



**ST. MARY'S UNIVERSITY  
SCHOOL OF GRADUATE STUDIES**

**THE EFFECT OF AFTER SALES SERVICE ON CUSTOMER  
SATISFACTION IN ETHIO TELECOM ENTERPRISE:  
THE CASE OF BROADBAND SUBSCRIBERS**

**BY: DAGMAWIT TESHOME**

**ID: -SGS/0148/2009B**

**DECEMBER 2018  
ADDIS ABABA, ETHIOPIA**

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**A THESIS SUBMITTED TO ST. MARY'S UNIVERSITY, SCHOOL OF  
GRADUATE STUDIES IN PARTIAL FULFILLMENT OF THE  
REQUIREMENTS FOR THE AWARD OF A MASTER'S DEGREE IN  
MARKETING MANAGEMENT.**

**ADVISOR: ADANECH GEDEFEW (ASSISTANT PROFESSOR)**

**DECEMBER 2018  
ADDIS ABABA, ETHIOPIA**

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## **DECLARATION**

I, the undersigned, declare that this thesis is my original work. All sources of materials used for this thesis have been duly acknowledged. I further confirm that the thesis has not been submitted either in part or in full to any other higher institution for the purpose of earning any degree.

Dagmawit Teshome

Name

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Signature

**St. Mary's University College, Addis Ababa**

**December 2018**

## CONFIRMATION

I confirm that this thesis has been advised by me and submitted for examination with my approval.

Adanech Gedefew (Assistant professor)

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Advisor

Signature

**St. Mary's University College, Addis Ababa**

**December 2018**

## **ACKNOWLEDGEMENT**

First and for Most I would like to Thank the Almighty God for everything. My Deepest gratitude goes to my adviser Adanech Gedefew (Assistant Professor), for her unreserved guidance. I would like to thank all the study participants for their willingness, Special Thanks goes to my Family and Friends, without their help and encouragement this work would never come to an end.



## **LIST OF ACRONYMS AND ABBREVIATIONS**

ANOVA	Analysis of Variation
ASS	After-sales service
BB	Broad Band
BEV	Behavioral Intention
CS	Customer Satisfaction
CSM	customer service management
DS	Delivery Service
ET	Ethio Telecom
INS	Installation Service
KA	Key Account
SME	Small and Medium Enterprise
SOHO	Small Office Home office
SPSS	Statistical package for the social sciences
AMOS	Analysis of moment structure
SWA	Service Warranty
WOM	Word of Mouth

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## **ABSTRACT**

An understanding of the effect of after-sales services on satisfaction and post behavioral intentions is important to services providing organizations because it allows them to differentiate their offering substantially, in a way that strengthens the relationship with their customers in the short, as well as in the long run. The purpose of this paper is to investigate the effect of after-sales services on customers 'satisfaction as well as on their behavioral intentions, namely "repurchase intention" and "word-of mouth" (WOM). The research conducted followed a quantitative and qualitative methodology. The selected research tool was a questionnaire. The study conducted was targeted at Ethio telecom broadband internet subscribers and 218 usable responses were utilized. A path analysis was performed using the "Amos" software. Findings show that after-sales service quality, affect satisfaction, which in turn affects behavioral intentions. Hence, after-sales services affect the overall satisfaction and thus, the quality of the relationship with customers.

**Key Words: After-sales Service, Customer Satisfaction, Behavioral Intention, Ethio Telecom**

# **CHAPTER ONE**

## **INTRODUCTION**

### **1.1 BACKGROUND OF THE STUDY**

The current business environment is becoming competitive and challenging than before. With multidimensional challenges and demand of globalization, the organizations are forced to reengineer their products and systems to improve the service quality and remain competitive. Customer service is considered as an integral part of any facet of industry and it defines the future of any organization. The rapid advances in technology-based systems related to internet are leading to fundamental ways in how different organizations interact. This applies same for relation of an organization with its customer effective after sales service quality will lead to customer satisfaction, which will eventually improve profit. After-sales service is considered a tool for enhancing a valuable advantage for the customer as well as it is a business opportunity for the company. Customers are satisfied by the product they purchased and by the service they got from sellers during and after they purchase the product (Eitan, 2005).

The relationship between buyers and sellers end after the delivery of goods or services in Ethiopia. Selling process should go beyond the delivery of goods and services and there should be “follow –up” step that a company should apply to ensure customer satisfaction and repeat business to make sure that there was proper installation, instruction and service (Kotler, 2002). However, this principle is only applicable in very few motor companies, electronics shops, telecom service providers and others which has after-sales service such as delivery, installation, maintenance, warranty and the likes. Ethio telecom is one of the monopolized public organization for decades known for provision of after sale service for different services such as fixed line telephone, mobiles, mobile data and both fixed and fiber broadband internet.

Even though Ethio telecom claims the provision of services to the best interest of its strategic targeted enterprise customers through after sale maintenance, the right human resource after sales specialist allocation at the right time, some easy technical trainings for the customer and other

technical assistances to meet customers' expectations towards the services quality, the company faces a great deal of complaints from its customers on daily basis. Therefore, it is important to study the quality of after sale service quality (ASS) on customer satisfaction (ETEnterprise 2018).

As a result, the study focused to assess the effect of after sales services on CS as well as behavioral intention in the case of Ethio telecom enterprise customers (ET).

## **1.2 STATEMENT OF THE PROBLEM**

CS facilitates the measure of how service and products provided by company to meet customer expectation. It is a key performance indicator in business terms. Typically, service firms monitor and examine the satisfaction level of customers on an ongoing base by using different scales to measure the level which is mainly based on service encounter experienced on their last visit (Peterson, 1992). Mostly in the case of telecom service, there is repeated service failure related with network problem and other cases. Thus, after sale service is a valuable marketing tool which provides a good opportunity for the telecom industry to satisfy the customer.

According to a case study conducted on the role of Samsung House Appliances ASS on CS, it concludes many successful businesses use after-sales service strategies to consolidate sales, build customer relationships and grow their profits. Providing after-sales service keeps customers coming back to the company and encourages them to refer your business to others. After-sales service includes what to do at the point of sale, including customer service and selling techniques. It also includes how to follow up after the customer has left, such as providing follow-up contact and effectively dealing with complaints (Zeinab, 2014). A study conducted on "The effect of after-sales services on customer's satisfaction as well as on their behavioral intentions on retail chain marketing home appliances in Iran" indicated that after-sales service , affect satisfaction and behavioral intentions, (Fazlzadeh, 2011). For this reason, after-sales services affect the overall offering and the quality of the relationship with customers.

Ethio telecom is working aggressively to provide variety of telecom services to its customers. The service varies from pre-sales to after sales service. Ethio telecom provides pre-sales and after sales

service by segmenting its customers into two different categories residential and enterprise. Even though the company gives special treatment for Enterprise customers by giving greater weight in maintaining service failures when compared to residential category the company faces a great deal of complaint every day due to unprompted employee actions (e.g. rudeness), unavailable and unreasonably slow, frustrating, frequently interrupted service. (ETEnterprise 2018).

Since Ethio telecom (ET) is the sole telecom service provider in the country, losing customers might not be an issue for the organizations' failure in after sale service. Rather damaged reputation lack of interest for additional next purchase, customer dissatisfaction and negative word of mouth will be the impacts of terrible after sales service. Studies on the topic are outdated thus the researcher was motivated to conduct this study. Therefore, based on the above background, this study expected to assess ET's after sales service effect on customer satisfaction, as well as behavioral intention on broadband internet subscribers using SERVPERF model.

### **1.3 OBJECTIVE OF THE STUDY**

#### **1.3.1 General Objective of the Study**

The objective of the study is to assess the effect of after sales service on customer satisfaction as well as behavioral intention in the case of Ethio Telecom Enterprise broad band internet subscribers.

#### **1.3.2 Specific Objectives of the Study**

To achieve the basic objective of the study, the following specific objectives have been met. These are to:

- Evaluate the effect of after sales service on customer satisfaction
- Evaluate the effect of customer satisfaction on behavioral intention
- Determine the effect of after-sales service on Behavioral intention

- Determine the mediating effect of customer satisfaction on the relationship between after-sales service and behavioral intention

## **1.4 HYPOTHESES**

Based on the main findings of the literature review, the following hypotheses are addressed to investigate the above stated relationships in the context of Ethio telecom broadband internet service by designing a behavioral model:

- H<sub>1</sub>: After sales service has a significant effect on customer satisfaction
- H<sub>2</sub>: Customer satisfaction has a significant effect on behavioral intention
- H<sub>3</sub>: After sales service has a significant effect on behavioral intention
- H<sub>4</sub>: Customer satisfaction has mediating effect on the relationship between after-sales service and behavioral intention

## **1.5 SIGNIFICANCE OF THE STUDY**

ET is a state monopolized telecom service provider which has prominently big market in Ethiopia and thus such a research was to be applied across all other public monopolized organizations in the service industry. The feedback was to be used to evaluate differentiation of ASS within the market segments and its efficacy towards achieving customer satisfaction resulted in driving the customers repurchase intention and recommendation to others. The study also evaluated the specific parameters on a dimensional basis that were emphasized in a specific market segment in comparison to what was required. This would enable a perfect fit towards provision of quality services. The study would enable a cost benefit analysis as the satisfaction was to be compared to the level of investment in the segment and would point out the specific areas of emphasis as far as investment is concerned in specific segments and ensure that the service aligned to the prevailing market conditions and customer needs, while preserving value for the telecom. The researcher believes this paper will be used as an input for Ethio Telecom in making further survey with related issues.



## **1.6 SCOPE AND LIMITATION OF THE STUDY**

This study was conducted to evaluate the quality of after sales service effect on customer satisfaction. The scope is then limited to ETEC internet service subscribers located in the capital city, Addis Ababa. For telecommunications, the most important dimensions of ASS delivery, installation and service warranty resulted in instill confidence on customers in regard to availability, reliability, security, flexibility or choice, simplicity and assurance. All of these are affected by innovations in technology and the development of a competitive market structure. Companies compete based on quality as well as price, and customers are better served by effective competition than by unchecked monopoly.

