). Some of those models have support for applying and testing in different businesses like SERVQUAL, but even that famous measurement has some lack of application for some specific businesses such as retail store (Dabholkar et al. 1996). Models evaluated in previous parts were generic, but the hierarchical model suggested by (Dabholkar et al. 1996) was based on retail store environment.

Some researchers believe that businesses need to use a context-specific service quality measurement for the best understanding of consumers' perception on service quality (Dagger et al. 2007). Therefore, researchers suggested some models based on specific service businesses. As cited on (Ali, Setareh & Dr. Rohaizat, 2015), for example, in the information technology (IT) based services, (Berkley & Gupta 1994) suggested IT alignment model. In 2002 Cunningham, Young, and Moonkyu suggested a new model based on previous studies in airline specific models of service quality for measuring service quality in airline businesses. They suggested baggage handling, bumping procedures, operations and safety, in-flight comfort, and connections as the dimensions of this model scaling by several items for each dimension (Cunningham, Young, & Moonkyu, 2002). In addition, they used SERVPERF in this study for service quality. They found strong reliability and validity for both models (SERVPERF and industry-based). Result showed that both generic and specific models are applicable and acceptable for measuring service quality in the airline industry.

Industry-specific measurements of service quality vary from one business to another and included the factors related to specific service. Therefore, these models can be more useful and specific for applying in businesses and can be helpful for managers to find the weaknesses and advantages of their firm to improve their service and achieve customers' satisfaction.

#### **2.1.5. Customer Satisfaction**

Customer satisfaction is considered very important now a days, it shows how firms are committed to provide quality product or services to their customers that eventually increase customer loyalty. Satisfying the customer is one of the basic objectives of the organization, as it is often said that customer is boss, and boss is always right, so it means customer is right when he demands for after sale services.

Different customers have different needs some want that the product to be delivered to their destination at right time and right price, others give value to customers' needs and wants, on the other hand poor distribution results negative impression (Kotler & Armstrong 2010). Such negative impression results in poor seller relationship with consumer. Organizations need to improve relations with customers for effectiveness and to improve their sales turnover, installation of a product without

any error results in improved satisfaction of customer this can reduce the chance of damage, error and assures to customer that the product is valuable, errorless and reliable.

Customer satisfaction measurement involves the collection of data that provides information about how satisfied or dissatisfied customers are with a service. This information can be collected and analyzed in many ways. Many organizations regularly check the levels of customer satisfaction to monitor performance over time and measure the impact of service improvement.

Henley center headlight vision (Anon 2007) states the research carried out in the UK with public sector organizations suggests that there are five themes that are likely to be relevant to all organizations in measuring customer satisfaction.

- Delivery of the service (how problems were handled, reliability, outcome etc....)
- Timeliness (waiting times, number of times contacted)
- Information (accuracy, enough information, kept informed)
- Professionalism (competent staff, fair treatment)
- Staff attitude (friendly, polite, sympathetic)

Hence, services given to consumer after sale are more valuable to satisfy customer needs, after sale service is very important for organization to retain customers for a long time and generate high profitable relationship with organization. Many authors agree that organization can achieve more than their turnover due to after sale service that they provide to customer during a life cycle of a product. Hence, productivity and sales turnover increase and profit generation may be more than product sale (Alexander 2002).

#### **2.1.5. Customer Satisfaction and After Sales Service Quality**

In the current business environment, marketers need to understand after sales service quality has major influence on customer satisfaction as customers buy products or services and on whether they continue to do so. Preserving their long-term customer relationships requires that these businesses both measure and appropriately adjust the quality of their customer's service. As a result, measurement and improvement in the current service quality level are of interest to companies whose revenues in whole or part from service delivery (Rajnish 2010).

It is well acknowledged that the margin from after-sales service is much larger than that from the product. That is, aftersales service is considered a key revenue generator in certain categories (Cohen et al., 2006; Cohen & Whang 1997). Hence, on one hand, offering a large number of extra after-sales service plans to consumers, leads to higher profitability on the other hand recent marketing management focuses on lifetime value of a customer and maintaining long-term relationships with customers (Gupta & Lehmann 2007).

(Fen & Lian 2005) as cited by (Kindye 2011) found that both service quality and customer satisfaction have a positive effect on customer's re-patronage intentions showing that both service quality and customer satisfaction have a crucial role to play in the success and survival of any business in the competitive market. This study proved a close link between service quality and customer satisfaction.

Furthermore, according to (Sattari 2007), in order to study customer satisfaction on services the following theories are applicable.

### **1. The Disconfirmation of Expectations theory**

The theory of disconfirmation or expectations holds that satisfaction/dissatisfaction responses arise from a cognitive evaluation process in which pre-purchase "expectations" or prior beliefs about the likelihood of product-related experiences or outcomes are retrieved from memory and compared to cognitions about the product-related experiences or outcomes actually realized in the consumption of the product. The result of this comparison is expectancy disconfirmation, which ranges from negative (expectations exceed realized outcomes) through zero (expectations just equal realized outcomes) to positive (realized outcomes exceed expectations).

### **2. The Value-Percept Disparity theory**

This theory declares that satisfaction/dissatisfaction is an emotional response triggered by a cognitive-evaluative process in which the perceptions of (or beliefs about) an object, action, or condition are compared to one's values (or needs, wants, desires). Since it is the attainment of values that consumers seek, rather than the confirmation of their expectations, it is posited that perceptions of products, institutions, or marketplace actions are simply tested against the extent to which they meet the consumer's values. While products may provide more of an attribute or outcome than what

is desired, this has no impact on satisfaction unless this aspect causes a blockage in the attainment of another value.

### **3. Regret theory**

This theory was developed by (Taylor 1997) theory proposes a richer notion of satisfaction that included expectations about un-chosen option as cited by (Ali, Setareh & Dr. Rohaizat 2015). This theory retains the basic expectancy – disconfirmation paradigm as a bases foe regret theory approach. Regret directly influences the consumers decision to purchase again. Marketers try to diminish negative feelings about the product or service by reducing post decision dissonance and regret.

### **4. Disconfirmation theory**

According to (Sattari 2007), the disconfirmation theory states that overall customer satisfaction is the difference between customer desire and expectation and the actual performance of the particular good or service as cited by (Ali et al. 2015).

## **2.2 Related Empirical Works**

(Rajasekhara & Hailemichael 2010) are prepared a paper that was conducted on telecom customers who are in Addis Ababa for which the results show some degree of customer dissatisfaction, but not to the extent expected. Dissatisfied customers point at lack of clarities of bills and delays in making decisions on complaints as some of the main reasons for their dissatisfactions. Other reasons include telephone interruptions during rainy seasons, old cables and networks, and damaged and stolen cables, which combined, increase the frequency of faults and interruptions. Nearly 40 percent of respondents have negative assessments of the role of employees in delivering good quality after-sales service. Even though some improvements have been shown in latest reports, Ethiopian Telecom has a long way to go in achieving its objectives with respect to customers' satisfaction.

According to (Maryam, Seyyed and Atefe 2013) research, customer satisfaction is one of the most influential variables affecting brand loyalty. An enhancement in the perceived concrete and abstract drawbacks of the purchased product under study (mobile) has not discouraged loyalty or satisfaction. Beside the related works done in Telecom sector, there are number of studies conducted in related with after sales services and its association with customer satisfaction. According to (Justin & Arun 2016), knowledge of products, response to need, solving questions, fast service, quick connection to

the right person, and efforts to reduce queuing time were found to be the factors that are positively associated with overall satisfaction. Assistance to the customer, appearance, and follow up are negatively associated with customer satisfaction. On the other hand, in the case of public sector banks, knowledge of the product and fast service are the factors which are associated positively, and appearance is the only factor that is negatively associated.

(Rishi & Deepak 2016) also conducted study on the impact of perceived service quality dimensions on customer satisfaction and findings revealed that “responsiveness” was found to be the most significant predictor of customer satisfaction. On the other hand, “image” (corporate image) has a positive but the least significant relationship with customer satisfaction followed by all other constructs. The exception is “reliability,” which is insignificantly related to customer satisfaction in Indian public sector banks.

According to (Mohamed & Muneer 2006) study conducted on impact of customer service quality on customer satisfaction discussed that strong and positive relationships between the six main dimensions of customer service quality (Compliance, Assurance, Reliability, Tangibility, Empathy and Responsiveness) and customer satisfaction.

(Tegbar 2017) conducted inferential research on the effect of after sales services quality dimensions on customer satisfaction and the result of this study shows that all the dimensions of SERVPERF have a positive correlation with the dependent variable. Out of five dimensions four of the dimensions (Tangibility, reliability, empathy and assurance) have a positive and significant impact on customer satisfaction, and one of the dimension responsiveness was found to have insignificant effect on customer satisfaction. Based on the findings, empathy is found to be the dominant SERVPERF dimension with the highest beta value and assurance is the least with its effect on customer satisfaction.

According to (Wu Shuqin. & Gang 2012) conducted an empirical study on the relationship between after sales service qualities in China Automobile sector and they found that fairness, empathy, reliability and convenience have significant positive impact on customer satisfaction while responsiveness doesn't have a significant impact on customer satisfaction and at the same time satisfaction has a significant positive impact on trust and trust has a significant positive impact on

commitment. They also found satisfaction and commitment both have a significant positive impact on relationship value, but trust cannot impact relationship value directly.

Based on (Ali, Syed, Muhammad, Rashid, Zafarullha & Asif 2011) study, quality of the product comes first in the mind that what customer perceived about the product or service quality and to what extent it is provided to the customer. Organizations often want to create differences among other organizations in the industry, so that is why they tend to use such characteristics that is delivery and installation, for just creating differences. In this modern era customer want to get, some value-added services as well, so mostly these day customers decide on internet that what to buy and order the concerned organization for the product. Organizations deliver & install such product at the doorstep of the customer without any or with low extra charges.

Finally, the researcher believes that Industry Specific Model along with SERVQUAL model is best if applied to identify customer needs and calculate customer satisfaction coefficient that helps the manager to trade-off which is the most significant after sales service quality dimensions in increasing customer satisfaction. Hence, the researcher conducted a research on Ethio Telecom after sale service customers to understand the effect of after sale service on customer satisfaction using modified after sales service quality model.

### **2.3. Research Gap**

As per the researcher's knowledge and from the above review of literatures, the below valuable gaps are identified:

First, there seems no comprehensive study on effect of after sale service on customer satisfaction in Ethiopia except few research works conducted by (Potluri & Hawariat 2010) in assessing of the telecom sector after sales services and (Tegbar 2017) done recently in related with automotive industry. Thus, this gap leads the researcher to conduct a research and a need to study on effect of after sale service on customer satisfaction in Ethio Telecom.

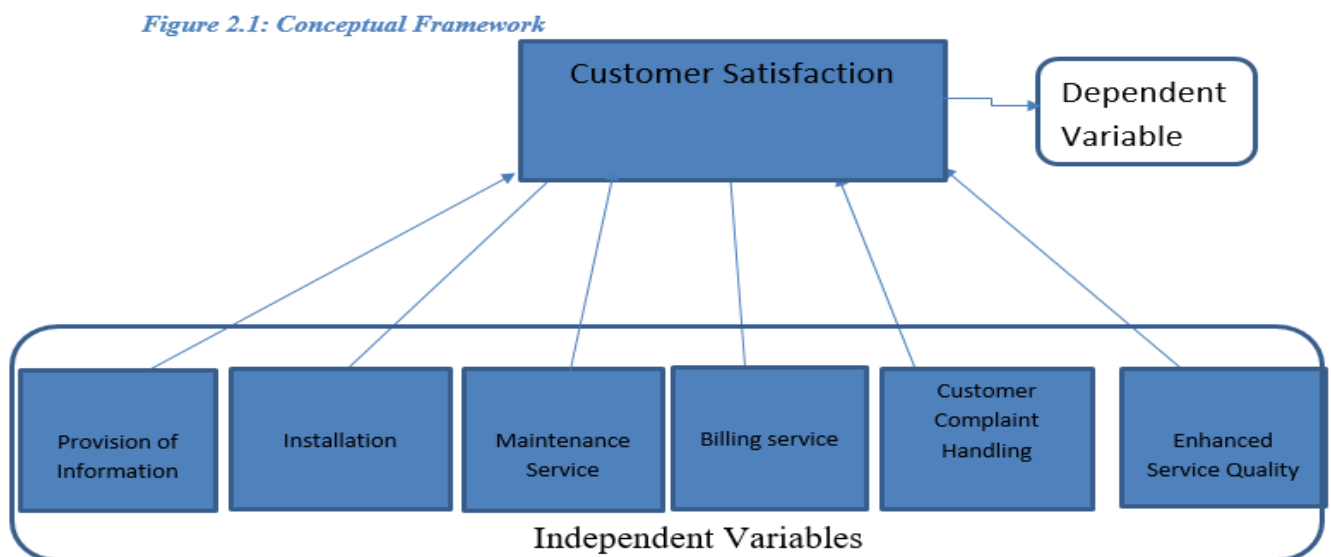
Secondly, today's business environment is lying on after sales services quality to retain customers and the related quality dimensions should be identified by organizations for further work to satisfy their customers and keep compete in the given industry.

Thirdly, the researcher observed gap in related with after sales services quality at Ethio Telecom despite the company has been achieved number of successes especially in the last nearly two decades especially in enhancing accessibility and boosting revenue, however, there are still plenty of customers complaining every time due to various barriers of after sales services quality for which required further study to identify the dimensions that the company need to be focused to maximize the customers satisfaction.

Therefore, this study is conducted to fill the above deficiencies. This research study, thus, generally attempted to identify the effects of after sales services quality on customer satisfaction and recommend improvement and focus areas for further implementation by the company.

## 2.4. Conceptual Framework

Conceptual framework is a hypothesized model identifying the concepts under the study and their relationships. It is the crucial process for which useful to show the direction of the study. (Mugenda 2008) defines conceptual framework as a concise description of phenomenon under study accompanied by a graphical or visual representation of the major variables of the study. This study shows the relationship between the 6 after sales service quality variables and customer satisfaction. The below conceptual framework has been proposed basis on SERVQUAL and other two after sales related research models (Shaharudin, Muzani, Yusof 2009 & Potluri & Hawariat 2010).



Source: [Parasuraman et al., 1988](#), [Potluri and Hawariat \(2010\)](#) & [Shaharudin et. al. \(2009\)](#)

### **2.4.1. Research Hypothesis**

After the detail review of related literatures, the researcher develops the following hypotheses for the study.

H1: Provision of information has significant positive influence on customer satisfaction.

H2: Installation has significant positive impact on customer satisfaction.

H3: Maintenance service has significant positive effect on customer satisfaction.

H4: Billing service has significant positive link with customer satisfaction.

H5: Customer complaint handling related activities have significant positive link with customer satisfaction.

H6: There is positive & significant relationship between enhanced service quality and customers satisfaction.

# Chapter Three

## Research Design & Methodology

### 3.1. Research Approach

(Creswell 2005) asserted that quantitative research is a type of educational research in which the researcher decides what to study, asks specific, narrow questions, collects numeric (numbered) data from participants, analyzes these numbers using statistics, and conducts the inquiry in an unbiased, objective manner. The researcher used a quantitative deductive style of reasoning which operates from the general to specific. A general set propositions relating to a given phenomenon is narrowed down to a specific set of testable hypotheses or to a single testable hypothesis (John, Hafiz, Robert & David 2007) as cited by (Tegbar 2017).

Quantitative researchers often broadly embrace the assumptions and methods of the natural sciences. They quantify the variables of interest and examine the relationships between the variables mathematically by using statistics. Quantitative research generally adopts a deductive approach to its reasoning: hypotheses are developed based on theory and then data are collected to test the hypotheses. So, it moves from theory to the data. Qualitative Research is primarily exploratory research. It is used to gain an understanding of underlying reasons, opinions, and motivations. It provides insights into the problem or helps to develop ideas or hypotheses for potential quantitative research. Qualitative Research is also used to uncover trends in thought and opinions, and dive deeper into the real situation.

Thus, the researcher used quantitative approach with a deductive research type to examine the relationship between the dependent variable that is customer satisfaction and independent variables of the six dimensions of after sales services quality.

## 3.2. Research Design

A research design is a plan for a study that provides specification of procedures to be followed by the researcher in order to achieve the research objective, as well as, to test the hypotheses. Similarly, many researchers (Churchill & Iacobucci 2005) call it a blueprint for a research to be followed in order to successfully implement the research.

Based on the objectives and research questions, the researcher used explanatory research design in order to describe the service quality dimensions and explore the effects of after sales service quality on customer satisfaction, means examine, understand, identify and control the relationship between the dependent variable that is customer satisfaction and independent variables of the five after sales service quality dimensions.

## 3.3. Sampling Design

### 3.3.1. Population definition

The study mainly focuses on Ethio Telecom after sales customer service quality rendered to its Addis Ababa Key Account customers. Key Account customers are the back bone of the company for which contributed the highest revenue per year. Key Account customers after sales services are mainly managed by Customer Service Management Section and presales & sales activities are managed by Key Account Sales Department. As per the Key Account Department information, currently the total number of Addis Ababa Key Account customers are 2267. Ethio Telecom has been providing same service for all key account customers, because of it the population have homogenous behaviors. This means for this research the knowledge between customers is almost same.

### 3.3.2. Sampling method

This research used simple random sampling since the population have homogenous behaviors each object can be chosen in a same probability.

### 3.3.3. Sampling techniques and size

(Yamane 1967) suggested simplified formula for calculation of sample size from a population which is an alternative to Cochran's formula. According to him, for a 95% confidence level and  $p = 0.5$ .

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

Where  $n$  is the sample size,  $N$  is the population size, which is 2267, and  $e$  is the level of precision.

According to (Gauhati University Mathematics Association 2012) the researchers should choose the formula according to their needs and convenience. In choosing the right one, the researcher must take into consideration about the maximum budget, time limit, nature of the study along with desired level of precision, confidence level and variability within the population of interest.

Accordingly, the researcher assumes 92% level of confidence and 0.08 degree of variability in the attributes. Based on the formula stated above, the researcher taken 147 sample size.

### **3.4. Source of data**

Primary and secondary data has been be used in order to gather data and conduct the study. For primary data collection questionnaire has been distributed for Key Account selected customers to gather information. Theoretical and empirical literatures have been used as a secondary data so that researcher would make comparison against the response collected.

### **3.5. Data collection method**

Primary and secondary data has been used for conducting the study. Primary data obtained through questionnaires. Secondary data has been gathered from previous research and publication made in the area. Literature from Internet and journals has also be reviewed as required. Closed ended questionnaire has been be prepared and filled by selected Key Account customers.

### **3.6. Data preparation**

The questionnaires filled by the respondents has been checked and arranged. The responses then were coded in order to ease the analysis of the data. Finally use SPSS to create, with great ease, beautiful graphics and tabular outputs.

### **3.7. Data analysis and interpretation**

Data collected from primary sources has been analyzed using descriptive analyses like frequency distribution, tabulated method of statistics, tables, charts and bar graphs and inferential statics like correlation analysis to examine direction and significant of the correlation of the variables shall be considered under this study and regression analysis to examine the relationship between the dependent variable and the five independent variables. Response of each customer obtained from the

questionnaires has been tabulated question by question and summarized accordingly. Secondary sources data has been analyzed considering the researcher own judgment.

### **3.8. Data Reporting**

After the data analysis being finished the data will be summarized and the result of the overall research has been prepared. Possible recommendation was given based on the data analysis. Finally, the research has been reported in standardize reporting format.

### **3.9. Reliability and Validity**

#### **3.9.1. Validity**

Validity is the extent to which a measuring instrument on application, performs the function for which it was designed. (Onunkwo 2002) defines validity as the degree to which the instrument measures the qualities, abilities, skills, traits, information, etc it was designed to measure. Among the types of validity (content, construct, predictive, face, criterion related, etc), content validity test was applied. This is because it ensures full exploration of various aspects of the study and adequate coverage of a good representation of each dimension of the study.

(Thatcher 2010) suggests that validity tests should be done to know the extent to which a research instrument (questionnaire) measures what is expected to measure. (Creswell 2014) recommend content validity for quantitative study, therefore after the objective of the study explained, questions are given to selected expertise so that they can judge whether the questions are covers all relevant items needed to answer the research question.

The questionnaire therefore passed through the scrutiny of the researcher's advisor to ensure content validity, i.e. appropriateness of language usage, relevance to the subject matter, objective of the study and coverage of the content areas.

#### **3.9.2. Reliability**

(Mohajan 2017) suggests that for quantitative study reliability tests should be done to evaluate consistence, reputability and stability of a research result. (Heale & Twycross 2015) recommend the commonly used Cronbach Alpha Coefficient test for quantitative study. The number of questions under each KPA is very few which range from two to five and it is known that low number of

questions may have a low value of alpha which do not show the correct reliability (Tavakol & Dennick 2011).

Cronbach's alpha for each value was established by the SPSS application and gauged against each other at a cut off value of 0.7 which is acceptable according to Cooper and Schindler (2008). The values were provision of information (0.846), installation (0.896), maintenance service (0.845), billing service (0.827), customer complaint handling (0.853) and overall customer satisfaction (0.900). All the values were above 0.7 which concludes that the data collection instrument is reliable.