Companies with monopoly power, like ET, are likely not only to provide less variety in the services they offer but to distort levels of quality and discriminate against low-end customers. Thus, taking ET as a case study in order to evaluate the presence of significant relationship between service quality and overall customer satisfaction would shade light on the implementation of ASS in Ethiopian service industry context. Other public owned and monopolized service providers were excluded from this study as it was not the intention to determine the overall customer satisfaction of the public owned service industries.

As the research is specific to enterprise customers of the ET and is geographically confined to the capital city (Addis Ababa) and they were limited to convenience, it might affect the generalizability of the research output as well. The inherent bias in convenience sampling means that the sample is unlikely to be representative of the population being studied. It would have been better and more effective if sample customers were selected randomly which creates equal chance to be included. Besides, shortage of related research works on the topic was another impediment of this study.

## **1.7 ORGANIZATION OF THE STUDY**

This paper is organized in five chapters. The first chapter concentrates on introductory parts of the paper, which mainly focuses on the statement of the problems and objective of the study, hypothesis, significance of the study, Scope of the study and limitation. The second chapter provides related literature review with specific emphasis to theoretical, empirical aspects and the conceptual frame work. The third chapter deals with research methodology and design. The fourth chapter is discussion and analysis of the data collected. The final and fifth chapter focuses on summary of major findings, conclusion and recommendations based on the research outcomes.

## CHAPTER TWO

### REVIEW OF RELATED LITERATURE

*This chapter covers the theoretical, empirical literature reviewed and conceptual framework of the study.*

#### 2.1 THEORETICAL LITERATURE

##### 2.1.1 DEFINITIONS OF TERMS

Definitions of the key terms in this study have been defined as below:

**After-sales Service** – Refers services that are provided to the customer after the products have been delivered. Thecae services are sometimes are also called “field services”, when they are embodied in the main characteristics that are located at a customer’s site (Simmons, 2001).

**Delivery**- A service quality which refers to the quality of all these activities that are related with the safe, reliable, timely correct transportation of the good from the store to customer’s premises, activities which should be embodied with qualities like politeness, accuracy, flexibility and an overall customer-centered behavior. (Lele etal, 1983).

**Installation**- A service quality, which refers to the quality all these activities and behaviors prior as well as during the installation phase of the product. Such activities and behaviors include proper information and flexibility regarding the meeting date and time, a wise time-span between the buying of the good and the date of installation as well as accuracy. Besides, during the installation process dimensions like attention, correctness, politeness, good knowledge of the technical requirements, in other words elements that enhance the reliability, and friendliness by the company as well as its representatives. (Karmarkar, 1983)

**Service Warranty**- is assumed as an obligation for seller; it is a responsibility for seller and a satisfaction for the buyer that the product will run in long term (Anderson, 1968).

**Customer Satisfaction**-which refers to the customers' level of satisfaction from their co-operation with the customers in the context of the product or service purchase. (Parasuraman et al. 1996).

**Behavioral Intention** – Refers favorable behavioral intentions which are mostly in the form of customers 'referrals and recommendations, customers' willingness for re-purchasing as well as customers' willingness to spend more money with the particular company or to pay more for the products of this company. (Zeithaml et al. 1996).

**Repurchase Intention**-which is related to the customers' intention to prefer the same retailer in the next purchase of a new electric appliance. (Peterson, 2002).

**Word-of-Mouth**- which refers to the customers' intention to recommend the retailer to their friends, relatives and others (Wilson, A. 1994).

### 2.1.2 Service

A service is an act or performance offered by one party to another. Although the process may be tied to a physical product, the performance is essentially intangible and does not normally result in ownership of any of the factors of production. Services are economic activities that create value and provide benefits for customers at specific times and places, because of bringing about a desired change in or on behalf of the recipient of the service (Christopher et al., 2004). A service occurs when an interaction is established between customers and service providers and/or the physical component of the service and/or the systems through which the service is delivered.

The concept of service is used and defined in various perspectives by many scholars. A service is a commodity with no physical existence, usually created and consumed at the same time. Service as a process is resulting in an outcome in a partly simultaneous production and consumption process. This definition points to the fact that service provision and consumption are simultaneous activities. Service is intangible in nature; it cannot be mass produced. It cannot be inventoried and stored after production. Since services and consumers of services are inseparable, they cannot be produced until the consumer is ready to consume them. Providing consistent quality is difficult for service because of the characteristic of variability. When one puts it in the simplest term; services are deeds, processes and performances, (Gronroos, 1985).

It is apparent that services are produced not only by service businesses but also are integral to the offering of many manufactured goods producers. (Kotler,2000) defines services as service is any act or performance that one party can offer to another that is essentially intangible and does not result in the ownership of anything, its production may not be tied to a physical product. Services include all economic activities whose output is not a physical product or construction, is generally consumed at the time it is produced and provides added value in forms (such as convenience, amusement, timeliness, comfort or health) that are essentially intangible concerns of its first purchaser; and it is considered as “time-based” and the outcome of a service may result in desire change in consumer or any property of the consumer.

### **2.1.3 Service Quality**

Service quality is a focused evaluation that reflects the customer’s perception of elements of service such as interaction quality, physical environment quality and outcome quality. These elements are in turn evaluated based on specific service quality dimensions or domains were among the first to define service quality as a measure of how well the service level delivered matches the customer’s expectation. In this context, service quality is thought of as an attitude of overall judgment about service superiority, although the exact nature of this attitude is still hazy. Some suggest that service quality stems from a comparison of performance perceptions with expectations (Parasuraman, 1988), while others see it as derived from a comparison of performance with ideal standards or from perceptions of performance alone (Cronin, 1994).

Service quality is also defined as the difference between technical quality (what is delivered), functional quality (how it is delivered), as process quality (judged during the service) and output quality (judged after the service) (Gronroos, 1983). Ghobadian (1994) argued that quality in a service business a measure of the extent to which the service delivered meets the customers’ expectations. The nature of most services is such that the customer is present in the delivery process, which means that the perception of quality is influenced not only by the service outcome but also by the service process. The perceived quality lies among a continuum. Unacceptable quality lies at the end of this continuum, whereas ideal quality lies at the other end. From the above-mentioned review, it seems that service quality is a multi-dimensional concept that means

different things to different people. Moreover, defining quality is a difficult task owing to its generic nature.

Even though standards for the definition of quality may be set, these standards vary from phenomenon to phenomenon, culture to culture, and across time. The concept of service quality is most debated subject in service literatures due to lack of consensus(Gupta, 1995). Based on previous studies, Parasuraman (1985) proposed three themes on service quality: Difficult and complicated to evaluate as compared to tangible goods quality, Service quality perception results from actual service performance Vs consumer expectations and Quality evaluation not solely focuses on outcome of service. But also involves the evaluation of service delivery process. Many services are personnel intensive, customized to suit heterogeneous needs and preferences. These are jointly produced by both producer and customer(s) and are intangible and heterogeneous. This idea is commonly accepted that services are evaluated both by production, outcome and delivery process.

Gronroo's model divides customer's perception about the quality of a specific service into two dimensions i.e. technical and functional quality(Grönroos, 1994) it is also known as Technical/Functional Quality framework. For example, technical quality might consider the effectiveness of car repair, cleanliness of hotel room. And functional quality might include the care and manner of personnel involved in processes of service delivery. Also, Parasuraman (1985) proposes the gap model for service quality, that the operational service quality is gap between performance and expectations perceptions of customer (SERVQUAL).

SERVQUAL has five quality attributes these are Empathy, Responsiveness, Tangibles, Assurance and Reliability. Different authors have defined service quality models applicable in various industries i.e. medical services by Soteriou (1997) developed service quality model for bank, technology-based service quality models were proposed by (Zhu, 2002).To better understand the service quality, we need to look into the three main characteristics of services: Invisible, consistent and diverse. Because services are nonphysical it is hard to determine, record, calculate or to test the service prior to the sale to protect the quality on its delivery. Also, it is assumed that due to heterogeneity services various from person to person so performance various at different levels (Zeithaml, 1988).

### **2.1.4 After Sales Service**

Customers play a great role in every business, so every sales professional of every business must work hard and try their best to give attention and to satisfy each customer. According to Kotler (2002), product support services are increasingly becoming an area for competitive advantage. Some companies already make more than half of their profits in product support services. The customer is most concerned about an interruption in the service that they expect from the product and their worries can be specified into three areas: reliability, service dependability, and maintenance. To provide the most effective support, a supplier must identify the services that customers value most and their relative importance. After sales services includes maintenance, repair, and upgrading. If these services can be offered at a fixed or guaranteed rate, they could be a significant competitive advantage. In maintenance, it is to be remembered that one way of solving the repair problem is to have defect-free products and then service can be bundled into the product price, which can also be of strategic value (Rothschild, 1984).

After sales service is more than merely fixing what has gone wrong, this appears to be the primary function of many after sales service functions. Manufacturers should anticipate the after sales needs in product design, but experience shows that manufacturers do not incorporate customers' concerns actively enough at the product design phase. In the case of durable goods, at least customer, dealer, third party provider of service, the manufacturer of the tangible product, and the supplier of parts and components can be involved in the after-sales service operations. The traditional approach to after sales service centers is on technical intervention, where the focus is on improving technical tools and work methods. The approach looks for increased overall efficiency between the supplier and customer. Service activities are defined at the design phase.

#### **2.1.4.1 After Sales Service Techniques**

The customer is never completely wrong. There's usually some element of their perception that is a true reflection of reality as they see it. Customers can be informative if we keep an open mind and are receptive to what's being said. They can help pinpoint distribution or sales methods that need improvement. Sales Professionals need to stay in touch with the customers even after the

deal. Never ignore their calls, emails, messages etc. Any product found broken or in a damaged condition must be exchanged immediately by the sales professional (Barsky, 1995).

Sales professionals selling laptops must ensure windows are configured in the system and customers are able to use net without any difficulty. Similarly, organizations selling mobile SIM cards must ensure the number is activated immediately once the customer submits necessary document. Customers tend to be more understanding, patient and tolerant if communicate with them with integrity and in a timely manner. Think ahead of the customer with a problem-solving attitude. To prosper and build repeat business, salespeople should try to anticipate customer needs and problems.

#### **2.1.4.2 Components of After-Sales Service**

Quality of the service on delivery helps in determining the organizations global delivery system for the product or service, customer satisfaction and quality of service have causal relationship with each other and service quality influence the future purchase behavior. To retain and satisfy consumer to greater extent it is necessary that service quality should be high Quality of service/product has positive impact on customer (Cronin, 1992).