*Table 3.1: Cronbach's Alpha*

<b>Measurement</b>	<b>No of Items</b>	<b>Cronbach's Alpha</b>
Provision of Information	5	0.846
Installation	5	0.896
Maintenance Service	5	0.845
Billing Service	5	0.827
Customer Complaint Handling	5	0.853
Enhanced Service Quality	5	0.928
Satisfaction	4	0.900
Overall reliability	34	0.968

Source: Researcher's Own Work, 2019

### **3.10. Ethical Considerations**

According to (Bhattacharjee 2012) Ethics are the moral dissimilarity between right and wrong, and what is unethical may not necessarily be illegal. In order to be ethical a researcher should consider voluntary participation and harmlessness. Subjects in a research project must be aware that their participation in the study is voluntary, that they have the freedom to withdraw from the study at any time without any unfavorable consequences, and they are not harmed as a result of their participation or non-participation in the project. Name of the respondents and companies name are not asked to write in order to increase the confidentiality of the information they give. And also, the questionnaire

explains that the purpose of research was for academic purpose and finally the respondents were included based on their willingness. Furthermore, the researcher tried to avoid misleading or deceptive statements in the questionnaire. Lastly, the questionnaires distributed only to voluntary participants.

## Chapter Four

### Data Presentation, Analysis and Discussion

#### 4.1. Overview

This chapter is stressed on the analysis of data and discuss on the findings of the study in relation to the effects of after sales service quality dimensions on customer satisfaction. The findings of the study are analyzed based on the specific objectives and hypotheses of the study. In this chapter respondent's profile, normality test, descriptive analysis, correlation analysis and regression analysis are discussed.

#### 4.2. Descriptive Analysis

##### 4.2.1. Background Information of the Respondents

The profile of sample Key Account customers located in Addis Ababa are summarized by the following table.

*Table 4.1: General profile of respondents*

Variables	Description	Frequency	Percentage
Gender	Female	55	40.4
	Male	81	59.6
Age	Under 25	9	6.6
	26-40	94	69.1
	41-50	28	20.6
	Above 50	5	3.7
Education Level	Certificate	0	0.0
	Diploma	17	12.5
	Bachelors & Above	119	87.5
	Other	0	0.0
Frequency of visiting the after sales department per year	1 to 5	30	22.1
	6 to 10	31	22.8
	11 to 20	45	33.1
	More than 20	30	22.1

Source: Researcher's Own Work, 2019

As Table 4.1 describes the gender distribution of respondents was slightly dominated by Male 59.6%. With regards to age distribution, the majority of respondents (69.21%) were in the age category of 26 –40 years old followed by the age group 41 – 50 with 20.6 %. Data of Educational qualification of respondents also shows that, most of them (87.5%) are Bachelors & above where as the remaining 12.5% of the respondents were Diploma holders. Based on the above table, 77.9% of respondents said that they visited the after sales department more than 10 times per year for which shows that there are frequent support request from customers side for the after sales related services.

#### 4.2.2. Descriptive Statistics of the Variables

The mean value represents the average of all customer response on certain dimensions while, standard deviation shows how diverse the responses of the respondents are that means if the standard deviation shows smaller number, it indicates that the response of the respondents shows close opinions and when the standard deviation is high, it indicates the response of the respondents shows high variation.

*Table 4.2: Descriptive characteristics of the variables*

	Provision of Information	Installation	Maintenance Service	Billing Service	Customer Complaint Handling	Enhanced Service Quality	Satisfaction
Total	136	136	136	136	136	136	136
Mean	3.1654	2.858824	2.780882	2.972059	2.960294	3.166176	3.1746
Std. Deviation	.91400	.8600147	.7812160	.8485885	.7751014	.8889628	.87840
Minimum	1.25	1.0000	1.0000	1.2000	1.0000	1.6000	1.50
Maximum	5.00	4.4000	4.0000	4.6000	4.4000	5.0000	5.00

Source: Researcher's Own Work, 2019

To come up with the scores of the variable, items under each dimension are aggregated to one. As indicated in the table, all independent variables except for Provision of Information and Enhanced Service quality, the mean score is less than the midpoint of the scale which is 3. Out of the six independent variables Enhanced Service Quality is the highest (3.166) mean value, whereas Maintenance Service is the lowest (2.12 mean value). On the other hand, the mean value of the dependent variable (Satisfaction) is also above 3.

The after-sales service quality dimension with the highest mean score is Enhanced Service Quality 3.166176 followed by Provision of Information 3.1654, Billing Service 2.972059, Customer Complaint Handling 2.960294, Installation 2.858824 and the final one is Maintenance Service with mean value of 2.780882. Hence, from this we can infer that the after sales service provided by Ethio Telecom is not that much satisfactory still and further after sales services related quality enhancement works demanding highly to boost customer’s satisfaction.

#### 4.2.2.1. Description of Provision of Information

As table 4.3 depicted, based on the measurement of customers perception of provision of information factors, nearly they had similar mean value ranging from 3.13 for the product & service information given by the company has good enough to 3.65 for provision of information is provided to customers after sales transactions takes place variables. Thus, these implies that the company provided information regarding product and services, but not good enough and lacks clarity and unable to address all customers as well. Therefore, the company should have identified different platforms that the customers to be aware of it well for Ethio Telecom products and services.

*Table 4.3: Descriptive Statistics of Provision of Information*

	N	Mean	Std. Deviation
Provision of information is provided to customers after sales transactions takes place.	136	3.65	.955
The product & service information given by the company has good enough	136	3.13	1.064
The information is clear & convenient to understand	136	3.14	1.175
Billing tariffs are informed to customers transparently	136	3.35	1.171
User manuals/brochures are prepared well and provided to customers	136	3.04	1.074
Valid N (listwise)	136		

Source: Researcher's Own Work, 2019

#### 4.2.2.2. Description of Installation

As indicated in table 4.4 Installation defects usually detected accurately & corrected instantly variable scores the highest (2.97) whereas There is no frequent trouble in related with installation factor is the lowest (2.72). In overall, the installation factors are below the neutral value and goes to disagree value even for which required the company attention to establish a mechanism to maximize the quality of installation works to satisfy customers consequently.

*Table 4.4: Descriptive Statistics of Installation*

<b>Descriptive Statistics</b>			
	<b>N</b>	<b>Mean</b>	<b>Std. Deviation</b>
Installation is done timely after purchase of products or services	136	2.89	1.086
The installation experts are well equipped & skillful	136	2.93	1.020
The quality of installation is good enough always	136	2.78	1.016
There is no frequent trouble in related with installation	136	2.72	1.009
Installation defects usually detected accurately & corrected instantly	136	2.97	.981
Valid N (listwise)	136		

Source: Researcher's Own Work, 2019

#### 4.2.2.3. Maintenance Service

Maintenance service refers to the quality, standard resolution time, regular maintenance service, trial for maintenance resolution and personnel skill and knowledge. Accordingly, as it can be seen from the table 4.5 out of the 5 questions asked under maintenance service dimension, the highest mean score is obtained on the statement which asks about whether maintenance staffs are professional & skillful, and the lowest mean score is obtained on the statement which asks about the quality of the maintenance service.

*Table 4.5: Descriptive Statistics of Maintenance Service*

<b>Descriptive Statistics</b>			
	N	Mean	Std. Deviation
The quality of the maintenance service is high	136	2.68	1.009
Maintenance issues are resolved timely and based on the citizen charter date	136	2.77	1.018
The company provides regular maintenance service	136	2.82	1.088
Maintenance issues usually resolved with the first trial	136	2.70	.953
Maintenance staffs are professional & skillful	136	2.93	.891
Valid N (listwise)	136		

Source: Researcher's Own Work, 2019

#### **4.2.2.4. Description of Billing Service**

As table 4.6. described, based on the measurement of customers perception of provision of information factors, nearly they had similar mean value ranging from 2.74 for the bill information is often accurate & convincing parameter to 3.15 for the company usually charge bills timely parameter and the average mean value is below 3. Thus, these implies that the company should look forward to offer quality billing service for which have charged timely, have clarity and easily understandable, accurate charging, free from exaggeration and convenient to compute quickly. Therefore, the company should have identified different packages that could maximize billing service quality and meet customer satisfaction level.

*Table 4.6: Descriptive Statistics of Billing Service*

<b>Descriptive Statistics</b>			
	<b>N</b>	<b>Mean</b>	<b>Std. Deviation</b>
The company usually charge bills timely	136	3.15	1.132
The bill information is often accurate & convincing	136	2.74	1.143
The bill attachment invoice is clear & understandable	136	2.92	1.161
Exaggeration of bill not encountered frequently	136	2.96	1.017
Clear information is usually given how the bill is charged & computed	136	3.10	1.056
Valid N (listwise)	136		

Source: Researcher's Own Work, 2019

#### **4.2.2.5. Customer Complaint Handling**

Customer complaint handling denotes to the complaint handling platforms, resolution time, online complaint handling platforms, skill and knowledge of customer complaint handlers and way of treating or taking customer complaints. Consequently, as it can be seen from the table 4.7 out of the 5 questions asked under customer complaint handling dimension, the highest mean score is attained on the statement which asks about whether enough customer complaint handling platforms are available or not, and the lowest mean score is obtained on the statement which asks about the complaints are usually resolved quickly or not. As the result illustrate, customers are not that much satisfied on customer complaint handling services quality and Ethio Telecom should give high attention in resolving customers complaint and avail self-service technologies for which enable the customer to handle requests remotely, plus the company should try to meet global standards so as to handle complaints quickly since the Key Account customers level of tolerance is very low due to their business nature.

*Table 4.7: Descriptive Statistics of Customer Complaint Handling*

<b>Descriptive Statistics</b>			
	N	Mean	Std. Deviation
There are enough customer complaint handling platforms	136	3.10	1.063
Complaints are usually resolved quickly	136	2.60	1.028
The online customer complaint handling platforms are good enough	136	2.90	.953
The staffs handling complaints are very professional & knowledgeable	136	3.21	.912
There is sense of taking customer complaint as a gift and tool for future growth	136	3.00	.919
Valid N (listwise)	136		

Source: Researcher's Own Work, 2019

#### **4.2.2.6. Enhanced Service Quality**

As table 4.8. described, based on the measurement of customers perception of empathy factor looks good with the highest mean value (3.33) and the other factors mean value have near to 3. In the service rendering operation, reliability, tangibility, assurance, empathy & responsiveness factors are very critical. Therefore, the company should work hard on each mentioned factors and deploy solutions that could maximize the reliability, tangibility, assurance, empathy and responsiveness of the company after sales service quality at the end could have a significant impact on customer satisfaction.

*Table 4.8: Descriptive Statistics of Enhanced Service Quality*

<b>Descriptive Statistics</b>			
	N	Mean	Std. Deviation
The company after sales service quality has tangible (standard, use technology, professional & neat employees)	136	3.08	1.004
Reliable after sale service (Correct & error free, done as promised)	136	2.95	1.013
High company responsiveness for after sales services issues (prompt response, willingness/readiness to support customers)	136	3.26	1.061
The company has good assurance after sales service quality (Skillful & knowledgeable employees, courteous employees, can assure customers that they are safe in transactions)	136	3.21	.969
The company has good empathy in providing after sales services (Give customers attention, caring customers, understand need & best interest of customers)	136	3.33	.997
Valid N (listwise)	136		

Source: Researcher's Own Work, 2019

#### 4.2.2.7. Overall Satisfaction

The overall satisfaction result shows a mean value near to 3 for which approached neutral value. Therefore, Ethio Telecom must work hard to meet customer satisfaction at acceptable level in related with after sales services dimension.