Proper strategy for service delivery on time of service towards the customer enhances the customer satisfaction and loyalty towards the product or service. Delivery of the product characterized by two dimensions i.e. speed and reliability (Michael, 2001) and ensuring that right product/service at right time in right quantity from right source delivered to right person at right price on right destination. Delivery of product and service within time to the customer increases customer satisfaction.

The willingness or readiness of employees to provide services plays a great role in satisfying customers. It contains the time lines of service. It also contains understanding the needs and requirements of the customer, easy operation time, individual attention provided by the staff, attention to the problem and customers' safety in their dealings, understanding the needs, preferences and expectations of customers, providing proper attention in receiving complaints and necessary follow up, establishing the long term relationship and fulfill requirement of the



customers, ability of the service technicians to explain the problem proper diagnosing and servicing, healthy interpersonal relation between service people and customers(Kumar, 2009).

Customer satisfaction has been the subject of a substantial body of literature, because of its influence on customer behavioral intentions and attitudes (Cronin, 1993). Regarding behavioral intentions, Zeithaml (1996) suggests that favorable behavioral intentions are mostly in the form of customers' referrals and recommendations, customers' willingness for re-purchasing, as well as customers' willingness to spend more money with the company or to pay more for the products of the company.

With a Better warranty terms, a customer can attain improved benefit of purchasing cost for repair or technical damage of the product this results in greater sale and profit. Long warranty time is also one of the bundles of satisfaction the consumer. A 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. Many weak organizations offer better warranty terms than their competitors to gain competitive advantage. Organizations consider brand loyalty is result of customer satisfaction. Therefore, credibility gap can be filled through offering better warranty terms. Valuable warranty terms and time increases satisfaction of customer (Anderson, 1968).

### **2.1.5 Customer Satisfaction**

Customer satisfaction is the judgment that emerges out of comparing pre-purchase expectations with the post-purchase evaluation of a product or service experience (Oliver, 1980). Customer satisfaction is identified as a salient precursor to customer loyalty, retention, behavioral intention, market share, and profitability. Thus, customer satisfaction is widely recognized as a key driver of the formation of consumers' future purchase intentions (Taylor, 1994) and the likelihood of their patronizing a firm in the future (Kotler, 2006). Satisfaction refers to the buyer's state of being adequately rewarded in a buying situation for the sacrifice he or she has made. Adequacy of a satisfaction is a result of matching actual past purchase and consumption experience with the expected reward from the brand in terms of its anticipated potential to satisfy the customer's motives. Oliver(1997) defined satisfaction as the customer's fulfillment response. It is a judgment that a product or service

feature, or the product or service itself, provides a pleasurable level of consumption-related fulfillment.

Translated Oliver's definition of satisfaction to mean that satisfaction is the customer's evaluation of a product or service in terms of whether that product or service has met their needs and expectations. The value percept theory regards satisfaction as an emotional response triggered by a cognitive evaluative process. Nevertheless, (Swan, 1976) were among the first to point out that satisfaction is associated with performance fulfilling expectations, while dissatisfaction occurs when performance falls below expectations. It is apparent, therefore, that customer satisfaction is an abstract and rather ambiguous concept. Manifestations of satisfaction vary from one person to another and from one product to another. The state of the so-called satisfaction depends on several psychological and physical variables and correlates with certain behaviors. Among the psychological variables, personal beliefs, attitudes and evaluations may affect customer satisfaction.

Client happiness, which is a sign of customer satisfaction, is and has always been the most essential thing for any organization. Customer satisfaction is defined by one authors "the consumer's response to the evaluation of the perceived discrepancy between prior expectations and the actual performance of the product or service as perceived after its consumption"(Tse, 1988)hence considering satisfaction as an overall post-purchase evaluation by the consumer" (Fornell, 1992). Some authors stated that there is no specific definition of customer satisfaction and after their studies of several definitions they defined customer satisfaction as "customer satisfaction is identified by a response (cognitive or affective) that pertains to a particular focus (i.e. a purchase experience and/or the associated product) and occurs at a certain time (i.e. Post-purchase, post-consumption). This definition is supported by some other authors, who think that consumer's level of satisfaction is determined by his or her cumulative experience at the point of contact with the supplier (Sureshchandar G.S., 2002). It is factual that, there is no specific definition of customer satisfaction since as the years passes, different authors come up with different definitions.

Customer satisfaction has also been defined by another author as the extent to which a product's perceived performance matches a buyer's expectations (Kotler, 2002). According to (Schiffman, 2004)Customer satisfaction is defined as "the individual's perception of the performance of the

products or services in relation to his or her expectations”. In a nutshell, customer satisfaction could be the pleasure obtained from consuming an offer. Customer satisfaction is a significant element in service delivery because understanding and satisfying customers’ needs and wants can engender increased market share from repeat purchases and referrals (Barsky, 1995). Overall contentment felt by the customer results from the ability of the service to fulfill the customer’s desires, expectations and needs in relation to the service.

Customer satisfaction is rated highly as a strategic end in and of itself, as it affects customer retention and profits directly. It will affect future repeat purchase intentions and the customers will share their positive experiences with other consumers. In this study, the researcher uses customers to evaluate after sales service quality by considering several important quality attributes in Ethio telecom and the researcher believes that Ethio telecom must take improvement actions on the attributes that have a lower satisfaction level. This means customer satisfaction will be considered on specific dimensions of service quality to identify which aspects customers are satisfied with (Reichheld, 1996).

### **2.1.6 Customer Satisfaction Measures**

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 (Anon, 2007).

**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), (Anon, 2007)

### **2.1.7 Factors that Affect Customer Satisfaction**

For marketers or service providers, achieving customer satisfaction is important because it is supposed to be an important motive of customer loyalty, repeated business (with customer) and positive word of mouth. However, quality is not the only factor that effects the customer satisfaction, there are other factors besides quality like Performance, Expectations, desires and price factor affect the customer perceptions and the overall satisfaction level. Where quality of service is a descendent of customer satisfaction as described by (Cronin, 1992), Service quality is not the only factor that has direct impact on customer satisfaction. Identification of other elements beside quality that effects the satisfaction is critical. The other factors as described by (Woodruff, 1991) are value, corporate reputation, and Image and transaction satisfaction.

On other hand factors that affect the service quality other than those of intangible nature like human interaction in service delivery, rest are of tangible nature, design and décor elements, the effect of atmospherics, employee appearance and appearance of equipment etc. A clear understanding of all these factors that affect the relationship between service quality, and customer satisfaction results in overall performance of the firm and can help to ensure better implementation of resource that firm required putting in place. All along we have been trying to understand quality of services, quality of products, and satisfaction both in the arena of comfort and in terms of utility that is, the product or service fulfilling the actual purpose for which it was made and bought (Sureshchandar, 2002).

This is however very important but the fore mentioned intricacies about satisfaction cannot be under looked. To find out whether customers were satisfied with the food services in the military hospital in Turkey realized that specific demographic characteristics were not of significance in determining the satisfaction of the patients but the appearance and taste of food. Their emphasis on demographic characteristics gives the reader the impression that they thought it was going to be an important factor, (Sahim, 2006).

## **2.1.8 Relationship between Service quality and Customer Satisfaction**

### **2.1.8.1 Service Quality and Customer Satisfaction**

During past few decades the interest of academics and researchers has been increased to measure the relationship between service quality and customer satisfaction. Both customer satisfaction and service quality are considered as extensive and vast subjects of research and many studies related to customer satisfaction are conducted in the area of service settings. In marketing theory, the consumer satisfaction category has the main position. It is based on the premise that the profit is made through the process of satisfaction of consumers' demands. A further debate has considered whether service quality is a cause customer of satisfaction (Parasuraman, 1985). It then helps to identify a link between both constructs. The Increased level of customer satisfaction decreases the chances that customers will be pointing the flaws in the quality. In service settings it would offer a better perspective of the relative importance of service quality determinants by developing more comprehensive models of the drivers of customer satisfaction. A great similarity between the customer satisfaction and service quality is observed, however researchers are careful to say that these two are different concepts. In academics both constructs are recognized as distinct and independent (Oliver, 1980).

Whereas a wide literature studies shows that both concepts are distinct conceptually but also are closely related to each other and any increase in one (quality) leads to increase in another (satisfaction). However, there are number of variations found in literature between service quality and customer satisfaction. Cronin, (1994) stated that satisfaction is customer decision after an experience while quality is not. According to him, it is important to have this distinction between the two concepts for managers and academics, as there is a greater need to understand either the firm's objective is to perform in a way that satisfies the customers, or they should strive to provide maximum level of service quality perceived by its customers.

There are researchers like Estelami, (1998) who states that that service quality and satisfaction are distinct constructs, and there is a causal relationship between the two, and the impression about the quality of service influence emotions related to satisfaction which, in turn, affect future purchase behavior. Also, customer satisfaction is viewed as the overall assessment of the service

provider. The literature related to service quality and satisfaction has emphasized that customers compare the performance of product and services on some standards. Also, the quality of service as perceived by the customers is considered as an important factor that affects the level of satisfaction. Due to its relative importance in the service context it became a wide debatable topic and focus of research for academics. Literature revealed that the difference between perceived service quality and satisfaction is due to the use of different standards of comparison (Parasuraman, al 1988). Different authors stated that the standard of comparison to form satisfaction depends on customer's feelings regarding what will come out (predictive expectations) where perceived service quality defines what customers believe that a firm should deliver, also it is a result of comparing the performance.

#### **2.1.8.2 After Sales Service Quality and Customer Satisfaction**

It is well known that the margin from after-sales service is much larger than that from the product. That is, after-sales service is considered a key revenue generator in certain categories. Hence, on one hand, offering many extra after-sales service plans to consumers, leads to higher profitability. Recent marketing management focuses on lifetime value of a customer and maintaining long-term relationships with customers. From this customer-relationship viewpoint, after-sales service is regarded as an important factor that has an impact on establishing good relationships with customers. On the other hand, a default and free basic after-sales service, also plays an important role in attracting more customer attention in a market with severe brand competition (Chien, 2005). Offering adequate after-sales service to customers has become a major generator of revenue, profit, and competency in modern industries.

Accepting the claim that returning customers are the most profitable ones, as they require less marketing effort and relationship building, after-sales service acquires a critical role to achieve customer satisfaction on and retention (Alexander, 2002). After-sales services are contributing to the “technical quality” of the overall service, which is, influencing substantially the “what is the customer receiving”? In parallel, influencing the way (“How”) the central service is being

delivered, playing therefore, a critical role in the “functional” aspect of service quality. If one utilizes as basis not the Nordic model, but the “extended” “three-component model”, proposed by (Rust, 1994), again it seems that after-sales services are closely related to both, the “service product” and the “service delivery” dimensions of quality. With the ongoing discussion, two of the three main drifts of interests regarding service quality are being touched. The third, regarding evaluation matters of the provided service quality, will be treated under the relation of service quality dimensions with the construct of performance.

The positive perceptions and attitudes of the target customers towards the quality-elements offered by the firm, leads to both attractions of new customers, thanks to word-of-mouth (WOM) communication and recommendations of the existing customers, as well as to enhancement of the relationship of the company with its current customers by making them more loyal and committed. Word of mouth (WOM) is informal advice passed between consumers. It is usually interactive, swift, and lacking in commercial bias. WOM is a powerful influence on consumer behavior(Keaveney, 1995) noted that 50% of service provider replacements were found in this way. WOM may be positive (PWOM), encouraging brand choice, or negative (NWOM), discouraging brand choice.

WOM is a frequently encountered variable in the service literature. Typically, it is viewed as a component in a satisfaction-profit framework (sometimes also labeled as the service-profit chain; in the sense that satisfaction (or other global evaluations, such as perceived service quality) is assumed to affect word of mouth, which in turn is assumed to affect the firm’s profitability. Several studies also show that other global evaluation variables, such as perceived service quality and perceived service value, are positively associated with word-of-mouth transmission. Regarding behavioral intentions. The favorable behavioral intentions are mostly in the form of customers’ referrals and recommendations, customers’ willingness for re-purchasing, as well as customers’ willingness to spend more money with the particular company or to pay more for the products of the company (Zeithaml, 1996).

### **2.1.9 Measuring Service Quality**

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

#### **2.1.9.1 SERVQUAL Scale**

The SERVQUAL scale which is also known as the gap model by (Parasuraman, et al 1988) has been proven to be one of the best ways to measure the quality of services provided to customers. This service evaluation method has been proven consistent and reliable by some authors. They held that, when perceived or experienced service is less than the expected service; it implies less than satisfactory service quality; and when perceived service is more than expected service, the obvious inference is that service quality is more than satisfactory. From the way this theory is presented; it seems the idea of SERVQUAL best fits the evaluation of service quality from the customer perspective. This is because when it is stated "perceived" and "expected" service, it is very clear that this goes to the person, who is going to or is consuming the service; who definitely is the consumer/customer.

The original study by (Parasuraman, et al 1988) presented ten dimensions of service quality. Tangibles: the appearance of physical artifacts and staff members connected with the service (accommodation, equipment, staff uniforms, and so on). Reliability: the ability to deliver the promised service. Responsiveness: the readiness of staff members to help in a pleasant and effective way. Competence: the capability of staff members in executing the service. Courtesy: the respect, thoughtfulness, and politeness exhibited by staff members who are in contact with the customer. Credibility: the trustworthiness and honesty of the service provider. Security: the



absence of doubt, economic risk, and physical danger. Access: the accessibility of the service provider. Communication: an understandable manner and use of language by the service provider. Understanding the customer efforts by the service provider to know and understand the customer.

In first SERVQUAL model that came had 22 pairs of Likert-type items, where one part measured perceived level of service provided by an organization and the other part measured expected level of service quality by respondent. Further investigation led to the finding that, among these 10 dimensions, somewhere correlated. After refinement, these ten dimensions above were later reduced to five dimensions as below:

- **Tangibility:** physical facilities, equipment, and appearance of personnel.
- **Reliability:** ability to perform the promised service dependably and accurately.
- **Responsiveness:** willingness to help customers and provide prompt service.
- **Assurance:** knowledge, courtesy and ability of staffs to inspire trust and Confidence.
- **Empathy:** caring individualized attention the firm provides to its customers

#### **2.1.9.2 SERVPERF Scale**

Cronin and Taylor (1992) in their research contradicting the conceptual framework proposed by Parasuraman et al. (1985, 1988) maintained the initial conceptualization and measurement of service quality and proposed the model to measure the service quality based on merely performance, called SERVPERF. The authors argued that the model SERVPERF are an enhanced way to measure the service quality (Mohd, et al., 2013) and based on empirical research across different industries, including pest control, fast food, dry cleaning and bank, they provided evidences that support the distinction over SERVQUAL model based on performance only, maintained the same items scale proposed by Parasuraman et al. (1985, 1988).

The distinction between those two concepts – expectation and performance are very important, as service providers is more important to have satisfied customers switch their performance rather than provide services with high level of perceived quality based on expectations (Cronin and Taylor, 1992). The authors of SERVPERF model considered that the perceived service quality is the antecedent to customer satisfaction, and also has meaningful impact on purchase intention

(Cronin and Taylor, 1992). They emphasized that the service quality is conceptualized by customer's attitude related with the dimensions of service quality, rather than by the gap between expectation and performance as suggested by satisfaction model (Oliver, 1980), in other words, the base of the SERVPERF model is measure the service quality in a performance approach. Many researches were published using the SERVPERF model to measure the service quality which has been applied in different sectors of economy, including retail, bank, airlines, higher education, dental clinics, public transport, hospitality and telecommunication (Hudson, et al., 2004).

### **2.1.9.3 Evaluation of SERVQUAL and SERVPERF Model**

The service quality models SERVQUAL and SERVPERF has been applied in several industries and been object of research for different areas. Cronin and Taylor (1992) concluded that SERVPERF is more sensitive than the SERVQUAL to measure variations in perceived service quality. The authors identified service quality as a direct antecedent of satisfaction, where the significant impact on repurchase intention and consider the customer predilection is more important to a long-term service than gaps between expectations and performance. In the literature there are other studies that confirm the findings obtained by Cronin& Taylor (1992) about the superiority of SERVPERF compared with the SERVQUAL model, in assessing the quality of services in different areas, including internal services. any researchers have criticized the SERVQUAL model based on identified issue about the difference score approach - expectations and performance, because them can causes poor reliability (Brown, et al., 1993)and problems of variance restriction associated with the component scores, it means, the restriction is related to the problem to harm the predictive validity of the model(Peter, et al., 1993). Another relevant evaluation about the SERVQUAL model was presented by Teas (1993) cited in where the scale to measure expectations can induce different types of expectations and the respondents of research are not able to identify difference among the score to measure expectations. The concerns in measure expectations have been a relevant topic for debate among researches in different areas and the SERVPERF model has not been an aim to the same criticisms. Laroche et al. (2004) provided empirical evidences that the SERVQUAL model must not be used in measurement of service quality in every type of industry, it means, different industries require thorough analysis to identify the suitable model to measure service quality.

## 2.2 EMPIRICAL LITERATURE

According to research conducted on “Impact of after sales performance of German automobile manufactures in china in service satisfaction and Loyalty with a particular focus on the influences of cultural determinants “shows why and how the after-sales services of German automobile manufactures should be researched in China. An innovative cultural approach is implemented, to reveal how Chinese culture moderates the whole after-sales service business in terms of consumer behavior.(Alexander Fraß, 2015). A research paper conducted on “Automotive After-Sales Service Quality and Relationship Quality in Malaysian National Car Makers” concludes that the poor performance of national car maker in local automotive industry has jeopardized its existence in the local automotive industry. And have shown that empirical importance of service quality and its positive relationship with high quality customer service provider relationship after the purchase. Relationship quality has been recognizing as the source of competitive advantage to differentiate a service organization from its rival.

According to the study conducted on “The Role of After-Sales Service in Customer Satisfaction: Case Study (Samsung House Appliances) concludes Many successful businesses use after-sales service strategies to consolidate sales, build customer relationships and grow their profits. Providing after-sales service keeps customers coming back to the company and encourages them to refer your business to others. After-sales service includes what to do at the point of sale, including customer service and selling techniques. It also includes how to follow up after the customer has left, such as providing follow-up contact and effectively dealing with complaints.

A Research paper conducted on “Impact of after Sales Service on Consumer Satisfaction and Retention. A Study of LG Electronics in Ibadan, Nigeria.” result shows after sales service indices (product delivery, installation and warranty) were significantly independent and joint predictors of customer satisfaction and retention. The study also discovered that customer’s rate warranty contract highest among after sales service dimensions followed by delivery and installation respectively (Ladokun Isaac .O, 2013). A research study conducted on “The Effects of Customer Expectation and Perceived Service Quality on customer satisfaction” findings show that customer

expectation and perceived service quality have a positive effect on customer satisfaction (Almsalam, 2014).

A research conducted on “After sale service, customer satisfaction and loyalty in automotive industry of Kenya” results indicate that that after sale services such as maintenance, spare parts supply, telephone services, warranty, car washing, and documentation services have an effect on customer satisfaction and loyalty. Another indication is that after sale service satisfaction and loyalty have a positive relationship. In addition, different companies provide same after sale services differently to their customers which gives a significant disparity on customer satisfaction, (Tabitha Muriithi, 2013).

According to the research conducted on “Impact of After Sales Service on Customer Satisfaction: A Case Review of Mobile Phone Industry in Delhi and NCR” results show that there is high perceived effectiveness of various dimensions of after sale service in mobile phone industry in Delhi, NCR. As a result, these young customers were found to be overall satisfied with their retailers’ after sale service. For any business or retailer to sustain, it is important that efforts are made to retain new customers as well as attract new ones. Customer retention entails good service quality which fosters trust and lasting relationship with the retailer. Thus, the study concludes that quality of after sale service impacts customer satisfaction in the mobile phone industry. (Dhillon, 2015). After critical review of theoretical and empirical studies on after sale service quality and customer satisfaction related to different service sectors the following conceptual frame work is drawn. The model is derived from the original SERVPERF model. As discussed above, the SERVPERF model ensuring the effect of after sales service on customer satisfaction on different service sectors including telecom services using the after-sales service quality dimensions.