*Table 4.9: Descriptive Statistics of Overall Satisfaction*

<b>Descriptive Statistics</b>			
	N	Mean	Std. Deviation
Overall, I am satisfied with the after sales services quality of the company	136	3.07	1.027
The after-sales service departments meet my expectations	136	3.13	1.078
I feel I do the right thing when I choose the company's products & services	136	3.21	.944
I didn't feel regret in using product & services of the company	136	3.30	.953
Valid N (listwise)	136		

Source: Researcher's Own Work, 2019

#### 4.2.2.8. Frequency Distribution of the Variables

*Table 4.10: Frequency distribution table*

<b>Parameters</b>	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Neutral</b>	<b>Agree</b>	<b>Strongly Agree</b>
Provision of information is provided to customers after sales transactions takes place.	2.9%	14.0%	9.6%	62.5%	11.0%
The product & service information given by the company has good enough	2.9%	37.5%	8.1%	47.1%	4.4%
The information are clear & convenient to understand	5.1%	36.0%	9.6%	38.2%	11.0%
Billing tariffs are informed to customers transparently	5.1%	27.2%	8.8%	44.9%	14.0%
User manuals/brochures are prepared well and provided to customers	4.4%	36.0%	16.2%	37.5%	5.9%
Installation is done timely after purchase of products or services	8.1%	37.5%	14.7%	36.8%	2.9%
The installation experts are well equipped & skillful	5.9%	33.1%	27.2%	29.4%	4.4%
The quality of installation is good enough always	5.1%	45.6%	19.1%	26.5%	3.7%
There is no frequent trouble in related with installation	6.6%	46.3%	17.6%	27.2%	2.2%
Installation defects usually detected accurately & corrected instantly	3.7%	36.8%	19.9%	38.2%	1.5%
The quality of the maintenance service is high	7.4%	48.5%	13.2%	30.1%	0.7%
Maintenance issues are resolved timely and based on the citizen charter date	7.4%	43.4%	14.0%	35.3%	0.0%
The company provides regular maintenance service	10.3%	37.5%	12.5%	39.0%	0.7%
Maintenance issues usually resolved with the first trial	4.4%	50.7%	16.2%	27.9%	0.7%
Maintenance staffs are professional & skillful	0.7%	39.0%	29.4%	28.7%	2.2%
The company usually charge bills timely	3.7%	37.5%	8.1%	41.9%	8.8%
The bill information is often accurate & convincing	9.6%	46.3%	11.8%	25.7%	6.6%
The bill attachment invoice is clear & understandable	5.1%	47.1%	7.4%	31.6%	8.8%
Exaggeration of bill not encountered frequently	3.7%	39.7%	16.9%	36.8%	2.9%
Clear information is usually given how the bill is charged & computed	3.7%	33.8%	16.9%	39.7%	5.9%
There are enough customer complaint handling platforms	3.7%	36.0%	11.0%	44.9%	4.4%
Complaints are usually resolved quickly	8.8%	52.9%	9.6%	27.2%	1.5%
The online customer complaint handling platforms are good enough	3.7%	37.5%	26.5%	30.1%	2.2%
The staffs handling complaints are very professional & knowledgeable	1.5%	24.3%	30.9%	39.0%	4.4%
There is sense of taking customer complaint as a gift and tool for future growth	2.2%	32.4%	31.6%	30.9%	2.9%
The company after sales service quality has tangible	2.2%	36.0%	16.9%	41.2%	3.7%
Reliable after sale service	3.7%	40.4%	15.4%	38.2%	2.2%
High company responsiveness for after sales services issues	2.2%	29.4%	19.1%	39.0%	10.3%
The company has good assurance after sales service quality	0.7%	30.9%	19.9%	43.4%	5.1%
The company has good empathy in providing after sales services	0.0%	30.9%	12.5%	49.3%	7.4%

Source: Researcher's Own Work, 2019

As we have seen the above research variables parameters frequency table, majority of the first 5 provision of information parameters depicts that the company has been providing product and service information usually, but lacks clarity to adopt easily. The second 5 installation parameters also sought that majority of the respondents didn't agree that installation works are goes fine and done quickly. 50.7% & 51.9% of the respondents didn't agree that the quality of installation is good enough always and there is no frequent trouble in related with installation respectively. More than 65% of respondents either disagree or neutral in related with the maintenance related activities quality while around 30% of respondents agree that the company's maintenance service is good enough.

The study also finds out that the company has a problem in charging bill timely, the information is not convincing that much, there are difficulties in understanding the bill invoice attachment and the bills are not free of exaggeration as expected by customers. In regarding with customer complaint handling, 49.3% respondents agree that there are enough Key Account customer complaint handling platforms, however, majority of respondents (61.7%) are disagree that complaints are usually resolved quickly and mentioned also the online platforms are not good enough. On the other hand, there are significant percentage of respondents either disagree or neutral in regards to the tangibility, reliability, assurance, responsiveness & empathy of after sales services quality. Whereas there are number of respondents also agree on the mentioned enhanced service quality parameters.

### **4.3. Inferential Analysis**

Inferential statistics allow researchers to infer from the data through analysis the relationship between two variables; differences in a variable among different subgroups; and how several independent variables might explain the variance in a dependent variable (Sekaran 2000).

### 4.3.1. Correlation Analysis

Correlation analysis deal with relationships among variables and helps to gain insight into the direction and strength of relation between the variables. Correlation coefficients take values between -1 and 1 ranging from being negatively correlated (1) to uncorrelated (0) to positively correlated (+1). The sign of the correlation coefficient defines the direction of the relationship. The absolute value indicates the strength of the correlation (Gogtay & Thatte 2017). According to (Asuero 2006) a correlation result which is zero indicates zero correlation, a result between 0.1 to 0.29 indicates a little correlation among variables, a result from 0.3 to 0.49 shows low correlation between variables, a result which is between 0.5 to 0.69 shows a moderate correlation, a result from 0.7 to 0.9 indicates high correlation among variables and a result from 0.9 to 1 indicates very high correlation between variables.

<b>Correlation Value of Coefficient</b>	
<b>Value of coefficient</b>	<b>Relation between variables</b>
0.70-0.90	Very strong association
0.50-0.69	Substantial association
0.30-0.49	Moderate association
0.10- 0.29	Low association
0.01-0.09	Negligible association

*Table 4.11: correlation analysis between after sales service quality dimensions and customer satisfaction*

		Provision of Information	Installation	Maintenance Service	Billing Service	Customer Complaint Handling	Enhanced Service Quality	Satisfaction
Provision of Information	Pearson Correlation	1						
	Sig. (2-tailed)							
	N	136						
Installation	Pearson Correlation	.650**	1					
	Sig. (2-tailed)	.000						
	N	136	136					
Maintenance Service	Pearson Correlation	.580**	.794**	1				
	Sig. (2-tailed)	.000	.000					
	N	136	136	136				
Billing Service	Pearson Correlation	.643**	.624**	.551**	1			
	Sig. (2-tailed)	.000	.000	.000				
	N	136	136	136	136			
Customer Complaint Handling	Pearson Correlation	.646**	.644**	.657**	.732**	1		
	Sig. (2-tailed)	.000	.000	.000	.000			
	N	136	136	136	136	136		
Enhanced Service Quality	Pearson Correlation	.713**	.705**	.727**	.646**	.743**	1	
	Sig. (2-tailed)	.000	.000	.000	.000	.000		
	N	136	136	136	136	136	136	
Satisfaction	Pearson Correlation	.757**	.739**	.717**	.720**	.765**	.854**	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	
	N	136	136	136	136	136	136	136

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

Source: Researcher's Own Work, 2019

As per the correlation result as shown in Table 4.3 all items of after sale services quality dimensions have a positive and statistically significant relationship with customer satisfaction with p-value less than 0.001 although the strength of the relationship varies across different items of after sale services quality dimension. The strongest correlation is detected between customer satisfaction with enhanced service quality, customer complaint handling and provision of information with correlation

coefficient of .854, .765, and .757 respectively. The lower correlation coefficient identified on customer satisfaction with maintenance service (.717).

Hence, according to the correlation result positive coefficient means that there is a direct relationship between dependent and independent variable. Thus, when the after sales services situations are satisfactory then customer satisfaction will be enhanced and the vice versa.

### **4.3.2. Regression Analysis**

Basically, regression analysis was carried out in order to test the extent of the impact of independent variables on dependent variable. But before regression analysis is formulated, we must take the collinearity test to check the VIF (variance inflation factor) and degree of tolerance, linearity test and normality test as well in order to ensure the appropriateness of data. Here the researcher conducted a linear stepwise multiple regression analysis so as to test the relationship among independent variables and dependent variable. The researcher applied the statistical package for social sciences (SPSS) to code, enter and compute the measurements of the multiple regressions for the study.

#### **4.3.2.1. Multicollinearity Test**

In this section the correlation between customer satisfaction and independent variables has been presented and analyzed. Multicollinearity occurs when independent variables in a regression model are correlated. This correlation is a problem because independent variables should be independent. If the degree of correlation between variables is high enough, it can cause problems when you fit the model and interpret the results.

The idea is that you can change the value of one independent variable and not the others. However, when independent variables are correlated, it indicates that changes in one variable are associated with shifts in another variable. The stronger the correlation, the more difficult it is to change one variable without changing another. It becomes difficult for the model to estimate the relationship between each independent variable and the dependent variable independently because the independent variables tend to change in unison.

##### **4.3.2.1.1 Variance Inflation Factor (VIF) & Tolerance Level**

The Variance Inflation Factor (VIF) and tolerance are both widely used measures of the degree of multicollinearity of the independent variable with the other independent variables in regression

models. A tolerance of less than 0.20 or 0.10 and/or a VIF of 5 or 10 and above were shown to indicate a multicollinearity problem.

*Table 4.12: Multicollinearity Analysis*

Coefficients <sup>a</sup>			
Model		Collinearity Statistics	
		Tolerance	VIF
1	Provision of Information	0.411	2.431
	Installation	0.297	3.371
	Maintenance Service	0.303	3.298
	Billing Service	0.397	2.522
	Customer Complaint Handling	0.323	3.099
	Enhanced Service Quality	0.292	3.429

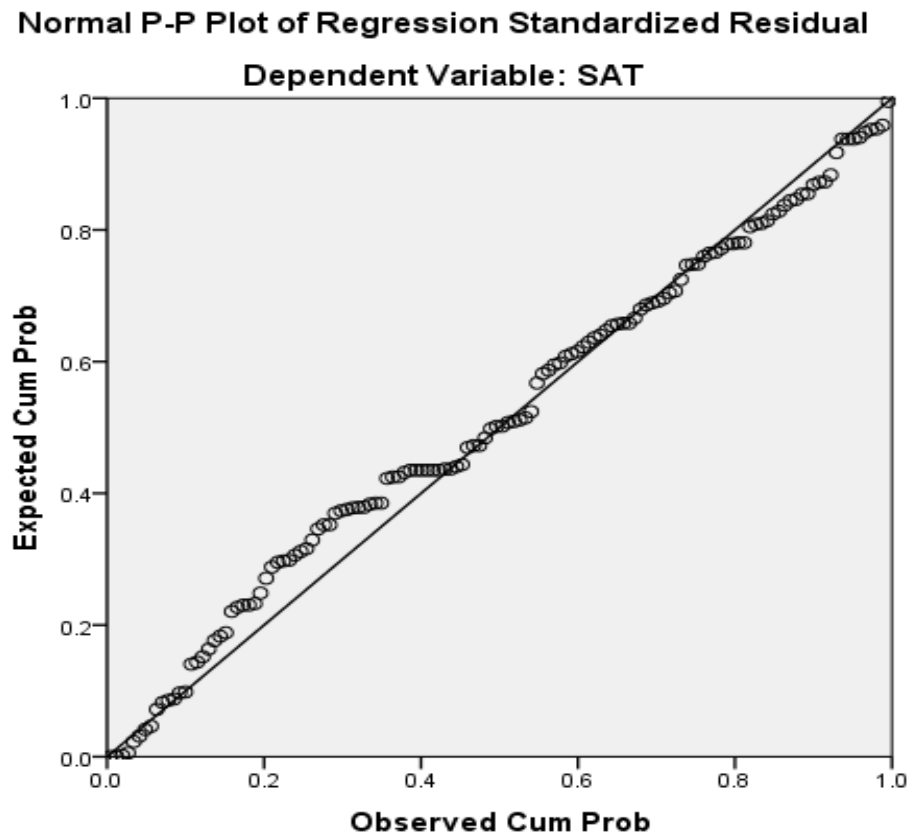
a. Dependent Variable: SAT

Source: Researcher's Own Work, 2019

#### 4.3.2.2. Linearity Test

The term linearity refers to the degree to which the change in the dependent variable is related to the change in the independent variables. To determine whether the relationship between the dependent variable which is customer satisfaction and the independent variables; provision of information, installation, maintenance services, billing service, customer complaint handling and enhanced service quality are linear; plots of the regression residuals through SPSS software has been used.

Figure 4.1: Graph of Linearity Test



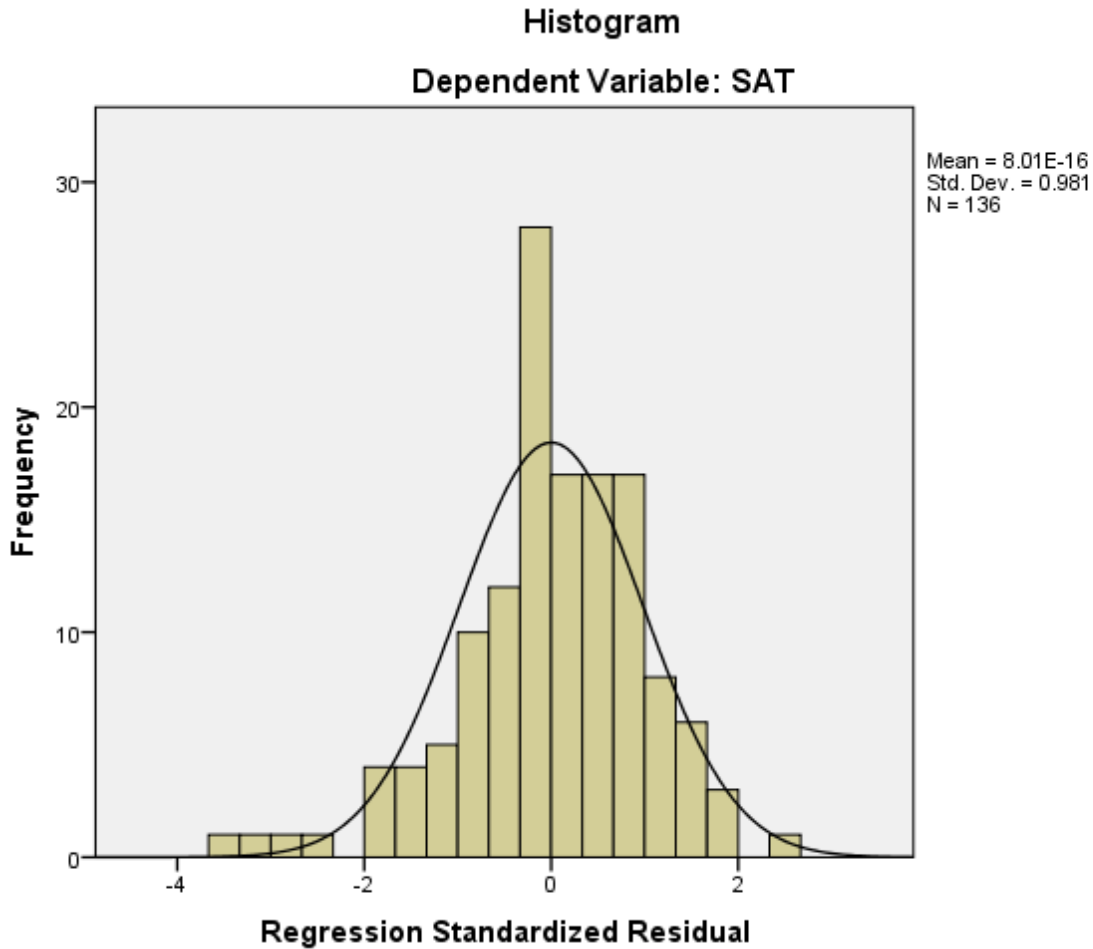
Source: Researcher's Own Work, 2019

As shown in figure 4.1 the scatter plot of residuals shows no large difference in the spread of the residuals as you look from left to right on the figure. This result suggests the relationship we are trying to predict is linear. Similarly, the above figure shows the normal distribution of residuals around its mean of zero. Hence the normality assumption is fulfilled as required based on the above figure, it is possible to conclude that the inferences that the researcher will make about the population parameter from the sample is somewhat valid.

#### 4.3.2.3. Normality Test

The other significant step before running the regression analysis is checking for normality of the data. As it is shown in Figure 4.2, the frequency distribution of the standardized residuals is normally distributed, and the histogram is also bell-shaped which lead to infer that the residual (disturbance or errors) are normally distributed. Thus, data qualify the assumption of normal distribution and possible to undertake the analysis.

Figure 4.2: Normality Test Graph



Source: Researcher's Own Work, 2019

#### 4.3.2.4. Model Fitting

Table 4.13: Model Summary

Model Summary <sup>f</sup>				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
	.903 <sup>e</sup>	.815	.807	.38543

Source: Researcher's Own Work, 2019

The adjusted R<sup>2</sup> is the coefficient of determination. This value explains how customer satisfaction practices varied with provision of information, installation, billing service, customer complaint handling and enhanced service quality. The 5 independent variables that were studied, explain

81.5% of the factor affecting customer satisfaction is related with after sales services as represented by the R<sup>2</sup>. Therefore, a further research could be conducted to investigate the other factors (18.5%) that affects customer satisfaction in related with after sales services.

*Table 4.14: Analysis of Variance (ANOVA)*

ANOVA <sup>a</sup>					
Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	84.852	5	16.970	114.234	.000 <sup>f</sup>
Residual	19.313	130	.149		
Total	104.165	135			

a. Dependent Variable: SAT

f. Predictors: (Constant), ES, BS, PI, IN, CC

Source: Researcher's Own Work, 2019

According to (Mugenda 2003), ANOVA is a data analysis procedure that is used to determine whether there are significant differences between two or more groups or samples at a selected probability level. An independent variable is said to be a significant predictor of the dependent variable if the absolute t-value of the regression coefficient associated with that independent variable is greater than the absolute critical t-value. In this study, the significance value is .000 which is less than 0.05 thus the model is statistically significant in predicting the independent variables means; provision of information, installation, maintenance service, billing service, customer complaint handling and enhanced service quality towards the dependent variable called customer satisfaction.

#### 4.3.2.5. Regression Output of Each Variable

Table 4.15: Multiple Regressions Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations		
	B	Std. Error	Beta			Zero-order	Partial	Part
(Constant)	-.020	.141		-.141	.888			
ES	.436	.066	.441	6.596	.000	.854	.501	.249
BS	.139	.062	.134	2.248	.026	.720	.193	.085
PI	.170	.056	.177	3.007	.003	.757	.255	.114
IN	.148	.059	.145	2.515	.013	.739	.215	.095
MS	.067	.077	.059	.867	.388	.717	.076	.033
CC	.148	.074	.131	2.001	.048	.765	.173	.076

a. Dependent Variable: SAT

Source: Researcher's Own Work, 2019

The researcher conducted a multiple regression analysis in order to determine the relationship between Customer Satisfaction and the six variables. As per the SPSS generated table above, the equation ( $Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \beta_5X_5 + \epsilon$ ) becomes:

As per the SPSS generated the established regression equation is:

$$Y = -0.020 + 0.436 X_1 + 0.170 X_2 + 0.148 X_3 + 0.148 X_4 + 0.139 X_5 + \epsilon \text{ where:}$$

Y = Dependent Variable

$\beta_0$  = Intercept (value of Y when X= 0)

$\beta_1$  = Slope

X1= Enhanced Service Quality

X2= Provision of information

X3= Installation

X4= Customer Complaint Handling

X5= Billing Service

$\epsilon$  = the error

According to the regression equation established, taking all factors into account (provision of information, installation, billing service, customer complaint handling and enhanced service quality) constant at zero, customer satisfaction will be -0.020. The data findings analyzed also shows that taking all other independent variables at zero, a unit increase in Enhanced Service Quality will lead to a 0.436 increase in Customer Satisfaction; a unit increase in Provision of Information will lead to a 0.170 increase in Customer Satisfaction, a unit increase in Installation will lead to a 0.148 increase in Customer Satisfaction, a unit increase in Customer Complaint Handling will lead to a 0.148 increase in Customer Satisfaction and a unit increase in Billing Service will lead to a 0.139 increase in Customer Satisfaction.

This infers that Enhanced Service Quality affects the Customer Satisfaction more and followed by Provision of Information variable.

At 8% level of significance and 92% level of confidence, Enhanced Service Quality had a 0.000 level of significance; Provision of information showed a 0.003 level of significant, Installation showed a 0.013 level of significant, Customer Complaint Handling had a 0.048 level of significant, and Billing Service had a 0.026 level of significant. Hence, here the most significant factor is Enhanced Service Quality.

#### **4.4. Testing of Hypothesis**

The study evaluated using questionnaire with questions tailored towards assessing the effects of after sales services quality on customer satisfaction of Ethio Telecom Key Account customers. All the six hypotheses were subjected to statistical test and regression analysis was used to testing all hypotheses.