### **2.3 CONCEPTUAL FRAMEWORK AND HYPOTHESIS FORMULATION**

The main objective of this study is to understand whether “delivery”, “installation” and “Service Warranty” which are the first after-sales services that are offered to customers just after the sales stage, have an impact on their overall satisfaction and on their behavioral intentions to re-purchase and to recommend (WOM) to others. In this study, it has been explored in both retail and service provision context. More specifically, the products and service category under examination are

electronic router, and both fixed [ADSL (copper) and EPON (fiber)]and wireless (Wireless Point to Point) broadband internet services and their respective accessories those require delivery, installation and warranty from Ethio telecom due to their product and service quality as well as their complex technical characteristics. Thus, the conceptual framework is designed as depicted on figure 2.1 below.

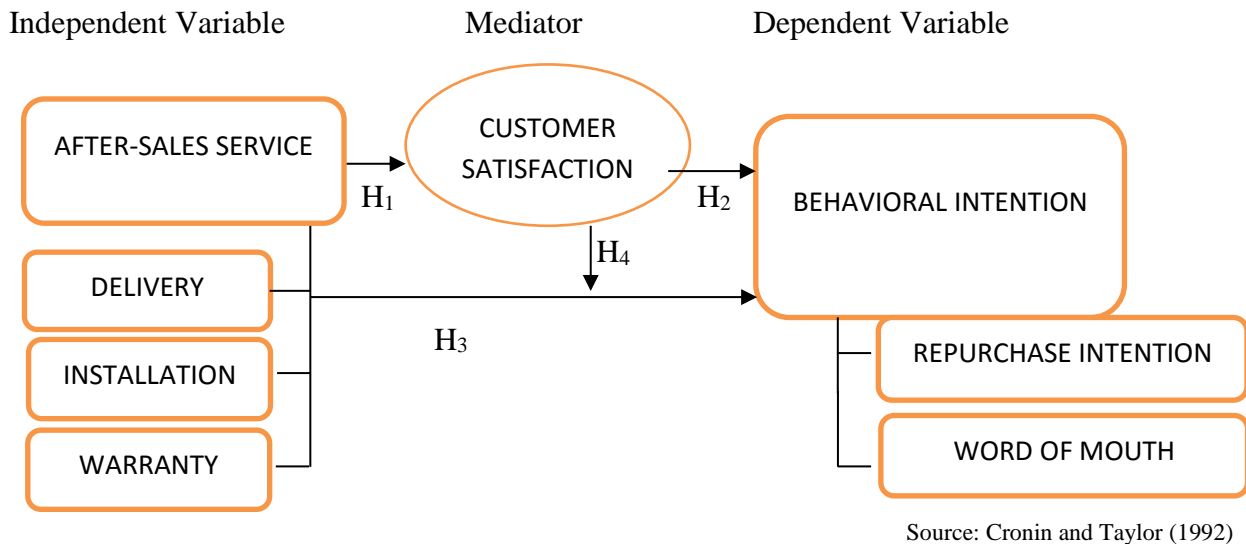


Figure 2.1: The conceptual framework.

The above framework serves as groundwork for this study. Foundation of this study is to examine how the dimensions of ASS such as delivery, installation and service warranty (independent variables) are perceived by the customers. In addition, bring impact on the dependent variable, of customer satisfaction towards the after-sales service of Ethio telecom for enterprise customers.

Based on the main findings of the literature review, the researcher decided to investigate all the above relationships in the Ethio Telecom industry regarding broadband internet service by designing a behavioral model in which the following latent variables are included:

After-sales service quality, in this study, are described by the latent dimensions namely delivery, installation and service warranty. In this regard, the hypotheses were proposed based on the individual dimensions' relationship with customer satisfaction.

- Delivery - This refers to the quality of all these activities that are related with the safe, reliable, timely correct transportation of the good from the store to customer's premises,

activities which should be embodied with qualities like politeness, accuracy, flexibility and an overall customer-centered behavior. This variable is measured as a latent one using seven indicators, including the “Reliability in delivery times” (DEL1), the “Quality of the product packaging when delivered” (DEL2), the “Transfer of product” (DEL3), the “Quality of the product itself when delivered” (DEL4), the “Reception of the proper invoice/delivery papers” (DEL5), the “Kindness and friendliness of the delivery personnel” (DEL6) and the “Appearance of the delivery personnel” (DEL7).

- After-sales Installation - this refers to the quality all these activities and behaviors prior as well as during installation phases of the product delivery. Such activities and behaviors include proper information and flexibility regarding the meeting date and time, a wise time-span between the buying of the good and the date of installation as well as accuracy. Besides, during the installation process dimensions like attention, correctness, politeness, good knowledge of the technical requirements, in other words elements that enhance the reliability, and friendliness by the company as well as its representatives. This variable is measured as a latent one using six indicators, including the “Accurate information about time of installation” (INS1), the “Time elapsed between delivery and installation” (INS2), the “Attentiveness of installation personnel in order to avoid damages” (INS3), the “Flawless of the installation” (INS4), the “Kindness and friendliness of the installation personnel” (INS5) and the “Advice and instructions given by the technicians” (INS6).
- Service Warranty - is assumed as an obligation for seller; it is a responsibility for seller and a satisfaction for the buyer that the product will run in long term (Anderson, 1968). Reasonable warranty policy provided for maintenance and repairing and replacement, with better warranty terms, a customer can attain improved benefit of purchasing cost for repair or technical damage of the product this results in greater sale and profit. Long warranty time is also one of the bundles of satisfaction for the respective consumer (Shahadrudin, 2009).

Thus, to evaluate the effect of overall After-sales service on overall customer satisfaction and behavioral intentions, the following hypotheses have been proposed:

### **H<sub>1</sub> – After-sales Service has significant effect on Customer Satisfaction**

Customer Satisfaction refers to the customers' level of satisfaction from their service provider in the context of the purchase. Because of its influence on customer behavioral intentions and attitudes (Cronin JJ, 1993). Regarding behavioral intentions, Zeithaml (1996) suggests that favorable behavioral intentions are mostly in the form of customers' referrals and recommendations, customers' willingness for re-purchasing, as well as customers' willingness to spend more money with the company or to pay more for the products of the company. Therefore, the following hypotheses have been proposed:

### **H<sub>2</sub> - Customer Satisfaction has significant effect on Behavioral Intention**

Enhanced understanding of the relative importance of specific after-sales services in shaping consumers' future intentions is a key strategy for a given business organization. Based on an empirical study in the retailing context, it comes out that after-sales service quality affects behavioral intentions in terms of enforcing them to repurchase the product/ service and recommend it/ them to others. So, focus on service quality addressing at enhancement of the generated positive perceived value by the customer, the quality of the relationship between buyers and sellers through quality after-sales service provision pursued consumers to repurchase or recommend it to others. Thus, to determine the effect of after-sales service directly on behavioral intention, the following hypothesis has been proposed:

### **H<sub>3</sub> – After-sales Service has significant effect on Behavioral Intention**

Although the impact of After-sales service on behavioral intention has been extensively covered, to what extent customer satisfaction contribute to the relationship between after-sales service and behavioral intention is remains still uncovered. And indeed delivery, installation and service warranty were contributing elements to overall satisfaction and subsequent customers' behaviors independently. Thus, one key to customer retention and bonding appears to be the fostering of all

these service quality aspects, like after-sales services; and a favorable relative behavior can be created when satisfying customers by offering such services. Thus, to evaluate the mediating effect of overall customer satisfaction on the relation between After-sales service and behavioral intention, the following hypothesis has been proposed:

**H<sub>4</sub> – Customer Satisfaction has a significant mediating effect on the relation between after-sales service and behavioral intention**



## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.1 DESCRIPTION OF THE RESEARCH AREA**

This study was conducted on the sole telecommunication company of Ethiopia, Ethio telecom in Addis Ababa. Addis Ababa is the capital and largest city of Ethiopia. It has a population of 3,384,569 according to the 2007 population census, with annual growth rate of 3.8%. Addis Ababa is both a city and a state in the country. Addis Ababa is often referred as "the political capital city of Africa" due to its historical, diplomatic and political significance for the continent. (Wikipedia, 2018)

Ethio-telecom has 12 divisions. These divisions are namely; finance, legal, human resource, sourcing and facilities, residential marketing and finance, legal, human resource, sourcing and facilities, sales, customer services, enterprises, internal audit, Program Management Office/security/public relation, quality and process, information system, and network divisions. Each division has its own chief officer.

Ethio telecom's network coverage and type of services rendered are increasing from time to time. The same is true for its revenue. The annual gross profit growth rate is showing an increase from year to year. (ethiotelecom, 2017)

Now a day's Ethio telecom is focusing to satisfy at least enterprise customers by providing effective after sales service. Which means managing high class customers' maintenance including troubleshooting end to end by giving field support by network maintenance team and enterprise Key account sales follow-up team. And prepare a call center known as 980 for fault registration. (ethiotelecom, 2017)

## **3.2 RESEARCH APPROACH AND DESIGN**

The research approach is deductive because it is not developing theories rather theory testing. By developing a hypothesis (or hypotheses) based on existing theory, the researcher then uses a research strategy to test the hypothesis. The study was conducted as a quantitative research; the process of measurement is central to quantitative research because it provides the fundamental connection between empirical observation and mathematical expression of an attribute.

Regarding the research design, a diagnostic research study has been enrolled to determine the frequency with which something occurs or associated with something else. The researcher has implemented exploratory research to get insight to the nuances of the process for best selection of research methodology tools that will fit best to the respective stages to be undertaken along the research process. Considering the exploratory research undertaken descriptive and diagnostic designs have been employed. The former has been used to describe the Ethio Telecom Broadband internet subscribers' demographic status and level of satisfaction; while the later has been used to analyze the relationship of independent variables (ASS) with level of satisfaction and identify major area of dissatisfaction for the subjects of the study.

### **3.3 Sampling Design**

#### **3.3.1 Target Population**

This research targeted the population of broadband internet subscribers of Ethio Telecom in Addis Ababa. Since the nature of customers are almost homogeneous regarding demographic characteristics, the enterprise has divided the city into six zonal offices namely North, South, East, West, central and South-West Addis Ababa Zones with similar structural organization for the ease of products and services provision to its customers. Thus, the targeted population was relevant for the study as most subscribers, 32,591 (70%) out of 46,559 total broadband users registered are located in the capital city as of June 2018 (Ethio Telecom, 2018).