##### **H1: Provision of Information has significant positive influence on customer satisfaction.**

This study found out that Provision of Information has significant and positive relationship with customer satisfaction. The standardize Beta coefficient of the two variables (provision of information and customer satisfaction) is 0.170 at 0.003 significance level. This shows provision of information has a positive and significant relationship with customer satisfaction. In line with the research done by (Potluri & Hawariat 2010), provision of information for products and services has a significant impact on after sales services customer satisfaction. Therefore, Ethio Telecom

must realize that provision of information after sales transactions are completed could have positive impact on customer satisfaction. Hence, the student researcher accepts the hypothesis that is provision of information has a significant positive influence on customer satisfaction.

**H2: Installation has significant positive impact on customer satisfaction.**

This study found out that Installation has significant and positive relationship with customer satisfaction. The standardize Beta coefficient of the two variables (installation and customer satisfaction) is 0.148 at 0.013 significance level. This shows that installation has a positive and significant relationship with customer satisfaction. According to the research done by (Shaharudin et. al. 2009), also revealed that installation has a significant impact on after sales services customer satisfaction. Therefore, the company should realize that installation has positive significant impact on customer satisfaction. Thus, the student researcher accepts the hypothesis that is installation has a significant positive impact on customer satisfaction.

**H3: Maintenance Service has significant positive effect on customer satisfaction.**

The study also found out that Maintenance Service doesn't have significant impact on customer satisfaction of Key Account customers. The standardize Beta coefficient of the two variables (maintenance service and customer satisfaction) is 0.059 at 0.388 significance level. This shows that maintenance service has not a significant impact on customer satisfaction of Key Account customers. This result doesn't match with previous research outputs. As per the researcher experience and observation, this might happen since Key Account customers sought maintenance service as a must action of Ethio Telecom and they complaint highly when absence of swift maintenance service and felt normal when persistently existed. Accordingly, the student researcher rejects the hypothesis that is maintenance service has a significant positive impact on customer satisfaction.

**H4: Billing Service has significant positive link with customer satisfaction.**

The researcher study deals out that Billing Service has one of the after sales variable significantly and positively related with customer satisfaction. The standardize Beta coefficient of the two variables (installation and customer satisfaction) is 0.139 at 0.026 significance level. This shows that billing service has a positive and significant relationship with customer satisfaction and

aligned with the research done by (Potluri & Hawariat 2010), too. So, the company should give high attention for billing services quality since it has a significant impact on customer satisfaction. Thus, the student researcher accepts the hypothesis that is billing service has significant positive link with customer satisfaction.

**H5: Customer Complaint Handling has significant positive impact on customer satisfaction.**

The researcher study agrees that Customer Complaint Handling has one of the after sales variable significantly and positively related with customer satisfaction. The standardize Beta coefficient of the two variables (customer complaint handling and customer satisfaction) is 0.148 at 0.048 significance level. This shows that customer complaint handling has a positive and significant relationship with customer satisfaction and aligned with the research done by (Potluri & Hawariat 2010), as well. Thus, the company should give high consideration for customer complaint handling service quality since it has a significant impact on customer satisfaction. Therefore, the student researcher accepts the hypothesis that is customer complaint handling has a significant positive impact on customer satisfaction.

**H6: Enhanced Service Quality has significant positive impact on customer satisfaction.**

This study found that Enhanced Service Quality has the most and the highest variable affects significantly and positively in related with customer satisfaction. The standardize Beta coefficient of the two variables (installation and customer satisfaction) is 0.436 at 0.000 significance level. This shows that enhanced service quality has a highest positive and significant relationship with customer satisfaction and aligned with the research done by (Shaharudin et. al. 2009) and (Tegbar 2017) as well. Therefore, the company should give big consideration for enhanced service quality since it has a significant and highest impact on customer satisfaction. Accordingly, the student researcher accepts the hypothesis that is enhanced service quality has a significant positive impact on customer satisfaction.

*Table 4.16: Summary of Hypothesis Result*

<b>Hypotheses</b>	<b>Result</b>	<b>Significance Level</b>	<b>Reason</b>
<b>H1:</b> Provision of Information has significant and positive influence on customer satisfaction	Accepted	.003	$\beta=0.170$ , $P<0.05$
<b>H2:</b> Installation has significant and positive impact on customer satisfaction	Accepted	.013	$\beta=0.148$ , $P<0.05$
<b>H3:</b> Maintenance Service has significant and positive effect on customer satisfaction	Rejected	.388	$\beta=0.059$ , $P>0.05$
<b>H4:</b> Billing Service has significant and positive link with customer satisfaction	Accepted	.026	$\beta=0.139$ , $P<0.05$
<b>H5:</b> Customer Complaint Handling has significant and positive impact on customer satisfaction	Accepted	.048	$\beta=0.148$ , $P<0.05$
<b>H6:</b> Enhanced Service Quality has significant and positive impact on customer satisfaction	Accepted	.000	$\beta=0.436$ , $P<0.05$

Source: Researcher's Own Work, 2019

## Chapter Five

### Summary, Conclusion and Recommendation

#### 5.1. Summary of the findings

The main objective of this study was to assess the factors that affect customer satisfaction towards Ethio Telecom's after sales services.

The researcher used explanatory research design to analyze the effect of after sales services quality on customer satisfaction on Ethio Telecom Key Account customers. The populations for the study were Key Account customers of Ethio Telecom located at Addis Ababa and Yamane sampling method has been used to determine the sample size. From the total 147 total sample size questionnaires, 136 were responded for this survey. Data was collected using questionnaires, edited, coded and entered into the Statistical Package for Social Sciences (SPSS) software version 20 to enable the carry out the study analysis. In descriptive statistical analysis frequency, percentages and mean values of variables were computed. In inferential statistics, the data was analyzed using correlation and regression, which was vital in making sense of the data. The analyzed data was presented in the form of tables and figures.

Despite many different variables related with after sale services quality that could determine the customer satisfaction, in this research the researcher was concentrated only some variables which are more relevant to telecom companies that has been used to assess the effect of after sales services quality on customer satisfaction. The researcher takes the following variables: enhanced service quality, provision of information, installation, customer complaint handling, billing service and maintenance service. From the total six after sales related variables, the hypothesis testing regression analysis result accepted five of them and reject only maintenance service variable.

As a predictor enhanced service quality, provision of information and installation are the highest factors significantly affect customer satisfaction. Customer complaint handling and billing services are also the other factors affect significantly the customer satisfaction.

The overall findings of the study showed a significant impact of all the five variables on customer satisfaction except for maintenance service variable rejected on the hypothesis test regression analysis stage. The study found out that there was 81.5% of corresponding change in determining customer satisfaction in Ethio Telecom's after sales services for every change in the five predictor variables jointly. Test of overall significance of the five variables jointly, enhanced service quality, provision of information, installation, customer complaint handling and billing service using ANOVA, at .05 level of significance found the model to be significant.

## **5.2. Conclusion**

After sales services quality has a vital factor on customer satisfaction beside the sales related services. It's important to note which factors affect the customer satisfaction related with after sales services in a given organization, so that the management can put more emphasis on the after sales services factors since they affect significantly the customer satisfaction. Organizations will benefit in terms of enhanced understanding of factors that directly influence customer satisfaction, plus this day's businesses demanded such kind of after sales related operations vastly as customers interest and desire has increased time to time and the competition also very tight in this regard. Therefore, we can conclude that currently after sales services quality has a survival issue almost for all business organizations.

This study is conducted to examine the effect of after sales service quality on customer satisfaction. Based on the findings of this study there is a positive correlation between after sales services dimensions and customer satisfaction except for one variable rejected in the hypothesis testing stage.

From the mean results of all dimensions (Enhanced Service Quality 3.166176, Provision of Information 3.1654, Installation 2.858824, Customer Complaint Handling 2.960294 and Billing Service 2.972059) we can say that Ethio Telecom Key Account customers are more in between dissatisfaction and less in satisfaction with the after sales services quality.

Furthermore, the descriptive analysis shows that there is room in providing provision of information for products and services of ET, but lacks clarity and accessibility especially printed the printed materials. Installation quality is not as expected by customers and becoming a source

of customer dissatisfaction after procuring a given telecom product. Service fault has been encountered frequently for which required regular quick maintenance. Bills are not charged timely some times and lacks clarity massively with frequent exaggeration of charges, customer complaint platforms are available, but still more work needed to resolve customer complaints quickly. Much more effort still required to meet the reliability, responsiveness, tangibility, assurance & empathy dimensions in related with the after sales services quality and maximize satisfaction of customers.

Finally, the results obtained from the regression analysis confirm that five out of the six after sales services quality dimensions are significant while maintenance dimension was insignificant with a significance level greater than 0.05.

### **5.3. Recommendations**

Ethio Telecom should look forward in maximizing the after sales services quality to boost customer satisfaction beside provisioning services since the after sales services operations have a significant impact as well on customer satisfaction. Detail recommendations are drawn from the analysis and conclusions made. They are presented in the reference to factors affecting customer satisfaction in the after sales services domain.

#### **Provision of Information:**

- Ethio Telecom should give a great attention in providing clarity and detail information regarding products and services offered by the company as they are usually technological and required detail information to understand, utilize and maintain.
- Brochures and leaflets need to be prepared and disseminated to customers in every product category aspect to support customer in enjoying the procured products and services.

#### **Installation:**

- The mean value of installation variable is below 3. This implies that majority of customers are not that much satisfied with the installation related after sales service quality and as per other observations and experience, still there are various problems in related with installation quality and in providing quick response too. Hence, the company should give focus to maximize installing lines quickly with a maximum quality as much as possible.

- Customers might get frustrated highly when their new purchased and installed line frequently interrupted and required maintenance, hence the company should keep its image by engaging highly professional and skillful employees for which enable to process the installation work with the highest quality.

### **Customer Complaint Handling:**

- It is quite simple to withdraw somebody complaining about Ethio Telecom's service quality specially on the after sales services part. So, the company should deploy further technological and self-service platforms, plus maximizing the complaint handling response time as well.
- The company should also look forward in deploying international standard customer complaint handling mechanisms to align itself at international standard level and to eliminate the customer shouts here and there in related with after sales services quality problem.
- Issues in related with staffs managing customer complaints is also critical issue need to be addressed well and the company should concentrate in assigning staffs those have expertise knowledge and have a capacity to handle customer problems. This is a great deal could have a significant impact on customer satisfaction.

### **Billing Services:**

- This is one of the main variables affect customers at various times. The company need to work hard in eliminating billing related problems as per the researcher experience and observations. The researcher study correspondingly showed that how much billing related after sales services affect the customer satisfaction.
- The company should give instant attention in avoiding bill exaggerations, delay of charging bills and dispatching accurate and convincing quality bills.
- The bill attachments need to be clear and understandable so as to enable customers to compute their usage simply.

### **Enhanced Service Quality:**

- The enhanced service quality dimensions are the dominant factors affect customer satisfaction significantly with beta value of 0.436. Hence the company after sales service quality must be well tangible (standard, use technology, professional & neat employees), reliable after sale service is required for (Correct & error free, done as promised).
- The company should assure reliable after sale service (Correct & error free, done as promised) since customers will be disappointed surely if not reliable service is secured. The coming era will be very tough to Ethio Telecom due to the change in government policy to engage other private operators in Ethiopia. Hence, reliable service is a mandatory action to keep and maximize customer satisfaction.
- Based on the researcher study plus as per the researcher observation and experience, responsiveness issues (prompt response, willingness/readiness to support customers) are very critical points required further attention to meet customer's demand. Quick response to customers is a vital point beside readiness or willingness to support.
- Ethio Telecom should work hard to adopt assurance of after sales services quality dimension. The company employees need to be empowered with skill & knowledge, courteous employees and could assure customers that they are safe in transactions.
- Even if there are good progresses in exercising empathy (give customers attention, caring customers, understand need & best interest of customers) as per the researcher observation, still the company should work to strengthened empathy to boost customer satisfaction.

Finally, the researcher recommends Ethio Telecom to give high focus so as to boost the customer satisfaction especially on after sales services dimension since the current business operation competitions and customer's dynamic demand required a deep attention on it. As per the researcher customer experience and observation, the sales operation is more or less good enough, but the after sales services quality still demands high concentration by the management and employees as well to retain and satisfy customers.

## 5.4 Recommendation for Further Research

The researcher could not study satisfactorily on all areas of this topic and therefore recommends the following areas for future investigations.

- The researcher finds out after sales services factors for which could impact customer satisfaction at 81.5% level and other researcher could work on it to identify much more variables.
- The research scope was Key Account customers and other researcher could work on another customer category group to check the similarity and consistency of the research outputs.
- It will be good also to consider making research on other sectors after sales services quality and its effect on customer satisfaction.

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# Appendix

## Appendix 1 – Questionnaire

ADDIS ABABA UNIVERSITY COLLEGE OF BUSSINESS & ECONOMICS

SCHOOL OF COMMERCE

DEPARTMENT OF MARKETING MANAGEMENT

Dear Respondent,

I am a graduate student in Addis Ababa University School of Commerce. Currently I am conducting a research on “The effect of after sales service quality on customer satisfaction the case of Ethio Telecom. The research is undertaken as academic requirements of **partial fulfillment for the Master of Arts Degree in Marketing Management.**

You have been selected to participate in this study due to the importance of your information in the study. The information you provide will only be used for the purpose of this study and will be treated with utmost confidentiality. Please feel free and answer all the questions truthfully. Thank you in advance for your kind cooperation and dedicating your time.

If you have any inquiry, please feel free and contact me at [getdave.et@gmail.com](mailto:getdave.et@gmail.com)

Yours Sincerely,

Dawit Tegene

Email: [getdave.et@gmail.com](mailto:getdave.et@gmail.com)

Tel: +251911508755

**Part I  
General Information**

**Instruction:** Please put  a tick mark on the most appropriate category against each question

1. Age:

A. Under 25

C. 41 - 50

B. 26 - 40

D. Above 50

2. Gender:

A. Female

B. Male

3. Educational Background:

A. Certificate

C. Bachelors & Above

B. Diploma

D. Other

4. Frequency of visiting the after sales department per year:

A. 1 to 5

C. 11 to 20

B. 6 to 10

D. More than 20

**Part II-After Sales Service Quality Dimension Questions**

**Instruction:** Please put a tick mark  for the most appropriate response number against each statement where (5=Strongly Agree; 4= Agree; 3=Neutral; 2= Disagree; 1= Strongly Disagree)

No	Variables	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
	<b>Provision of Information</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
1	Provision of information is provided to customers after sales transactions takes place.					
2	The product & service information given by the company has good enough					
3	The information are clear & convenient to understand					
4	Billing tariffs are informed to customers transparently					
5	User manuals/brochures are prepared well and provided to customers					

	<b>Installation</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
6	Installation is done timely after purchase of products or services					
7	The installation experts are well equipped & skillful					
8	The quality of installation is good enough always					
9	There is no frequent trouble in related with installation					
10	Installation defects usually detected accurately & corrected instantly					
	<b>Maintenance Service</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
11	The quality of the maintenance service is high					
12	Maintenance issues are resolved timely and based on the citizen charter date					
13	The company provides regular maintenance service					
14	Maintenance issues usually resolved with the first trial					
15	Maintenance staffs are professional & skillful					
	<b>Billing Service</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
16	The company usually charge bills timely					
17	The bill information is often accurate & convincing					
18	The bill attachment invoice is clear & understandable					
19	Exaggeration of bill not encountered frequently					
20	Clear information is usually given how the bill is charged & computed					
	<b>Customer Complaint Handling</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
21	There are enough customer complaint handling platforms					
22	Complaints are usually resolved quickly					
23	The online customer complaint handling platforms are good enough					
24	The staffs handling complaints are very professional & knowledgeable					
25	There is sense of taking customer complaint as a gift and tool for future growth					

	<b>Enhanced Service Quality</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
26	The company after sales service quality has tangible (standard, use technology, professional & neat employees)					
27	Reliable after sale service (Correct & error free, done as promised)					
28	High company responsiveness for after sales services issues (prompt response, willingness/readiness to support customers)					
29	The company has good assurance after sales service quality (Skillful & knowledgeable employees, courteous employees, can assure customers that they are safe in transactions)					
30	The company has good empathy in providing after sales services (Give customers attention, caring customers, understand need & best interest of customers)					
	<b>Satisfaction</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
31	Overall, I am satisfied with the after sales services quality of the company					
32	The after-sales service departments meet my expectations					
33	I feel I do the right thing when I choose the company's products & services					
34	I didn't feel regret in using product & services of the company					

**Thank You!**

## Appendix 2: Detail Result of SPSS

### Appendix 2a: Test of Normality of the Data

		Provision of Information	Installation	Maintenance Service	Billing Service	Customer Complaint Handling	Enhanced Service Quality
N	Valid	136	136	136	136	136	136
	Missing	0	0	0	0	0	0
Skewness		-.132	.039	.111	.275	.024	-.039
Std. Error of Skewness		.208	.208	.208	.208	.208	.208
Kurtosis		-1.117	-1.121	-1.102	-1.094	-1.089	-1.323
Std. Error of Kurtosis		.413	.413	.413	.413	.413	.413

### Appendix 2b: Detail Regression Analysis

#### Model Summary

Model Summary<sup>f</sup>

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.854 <sup>a</sup>	.729	.727	.45903
2	.882 <sup>b</sup>	.777	.774	.41768
3	.893 <sup>c</sup>	.798	.794	.39906
4	.899 <sup>d</sup>	.809	.803	.38983
5	.903 <sup>e</sup>	.815	.807	.38543

a. Predictors: (Constant), ES

b. Predictors: (Constant), ES, BS

c. Predictors: (Constant), ES, BS, PI

d. Predictors: (Constant), ES, BS, PI, IN

e. Predictors: (Constant), ES, BS, PI, IN, CC

f. Dependent Variable: SAT

#### ANOVA

ANOVA<sup>a</sup>

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	75.930	1	75.930	360.363	.000 <sup>b</sup>
	Residual	28.235	134	.211		
	Total	104.165	135			
2	Regression	80.963	2	40.481	232.047	.000 <sup>c</sup>
	Residual	23.202	133	.174		
	Total	104.165	135			
3	Regression	83.144	3	27.715	174.034	.000 <sup>d</sup>
	Residual	21.021	132	.159		
	Total	104.165	135			
4	Regression	84.258	4	21.064	138.615	.000 <sup>e</sup>
	Residual	19.907	131	.152		
	Total	104.165	135			
5	Regression	84.852	5	16.970	114.234	.000 <sup>f</sup>
	Residual	19.313	130	.149		
	Total	104.165	135			

a. Dependent Variable: SAT

b. Predictors: (Constant), ES

c. Predictors: (Constant), ES, BS

d. Predictors: (Constant), ES, BS, PI

e. Predictors: (Constant), ES, BS, PI, IN

f. Predictors: (Constant), ES, BS, PI, IN, CC

## Multiple Regressions Coefficients

### Coefficients<sup>a</sup>

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations		
		B	Std. Error	Beta			Zero-order	Partial	Part
1	(Constant)	.504	.146		3.446	.001			
	ES	.844	.044	.854	18.983	.000	.854	.854	.854
2	(Constant)	.200	.144		1.383	.169			
	ES	.660	.053	.668	12.446	.000	.854	.734	.509
	BS	.298	.056	.288	5.371	.000	.720	.422	.220

3	(Constant)	.094	.141		.668	.505			
	ES	.549	.059	.555	9.330	.000	.854	.630	.365
	BS	.227	.056	.219	4.026	.000	.720	.331	.157
	PI	.211	.057	.220	3.701	.000	.757	.307	.145
4	(Constant)	.046	.139		.334	.739			
	ES	.486	.062	.491	7.827	.000	.854	.564	.299
	BS	.191	.057	.185	3.371	.001	.720	.283	.129
	PI	.178	.057	.186	3.130	.002	.757	.264	.120
	IN	.160	.059	.157	2.707	.008	.739	.230	.103
5	(Constant)	-.020	.141		-.141	.888			
	ES	.436	.066	.441	6.596	.000	.854	.501	.249
	BS	.139	.062	.134	2.248	.026	.720	.193	.085
	PI	.170	.056	.177	3.007	.003	.757	.255	.114
	IN	.148	.059	.145	2.515	.013	.739	.215	.095
	CC	.148	.074	.131	2.001	.048	.765	.173	.076

a. Dependent Variable: SAT

## Excluded Variables

**Excluded Variables<sup>a</sup>**

Model	Beta In	t	Sig.	Partial Correlation	Collinearity Statistics	
					Tolerance	
1	PI	.301 <sup>b</sup>	5.109	.000	.405	.492
	IN	.273 <sup>b</sup>	4.618	.000	.372	.503
	MS	.203 <sup>b</sup>	3.210	.002	.268	.471
	BS	.288 <sup>b</sup>	5.371	.000	.422	.582
	CC	.291 <sup>b</sup>	4.659	.000	.375	.448
2	PI	.220 <sup>c</sup>	3.701	.000	.307	.435
	IN	.195 <sup>c</sup>	3.338	.001	.279	.454
	MS	.158 <sup>c</sup>	2.676	.008	.227	.460
	CC	.171 <sup>c</sup>	2.483	.014	.211	.340
3	IN	.157 <sup>d</sup>	2.707	.008	.230	.434
	MS	.141 <sup>d</sup>	2.492	.014	.213	.457
	CC	.148 <sup>d</sup>	2.230	.027	.191	.336
4	MS	.081 <sup>e</sup>	1.188	.237	.104	.313
	CC	.131 <sup>e</sup>	2.001	.048	.173	.333