### **3.3.3 Sampling Procedure**

The study employed non-probabilistic sampling procedure because of impracticality of accessing randomly selected target respondents. This is due to being bounded by time, money and workforce, because of these limitations, it is almost impossible to randomly sample the entire population and it is often necessary to employ another sampling technique, the non-probabilistic sampling method.

### **3.3.4 Sample Size**

One of the basic reasons for using sample is economical in terms of effort exerted, cost incurred, and the time spent for the accomplishment of the study. Besides, it is also difficult to access each population unit and their respective addresses hence the study did not use probability sampling technique. The method that was employed to obtain information about after sales service quality and customer satisfaction at main branches of each zone through a survey conducted on a sample of targeted respondents is convenient non-probabilistic sampling method. In the case of non-probability samples, the choice of sample size was determined by the insight, judgment, experience or financial resource of the researcher. Thus, the researcher considers available fund and time, and own judgment to determine the sample size and due to the nature of homogeneity.

The population taken for sampling purpose was limited to the geographic allocation of Addis Ababa due to the homogeneity of the respondents as well as the majority was living in the city. As of June 2018, the total number of broadband Internet (organizational) subscribers was 46,559 of which 32,591 were in Addis Ababa, clustered in six zones. Data were collected from 315 active broadband subscribers using the sample determination method developed by Carvalho (1984), irrespective of their demographic characteristics. Thus, the sample respondents were selected from those 6 zones' main service centers, 50 respondents from each North, South, East, West and central branches but 65 respondents from South-West branch through purposive (convenience and judgmental) non-probabilistic sampling method as the targeted respondents were IT and general

managers of the respective organizations as well as they were willing to participate and easily accessible to conduct the survey.

Table 3.1 Sampling determination method

Population Size	Sample Size		
	Small	Medium	Large
51-90	5	13	20
91-150	8	20	23
151-280	13	23	50
280-500	20	50	80
501-1200	23	80	125
1201-3200	50	125	200
3201-10000	80	200	315
10001-35000	125	<b>315</b>	500
35001-150000	200	500	800

Source: (Carvalho, 1984)

### 3.4 Source of Data

There are two types of sources when collecting data; primary and secondary data sources (Arbnor, 1994). Primary sources are directly related to the study purpose. Primary data consists of all the data collected throughout the study that can be directly related to the study purpose, both personally gathered as well as data from a third party that has been collected with equivalent purpose. Secondary data on the other hand, contains relevant data that has been collected for a different purpose, but from which the conclusion is valuable for the purpose. Throughout the study, basically primary data were used for analysis. The data directly related to the purpose were collected through an empirical study. Besides, secondary data sources, indirectly relating to the purpose, were collected through a theoretical study comprised of books, research thesis, articles and internet sources.

### **3.5 Data Collection Instruments**

This study was done using both quantitative and qualitative data. Quantitative data of ASS attributes were collected through close-ended questionnaire based on SERVPERF model. The researcher tried to collect the data from different people living in different areas of Addis Ababa. A local language (Amharic) and English questionnaire was used with questions that are relevant and helpful to extract the opinions of customers regarding the acquisition of their respective After-Sales service from Ethio Telecom.

The questions enabled research participants to express their opinion on the effectiveness of after sales service on selected three parameters such as delivery service, installation service and service warranty. Meanwhile, the influence of their satisfaction level on repurchases intention as well as recommendation of the service to others (word of mouth).

Standardized questionnaires were prepared which contains only closed ended questions and distributed to the broadband internet subscribers based on self-administered questionnaires. Questionnaires for the purpose of this study were prepared based on different literature reviews related to the objectives of the study. The questionnaires have three parts. The first part contains questions regarding respondents' demographic profile; the second part includes questions regarding after sales service dimensions and behavioral (repurchase and word of mouth) intention; the third part comprises questions regarding their overall satisfaction, were asked to rate according to their choice. The method of data collection was purposive (convenience and judgmental) type. Questionnaires were designed to be self-administered by the respondents and collected within the shortest time possible.

Many studies utilize the single scale to measure satisfaction using scale 1 to 5 or 1 to 7, where 1- very dissatisfied and 5 or 7 - very satisfied. However, this simple measurement does not represent the complexity of customer's satisfaction because customer satisfaction is behavior and emotion that cannot be measured directly (Fornell et al. 2007). This study, however, adopted five-scale construct to measure service quality, overall customer satisfaction and their behavioral intentions based on Cronin's (1992) SERVPERF model.

## **3.6 Reliability and Validity of Data Collection Instrument**

### **3.5.1 Validity**

Validity is the extent to which data collection method(s) accurately measure what they are intended to quantify (Saunders *et al.*, 2009). MacKenzie (2003) also clarifies that construct validity is the degree to which a test measures the concept or theory that it is intended to measure, therefore, the study ensured the construct validity by administering both theoretical and conceptual reviews in preparing questionnaires. The researcher ensured validity of the study by pre-testing (external validity) with questionnaires to correct any ambiguity in the questions when detected and also by asking clearly stated questions to the respondents (Trochim, 2009).

According to Fink (2003) it is significant to pilot test the questionnaire in making sure validity and the minimum number of questionnaires to be pilot tested should not be below 10 questionnaires. The pretesting was done by distributing 10 questionnaires to marketing and IT managers in the head-quarter of Ethio Telecom. They went through the questionnaires to verify suitability of questions, language and style of expressing the questions and the suggestions incorporated to improve the questionnaire. The external validity of the study instrument was put together with an adequate sample size of 218 questionnaires which is above the theoretical minimum sample size.

### **3.6.2 Reliability**

According to Nachmias (2004) reliability refers to the degree to which a measuring instrument includes variable errors that appear variably from observation to observation during any one measurement attempt or at the same measuring instrument. The researcher made sure there is an accurate coding and numbering to the subjects also a reliability computation was used to compute mean reliability coefficient estimates for Cronbach Alpha with a significance level of  $p \leq 0.05$ . According to Mugenda (2003) reliability is the ability of a research instrument to produce consistent results after repeated trials.

The use of Cronbach Coefficient to measure reliability of instrument enabled to identify the strength of items included in the questionnaire such that measure between 0.7 and 1.0 signifies a strong consistency of item used in questionnaire (Mugenda, 2003). However, the acceptable Alpha value that meets the statistical prerequisite for the instrument to be characterized as reliable should be between 0.70 and 0.9 as the value more than 0.9 could be an implication of redundant variables measuring same subject (Travakol, 2011).

### **3.5 Data Presentation Analysis**

Descriptive analysis such as mean, percentage, correlation and multi-regression analysis are used in analyzing the qualitative data and exploratory approach to analyze respondents' perception result. Further, a regression model was applied to analyze the quantitative data, check the association of variables and predict the dependent variable. SPSS and AMOS software used to compare and analyze statistical data results and path analysis then interpreted accordingly. Tables and graphs were also used to present the analysis results pictorially.

### **3.7 EMPIRICAL MODEL**

The study used linear regression analysis models for testing the hypotheses drawn from the conceptual framework. Regression analysis is a statistical method to deal with the formulation of mathematical model depicting relationship amongst variables which can be used for the purpose of prediction of the value of dependent variable, given the value of the independent (Kothari,2004). Linear regression estimates the coefficients of the linear equation, involving one or more independent variables that best predict the value of the dependent variable. Multiple linear regressions were conducted to identify the relationship and to determine the most dominant variables that influenced the customer satisfaction of Ethio Telecom broadband internet subscribers as well as to determine the effect of their satisfaction on repurchase intention and word of mouth or intention of service recommendation to others. Thus, the multi-regression analysis for testing the formulated hypotheses is depicted as:

To evaluate the relation between after service dimensions and customer satisfaction:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + e_x$$

Where:

Y = Overall Customer Satisfaction

X<sub>1</sub> = Delivery Service

X<sub>2</sub> = Installation Service

X<sub>3</sub> = Service Warranty

e = error term,

β<sub>0</sub> = constant, term

β<sub>1, 2, 3,</sub> = coefficient terms of delivery, installation and service warranty respectively.

To test the relation between customer satisfaction and behavioral intention

$$Y = \beta_0 + \beta_1 X_1 + e$$

Where:

Y = Behavioral Intention

X<sub>1</sub> = Overall Customer Satisfaction

e = error term,

β<sub>0</sub> = constant, term

β<sub>1</sub> = coefficient terms of Overall Customer Satisfaction

To evaluate the relation between after-sales service dimensions and Behavioral intention:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + e$$

Where:

Y = Behavioral Intention

X<sub>1</sub> = Delivery Service

X<sub>2</sub> = Installation Service

X<sub>3</sub> = Service Warranty

e = error term,

β<sub>0</sub> = constant, term

β<sub>1, 2, 3,</sub> = coefficient terms of delivery, installation and service warranty respectively.

Finally, mediating effect of customer satisfaction on the relationship between ASS and BEV:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + e$$

Where:

Y = Behavioral Intention

X<sub>1</sub> = Customer Satisfaction



$X_2$  = After-sales Service

$e$  = error term,

$\beta_0$  = constant, term

$\beta_1$  = coefficient terms of Customer Satisfaction and After-sales Service

### **3.7 ETHICAL CONSIDERATION**

All the information treated and kept secretly with high confidentiality without disclosure of the respondents' identity. No information is changed or modified, hence the information is presented as collected and the same with the literatures collected for the purpose of this study. There is no any intention to use unfair means to influence the participants to obtain information. The questionnaire anonymous and high level of confidentiality is considered. The information gathered through questionnaire is used only for its purpose i.e. for the fulfillment of the requirement of my MA degree in marketing management.

## **CHAPTER FOUR**

### **DATA ANALYSIS AND PRESENTATION**

This chapter presents the findings of the research in accordance to the research objectives and hypotheses. The analyses and interpretation of the data collected from the respondents comprises description of the demographic characteristics of the participating respondents; the results of reliability test, correlation, multi-collinearity and factor analysis for the variables. The hypothesis test through multiple regression analysis is presented and discussed.

The total number of 315 questionnaires was distributed to broadband internet subscribers of ET, of which 237 questionnaires were returned, yielding 75.2% response rate. After having investigated further, 19 questionnaires were found to be incompletely filled. As a result, the number of 218 valid questionnaires was taken for analysis. Thus, the data collected from these questionnaires can be considered eligible for analysis to infer valid results as 69.2 % response rate is within acceptable range (Carvalho, 1984).

#### **4.1 DEMOGRAPHIC CHARACTERISTICS**

In the questionnaire, part one was designed to capture some basic demographic details of the respondents involved in the study. Part two was to capture items on after-sales service, customer satisfaction and behavioral intention. Data collected from the respondents was obtained in the areas of different organizations, type of broadband internet service subscribed, positions in their respective organizations, types and frequency of after sale service acquired. The purpose of this profile was to obtain a visualization of the ET customers responding to the questionnaires.

Referring Table 1, the data provides profile of respondents by count and percent. The results revealed that out of the 218 respondents, 109 (50.0%) were private enterprises, 64 (29.4%)

governmental organizations and the rest 45 (20.6%) were NGOs (local and international). This shows that majority of the respondents were from private enterprises. Regarding types of broadband internet service, 92 (42.2%) enterprises subscribed for ADSL, 79 (36.2%) for EPON and the rest 47 (21.6%) for wireless point to point. This implies that majority preferred ADSL internet service as the system provides access for different users with low cost and ease of installation. The subscription and periodic payments were handled by respective organization's employees or delegated agents. In the case of this study, only general managers, IT managers and other related professionals contacted so as to gather relevant data. Thus, among the participants, 128(58.7%) were IT manager, 59 (27.1%) other employees and the rest 31(14.2%) general managers. This shows that majority of the enterprises delegate their IT manager to handle internet services. Among sorts of after sale services provided by ET, majority 84(38.5%) requested for overall system maintenance/repair followed by 44(20.2%) for reconfiguration; meanwhile 39(17.9%) for power back-up replacement but the rest 21(9.6%) were served for other malfunctions and 11(5.0%) for rectification of erroneous billing service.

Table 1: Profile of the Respondents

<b>Demographic Variable</b>	<b>Description</b>	<b>Freq.</b>	<b>Percent (%)</b>
<b>Company</b>	Private Enterprise	109	50.0%
	NGO's/ International organizations	45	20.6%
	Governmental Organization	64	29.4%
<b>Service Subscribed</b>	ADSL (Copper)	92	21.6%
	EPON (Fiber)	79	36.2%
	Wireless point to point	47	42.2%
<b>Position</b>	General Manager	31	14.2%
	IT manager	128	58.7%
	Others	59	27.1%
<b>Exposure</b>	None	19	8.7%
	1-5 Times	123	56.4%
	6-10 Times	61	28.0%
	Above 10 Time	15	6.9%
<b>After Sales Service Type</b>	Billing case	19	8.7%
	Maintenance/ Repair	84	38.5%
	Modem Replacement	11	5.0%
	Power back up	39	17.9%
	Reconfiguration	44	20.2%
	Other	21	9.6%

<b>Total</b>	<b>218</b>	<b>100%</b>
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(Source: Own Survey 2018)

This implies that the overall system installation has got technical problems, system reconfiguration and power back-up failure in particular. Based on the number of exposures for after sales service entitlement, majority 123(56.4%) were served up to 5 times while 61(28.0%) and 15(6.9%) received the service from 6 – 10 times and more than 10 times respectively but only 19(8.7%) didn't request any after sales service. The results also confirm the overall broadband internet system incompetency which needs a thorough mitigation for the root causes accordingly.

## **4.2 DESCRIPTIVE ANALYSES**

After having collected the questionnaires from the respondents, the level of after sales service was assessed in three areas namely delivery, installation and service warranty attributes. Customer satisfaction and behavioral intention (repurchase intention and WOM) were described using descriptive statistics of means and standard deviations briefly as below. Descriptive analysis was performed in order to examine respondents' perceived satisfaction on observed variable, and the consequences on repurchases intention and recommendations of the service to others.

### **4.2.1 After-sales Service Dimensions**

The second part of the questionnaire incorporated questions that help evaluate the perception of respondents regarding after sales service and, repurchases and recommendation (WOM) dimensions. Likert scale was used to measure the contribution of after sales service quality dimensions for customer satisfaction (directly) while indirectly for repurchase and WOM. On a five-point scale, they were asked to choose the number that best represented their point of view. The degree of agreement towards after sale service quality of ET was set from 1 to 5 (5 is from the highest/ strong agreement, whereas, 1 is the highest/ strong disagreement). Accordingly, the following results were collected.

#### 4.2.1.1 Delivery Service

Based on the concept of sales contract, place and time of delivery depends utterly on the agreement of the two parties' consents. Since ET is the sole provider of the service, it is supposed to carryout both the delivery of the accessories and system routing especially for ADSL and EPON internet categories. In this case, the respondents agreed ET's service delivery at promised time with mean scored value of 3.52. Transfer of accessories like modem, cables, power backup, etc. that need to be delivered to customers' place was also rated with the highest degree of agreement (mean 4.28) within the group. They also agreed on perceived quality of delivered products and friendliness of the delivery personnel with mean scored value of 3.73 and 3.63 respectively whereas handling of proper paper works such as user's manual, acceptance checklist, etc. was perceived nearly neutral (mean 3.29). However, they agreed on the aggregate/ overall ET's after sales delivery (mean 3.63) quality. These imply that majority were highly satisfied by product's delivery at requested places but not satisfied with delivery time, perceived quality and staffs' friendliness whereas ET fails to exceed its enterprise customers' satisfaction with proper accomplishment of paper works at delivery that needs more effort to be exerted for further improvements.

Table 2: Mean Scored Values of Delivery

Dimension	Code	Description	N	Mean	Std
Delivery	DSQ1	ET delivers its service at promised time	218	3.52	0.417
	DSQ3	ET transfers product to your place (modems, power backup, cables)	218	4.28	0.235
	DSQ4	ET deliver quality products such as modems, power backups, cables	218	3.73	0.959
	DSQ5	ET has proper delivery paper works such as acceptance sheet, invoice, etc.	218	3.29	0.388
	DSQ6	ET delivery personnel are kind and friendly	218	3.63	0.831
<b>Overall Delivery</b>			<b>218</b>	<b>3.63</b>	<b>0.566</b>

Source: Survey Data (2018)

#### 4.2.1.2 Installation Service

The mean rating and the standard deviation of the of respondents' evaluation of broadband internet installation after sales service is presented on Table 3. Respondents expressed their neutral stand

on the overall after sales installation service quality rated with mean scored value of 3.17 implies that customer's neutral (not-good/not-bad) attitude towards the installation of the requested internet services at their vicinity. The standard deviation lies between 0.496 to 0.825, shows the degree of their perception's unanimity (less variations) on the subject. Referring the details of installation service quality attributes, they agreed with staffs' friendliness and kind customer handlings (mean 3.69) as well as the provision of proper technical advises and instructions (mean 3.49). However, as the respondents revealed their neutrality on reliability of ET's accurate information regarding the date/ time/ of installation (mean 3.39) and staffs' seriousness on following proper procedure of installation to avoid damages (3.15), they didn't also believe staffs' flawless installation (mean score, 2.62) and fairness of elapsed time period between promised and actual date of installation (mean 2.77).

Table 3: Mean Scored Values of Installation

Dimension	Code	Description	N	Mean	Std
Installation	INS1	ET gives accurate information about time of installation	218	3.39	0.712
	INS2	Time elapsed between delivery and installation is fair	218	2.77	0.449
	INS3	ET technicians are attentive on installation to avoid damage	218	3.15	0.777
	INS4	ET's installation of broadband internet is flawless	218	2.62	0.646
	INS5	ET installation personnel are kind and friendly	218	3.49	0.496
	INS6	ET technicians give proper advice and instructions	218	3.61	0.825
Overall Installation			218	3.17	0.651

(Source: Own Survey, 2018)

#### 4.2.1.3 Service Warranty

Regarding service warranty, the provision of assurance for the quality and functionality of the system is one of prominent marketing approach to instill confidence on customers. The result revealed that broadband internet subscribers strongly agreed on ET's issuance of warranty for damaged/ faulty accessories (mean 4.59) and system's technical malfunction (mean 4.34). Similarly, they also appreciated the warranty policy of the company as voted for mean scored value of 3.97. The overall service warranty provided to the broadband subscribers were perceived positively (mean 4.30) which could be taken as a good implication of ET has attained high levels of after sales service quality through effective implementation of warranty policy.

Table 4: Mean Scored Values of Service Warranty

Dimension	Code	Description	N	Mean	Std
Service Warranty	SWA1	ET has reasonable warranty policy	218	3.97	0.470
	SWA2	ET provides warranty for technical malfunction (accessories replacement)	218	4.34	0.738
	SWA3	ET has maint. / damage warranty (system reconfiguration)	218	4.59	0.335
Overall Service Warranty			218	4.30	0.514

(Source: Own Survey, 2018)

#### 4.2.1.4 Summary of Overall after Sales Service

The overall after sales service is summarized on Table 5. The results revealed that majority of the respondents strongly agreed on the quality of service warranty (mean 4.30) while agreed on ET's after sales delivery service (mean 3.63) but they have shown their indifferences in regard to the ET's after sales installation service (mean 3.17). Thus, the overall ASS was found to be satisfactory as majority voted for mean scored value of 3.70. It implies that ET's ASS was perceived positively even though substantial improvement is still a requirement.

Table 5: Summary of Overall ASS

Dimension	Code	Description	N	Mean	Std
ASS	DS	After Sales Delivery	218	3.63	0.566
	INS	After Sales Installation	218	3.17	0.651
	SWA	Service Warranty	218	4.30	0.514
Overall ASS			218	3.70	0.577

(Source: Own Survey, 2018)

#### 4.2.2 Customer Satisfaction and Behavioral Intention

The dependent variable customer satisfaction and behavioral intention repurchases intension and WOM were analyzed with the descriptive statistics (mean and standard deviation). The customer satisfaction level was classified in to five points Likert scale. The translation of level ranking is analyzed based on the following criteria of customer satisfaction designed by Best (1977). The mean score between 1.00 - 1.80 is considered the lowest satisfaction; 1.81 - 2.61 low satisfaction; 2.62 - 3.41 average satisfaction; 3.42 - 4.21 good (high) satisfaction; and 4.22 – 5.00 mean very good (highest).