5	MS	.059 <sup>f</sup>	.867	.388	.076	.303
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- a. Dependent Variable: SAT
- b. Predictors in the Model: (Constant), ES
- c. Predictors in the Model: (Constant), ES, BS
- d. Predictors in the Model: (Constant), ES, BS, PI
- e. Predictors in the Model: (Constant), ES, BS, PI, IN
- f. Predictors in the Model: (Constant), ES, BS, PI, IN, CC

### Residual Statistics

**Residuals Statistics<sup>a</sup>**

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	1.8468	4.8099	3.1746	.79280	136
Residual	-1.34042	.99634	.00000	.37823	136
Std. Predicted Value	-1.675	2.063	.000	1.000	136
Std. Residual	-3.478	2.585	.000	.981	136

- a. Dependent Variable: SAT

### Appendix 2c: Frequency Distribution of the Independent Variables

#### Frequency Distribution of Provision of Information

Provision of information is provided to customers after sales transactions takes place

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Disagree	4	2.9	2.9	2.9
Disagree	19	14.0	14.0	16.9
Neutral	13	9.6	9.6	26.5
Agree	85	62.5	62.5	89.0
Strongly Agree	15	11.0	11.0	100.0
Total	136	100.0	100.0	

The product & service information given by the company has good enough

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Disagree	4	2.9	2.9	2.9

Disagree	51	37.5	37.5	40.4
Neutral	11	8.1	8.1	48.5
Agree	64	47.1	47.1	95.6
Strongly Agree	6	4.4	4.4	100.0
Total	136	100.0	100.0	

The informations are clear & convenient to understand

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Disagree	7	5.1	5.1	5.1
Disagree	49	36.0	36.0	41.2
Neutral	13	9.6	9.6	50.7
Agree	52	38.2	38.2	89.0
Strongly Agree	15	11.0	11.0	100.0
Total	136	100.0	100.0	

Billing tariffs are informed to customers transparently

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Disagree	7	5.1	5.1	5.1
Disagree	37	27.2	27.2	32.4
Neutral	12	8.8	8.8	41.2
Agree	61	44.9	44.9	86.0
Strongly Agree	19	14.0	14.0	100.0
Total	136	100.0	100.0	

User manuals/brochures are prepared well and provided to customers

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Disagree	6	4.4	4.4	4.4
Disagree	49	36.0	36.0	40.4
Neutral	22	16.2	16.2	56.6
Agree	51	37.5	37.5	94.1
Strongly Agree	8	5.9	5.9	100.0
Total	136	100.0	100.0	

## Frequency Distribution of Installation

Installation is done timely after purchase of products or services

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Disagree	11	8.1	8.1	8.1
Disagree	51	37.5	37.5	45.6
Neutral	20	14.7	14.7	60.3
Agree	50	36.8	36.8	97.1
Strongly Agree	4	2.9	2.9	100.0
Total	136	100.0	100.0	

The installation experts are well equipped & skillful

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Disagree	8	5.9	5.9	5.9
Disagree	45	33.1	33.1	39.0
Neutral	37	27.2	27.2	66.2
Agree	40	29.4	29.4	95.6
Strongly Agree	6	4.4	4.4	100.0
Total	136	100.0	100.0	

The quality of installation is good enough always

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Disagree	7	5.1	5.1	5.1
Disagree	62	45.6	45.6	50.7
Neutral	26	19.1	19.1	69.9
Agree	36	26.5	26.5	96.3
Strongly Agree	5	3.7	3.7	100.0
Total	136	100.0	100.0	

There is no frequent trouble in related with installation

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Disagree	9	6.6	6.6	6.6
Disagree	63	46.3	46.3	52.9
Neutral	24	17.6	17.6	70.6
Agree	37	27.2	27.2	97.8

Strongly Agree	3	2.2	2.2	100.0
Total	136	100.0	100.0	

Installation defects usually detected accurately & corrected instantly

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Disagree	5	3.7	3.7	3.7
Disagree	50	36.8	36.8	40.4
Neutral	27	19.9	19.9	60.3
Agree	52	38.2	38.2	98.5
Strongly Agree	2	1.5	1.5	100.0
Total	136	100.0	100.0	

### Frequency Distribution of Maintenance Service

The quality of the maintenance service is high

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Disagree	10	7.4	7.4	7.4
Disagree	66	48.5	48.5	55.9
Neutral	18	13.2	13.2	69.1
Agree	41	30.1	30.1	99.3
Strongly Agree	1	.7	.7	100.0
Total	136	100.0	100.0	

Maintenance issues are resolved timely and based on the citizen charter date

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Disagree	10	7.4	7.4	7.4
Disagree	59	43.4	43.4	50.7
Neutral	19	14.0	14.0	64.7
Agree	48	35.3	35.3	100.0
Total	136	100.0	100.0	

The company provides regular maintenance service

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Disagree	14	10.3	10.3	10.3
Disagree	51	37.5	37.5	47.8
Neutral	17	12.5	12.5	60.3
Agree	53	39.0	39.0	99.3
Strongly Agree	1	.7	.7	100.0
Total	136	100.0	100.0	

Maintenance issues usually resolved with the first trial

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Disagree	6	4.4	4.4	4.4
Disagree	69	50.7	50.7	55.1
Neutral	22	16.2	16.2	71.3
Agree	38	27.9	27.9	99.3
Strongly Agree	1	.7	.7	100.0
Total	136	100.0	100.0	

Maintenance staffs are professional & skillful

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Disagree	1	.7	.7	.7
Disagree	53	39.0	39.0	39.7
Neutral	40	29.4	29.4	69.1
Agree	39	28.7	28.7	97.8
Strongly Agree	3	2.2	2.2	100.0
Total	136	100.0	100.0	

Frequency Distribution of Billing Service

The company usually charge bills timely

	Frequency	Percent	Valid Percent	Cumulative Percent
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Valid	Strongly Disagree	5	3.7	3.7	3.7
	Disagree	51	37.5	37.5	41.2
	Neutral	11	8.1	8.1	49.3
	Agree	57	41.9	41.9	91.2
	Strongly Agree	12	8.8	8.8	100.0
	Total	136	100.0	100.0	

The bill information is often accurate & convincing

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	13	9.6	9.6	9.6
	Disagree	63	46.3	46.3	55.9
	Neutral	16	11.8	11.8	67.6
	Agree	35	25.7	25.7	93.4
	Strongly Agree	9	6.6	6.6	100.0
	Total	136	100.0	100.0	

The bill attachment invoice is clear & understandable

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	7	5.1	5.1	5.1
	Disagree	64	47.1	47.1	52.2
	Neutral	10	7.4	7.4	59.6
	Agree	43	31.6	31.6	91.2
	Strongly Agree	12	8.8	8.8	100.0
	Total	136	100.0	100.0	

Exaggeration of bill not encountered frequently

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	5	3.7	3.7	3.7
	Disagree	54	39.7	39.7	43.4
	Neutral	23	16.9	16.9	60.3
	Agree	50	36.8	36.8	97.1
	Strongly Agree	4	2.9	2.9	100.0
	Total	136	100.0	100.0	

Clear information is usually given how the bill is charged & computed

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Disagree	5	3.7	3.7	3.7
Disagree	46	33.8	33.8	37.5
Neutral	23	16.9	16.9	54.4
Agree	54	39.7	39.7	94.1
Strongly Agree	8	5.9	5.9	100.0
Total	136	100.0	100.0	

### Frequency Distribution of Customer Complaint Handling

There are enough customer complaint handling platforms

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Disagree	5	3.7	3.7	3.7
Disagree	49	36.0	36.0	39.7
Neutral	15	11.0	11.0	50.7
Agree	61	44.9	44.9	95.6
Strongly Agree	6	4.4	4.4	100.0
Total	136	100.0	100.0	

Complaints are usually resolved quickly

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Disagree	12	8.8	8.8	8.8
Disagree	72	52.9	52.9	61.8
Neutral	13	9.6	9.6	71.3
Agree	37	27.2	27.2	98.5
Strongly Agree	2	1.5	1.5	100.0
Total	136	100.0	100.0	

The online customer complaint handling platforms are good enough

	Frequency	Percent	Valid Percent	Cumulative Percent
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Valid	Strongly Disagree	5	3.7	3.7	3.7
	Disagree	51	37.5	37.5	41.2
	Neutral	36	26.5	26.5	67.6
	Agree	41	30.1	30.1	97.8
	Strongly Agree	3	2.2	2.2	100.0
	Total	136	100.0	100.0	

The staffs handling complaints are very professional & knowledgeable

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	2	1.5	1.5	1.5
	Disagree	33	24.3	24.3	25.7
	Neutral	42	30.9	30.9	56.6
	Agree	53	39.0	39.0	95.6
	Strongly Agree	6	4.4	4.4	100.0
	Total	136	100.0	100.0	

There is sense of taking customer complaint as a gift and tool for future growth

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	3	2.2	2.2	2.2
	Disagree	44	32.4	32.4	34.6
	Neutral	43	31.6	31.6	66.2
	Agree	42	30.9	30.9	97.1
	Strongly Agree	4	2.9	2.9	100.0
	Total	136	100.0	100.0	

### Frequency Distribution of Enhanced Service Quality

The company after sales service quality has tangible (standard, use technology, professional & neat employees)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	3	2.2	2.2	2.2
	Disagree	49	36.0	36.0	38.2

Neutral	23	16.9	16.9	55.1
Agree	56	41.2	41.2	96.3
Strongly Agree	5	3.7	3.7	100.0
Total	136	100.0	100.0	

Reliable after sale service (Correct & error free, done as promised)

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Disagree	5	3.7	3.7	3.7
Disagree	55	40.4	40.4	44.1
Neutral	21	15.4	15.4	59.6
Agree	52	38.2	38.2	97.8
Strongly Agree	3	2.2	2.2	100.0
Total	136	100.0	100.0	

High company responsiveness for after sales services issues (prompt response, willingness/readiness to support customers)

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Disagree	3	2.2	2.2	2.2
Disagree	40	29.4	29.4	31.6
Neutral	26	19.1	19.1	50.7
Agree	53	39.0	39.0	89.7
Strongly Agree	14	10.3	10.3	100.0
Total	136	100.0	100.0	

The company has good assurance after sales service quality (Skillful & knowledgeable employees, courteous employees, can assure customers that they are safe in transactions)

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Disagree	1	.7	.7	.7
Disagree	42	30.9	30.9	31.6
Neutral	27	19.9	19.9	51.5
Agree	59	43.4	43.4	94.9
Strongly Agree	7	5.1	5.1	100.0
Total	136	100.0	100.0	

The company has good empathy in providing after sales services (Give customers attention, caring customers, understand need & best interest of customers)

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Disagree	42	30.9	30.9	30.9
Neutral	17	12.5	12.5	43.4
Agree	67	49.3	49.3	92.6
Strongly Agree	10	7.4	7.4	100.0
Total	136	100.0	100.0	