Referring Table 6, the level of customer's satisfaction, based on ET's enterprise broadband subscribers' perception, is depicted as below. Based on the above criterion, the overall customers' satisfaction on after sales delivery quality (mean 3.63) and billing quality (mean 3.52) was found to be highly satisfactory meanwhile after sales service warranty took the highest level of satisfaction (mean 4.17). However, they have still shown their indifferences or neutral stands in regard to after sales installation service quality. Overall, majority (mean 3.58) of the respondents were satisfied with the service provided. This implies that broadband user enterprises of ET were highly satisfied even if there are considerable rooms for improvements.

In summary, the descriptive statistics show that respondents feel quite satisfied from ASS offered even though they had reservation on installation quality as the respective score is considerably lower. It is notable that the mean scores for WOM (3.55) and repurchase intention (3.46) are relatively low compared to the mean scores of the ASS latent variables except installation attribute. This may be since, in addition to delivery and service warranty quality, other variables could have an impact on WOM and repurchase intention.



Table 6: Mean Scored Values of customer satisfaction and behavioral intention

Dimension	Code	Description	N	Mean	Std
Customer Satisfaction	OCS1	Your satisfaction level on delivery of ET after sales service	218	3.59	0.944
	OCS2	Your satisfaction level on installation of ET after sales service	218	3.03	0.836
	OCS3	Your satisfaction level on service warranty quality of ET after sales service	218	4.17	0.440
	OCS4	Your satisfaction level on billing of Ethio telecom after sales service	218	3.52	0.609
Overall Customer Satisfaction			218	3.58	0.570
Repurchase	RPI	I prefer ET in the next purchase (if new technology or items introduced)	218	3.46	0.911
Word of Mouth	WOM	ET aftersales service is recommendable to others	218	3.55	0.718

(Source: Own Survey, 2018)

### 4.3 SCALE MEASUREMENT

According to Nachmias (2004) reliability refers to the degree to which a measuring instrument includes variable errors that appear variably from observation to observation during any one measurement attempts or at the same measuring instrument.

#### 4.3.1 Reliability Test

After having made sure there is an accurate coding and numbering to the subjects, a reliability computation was carried out compute mean reliability coefficient estimates for Cronbach's Alpha with a significance level of  $p \leq 0.05$ . The Reliability Statistics show that the scale exhibits an acceptable degree of reliability as Cronbach's Alpha coefficient of 0.70 is a commonly suggested threshold of reliability test.

The use of Cronbach Coefficient to measure reliability of instrument enabled to identify the strength of items included in the questionnaire such that measure between 0.7 and 1.0 signifies a strong consistency of item used in questionnaire. However, the acceptable Alpha value that meets the statistical prerequisite for the instrument to be characterized as reliable should be between 0.70

and 0.9 as the value more than 0.9 could be an implication of redundant variables measuring same subject (Travakol, 2011).

After-sales service (ASS) had initially three dimensions namely delivery, installation and service warranty. However, during the data reduction, it was found that two manifest attributes of delivery, DS-2 and DS-7, had small factor loadings of 0.27 and 0.18 on ASS respectively. The small values of factor loading of delivery dimension in this study was possibly due to it was no longer a performance factor, but it had become a basic factor (Anderson and Mittal, 2000). In other words, the two stated attributes of delivery dimension did not make any difference in these enterprise broadband internet users because the management of ET had taken care of this delivery dimension. However, it would cause dissatisfaction if it did not exist (Wang and Ji, 2010).

Table 7: Case Processing Summary

		N	%
<b>Case</b>	Valid	218	100.0
	Excluded*	0	0.0
	Total	218	100.0

\*List-wise deletion based on all variables in the procedure.

As distributed a total of 10 questionnaires to participants of the pilot test, who were different from targeted sample respondents, the following reliability test result was found.

Table 8: Reliability Test of Survey Instrument

Variable	N	No. of Items	Cronbach's Alpha (Pilot Test)
Delivery	10	5	0.794
Installation	10	6	0.722
Service Warranty	10	3	0.754
Customer Satisfaction	10	4	0.786
Repurchase Intention	10	1	0.731
Word of Mouth	10	1	0.806
<b>Overall Reliability (<math>\alpha</math>)</b>	10	20	0.766

Source: Survey Data (2018)

With a minimum value of 0.722, the Cronbach's Alpha coefficients of all variables lies well above the commonly suggested threshold of 0.70. The overall reliability (average alpha score value for the questionnaire,  $\alpha = 0.766$ ) fell within the given range and as a result the researcher found the

instrument suitable for conducting the data analysis. This implies that the assessment tool (questionnaire) used can produce stable and consistent results.

### **4.3.2 Validity Test**

Content validity, also known as face validity, is the assessment of the correspondence of the variables to be included into a questionnaire and its conceptual definition (Hair et al., 1998). To assure the construct validity that is whether the measurement adequately represents the underlying supposed to measure, theoretical assessment of validity was undertaken. Accordingly, the items were majority adopted from previous studies and partially customized to ET broadband service provision based on the definition given by different researchers. Besides, appropriate research procedures were applied to find the answers to the basic question. With this the construct validity is also measured. All variables (items) were inspected by the researcher and three broadband internet service experts to ensure that they were an adequate and a thorough representation of the construct under investigation. To test the questionnaire for clarity and to provide a coherent research questionnaire, a macro review was accurately performed. Some items were added, based on their valuable recommendations. Some others were reformulated to become more accurate and clearer, and this was required for the purpose of enhancing the research instrument.

## **4.4 Inferential Analysis of Variables**

To test the hypotheses, simple and multi linear Regression analysis with (F) test using ANOVA table and Path analysis was used as follows:

### **4.4.1 Assumption Testing for Regression Analysis**

Meeting the assumptions of regression analysis is necessary to confirm that the obtained data truly represented the sample and that researcher has obtained the best results. Two assumptions for regression analysis used in this study are discussed for the individual variables: multi-collinearity and linearity. In the following paragraphs, each assumption is explained.

The initial inspection of the Pearson Correlation Matrix for the regression models revealed that the correlations between the independent variables did not exceed 0.80. While checking, the independent variables showed significant relationship with the dependent variable (above  $\gamma = 0.3$  preferably). Also, the researcher checked that the correlation between each of independent variables is not too high. Hill et al., (2003) suggest that you think carefully before including two variables with a bivariate correlation of, say,  $\gamma = 0.7$  or more in the same analysis. As it can be observed from the correlation table there is no correlation between the independent variable which is above  $\gamma = 0.7$ . Therefore, all variables are retained.

Table 9 shows that all ASS dimensions have a strong positive association with the overall customer satisfaction. Delivery is found to be significantly and positively related with overall customer satisfaction ( $\gamma = .608, p < 0.01$ ). Installation and service warranty have also strong and significant relation with OCS ( $\gamma = .559, p < 0.01$  and  $\gamma = .602, p < 0.01$  respectively). Repurchase intention shows strong positive relation with DS ( $\gamma = .501$ ) and OCS ( $\gamma = .688$ ) but weak association with INS ( $\gamma = .380$ ) and SWA ( $\gamma = .206$ ) attributes. This implies that mere provision of service warranty didn't have strong relation with repurchase intention. Installation was also exhibited weak relation with behavioral intention as it might be perceived as an obligation of the company.

Table 9: Correlation between ASS, CS, RPI and WOM

Dimensions	DS	InS	SWA	RPI	WOM	OCS
Delivery (DS)	1.00					
Installation (InS)	.591*	1.00				
Service Warranty (SWA)	.377	.641*	1.00			
Repurchase Intention (RPI)	.501*	.380	.206	1.00		
Word of Mouth (WOM)	.437*	.322	.652	.583*	1.00	
Overall Customer Satisfaction (OCS)	.608*	.559*	.602*	0.688*	0.630*	1.00

\*Correlation is significant at the  $p = 0.01$  level (2-tailed)

The linearity of the relationship between the dependent and independent variable represented the degree to which the change in the dependent variable is associated with the independent variable (Hair et al., 1998). In a simple sense, linear models predict values falling in a straight line by having a constant unit change (slope) of the dependent variable for constant unit change of the independent variable (Hair et al., 1998). Conventional regression analysis will underestimate the

relationship when nonlinear relationships are present, i.e.,  $R^2$  underestimates the variance explained overall and the betas underestimate the importance of the variables involved in the nonlinear relationship. Substantial violation of linearity implies that regression results may be more or less unusable (Malhotra et al. 2007). The result of the regression models, visually inspected, didn't reveal any systematic pattern, thus providing support for the specified linear relationship.

Prior to the analysis, data screening had been conducted as recommended by Hair *et al.* (2010). Data screening using SPSS software revealed no missing data. The data was checked to exclude the outliers from the data before any analysis can be done to get the right findings and remove false interpretation in this study. Outliers can cause the model to be biased because they affect the values of the estimated regression coefficient (Andy 2005). The normality of the data and selection of outliers in this study, thus, were done by checking the skewness (lack of symmetry) and kurtosis (heavy-tailed or light-tailed relative to a normal distribution). First, in which all the skewness value is less than two and the value for the kurtosis value is less than six (Mardia,1970) so that this value was checked, and no data collected which have skewness above two and all have the kurtosis value less than six. Based on the results, there were no obvious outliers between scores because in most points it falls within the vicinity of other points. The result implied that as the after sales service changed, customer satisfaction also changed to same direction. Similarly, while customers' satisfaction changed, repurchase intention as well as word of mouth also changed in same manner. It can be concluded that the three variables had direct relationship.

#### **4.4.2 Regression Analysis**

Before proceeding to the multiple regression analysis, in this study, to test the effects of the variables of customers' perceptions of after-sales service on the variable of level of customers' satisfaction and behavioral intention, simple regression analysis was used. This statistical technique is termed as a simple or multi-regression when the problem involves a single or more independent variable respectively (Hair et al., 1998). In general, simple regression analysis allows researchers to determine how one variable changes in relation to the change in another variable. The proposed hypotheses are tested based on the findings of the analyses.

#### 4.4.2.1 Effect of After-sales Service on Customer Satisfaction

Table 10 presents the regression results of the perceived service of ET's enterprise broadband subscribers' satisfaction. In terms of the relationship between the two variables based on the conceptual model, subscribers' satisfaction can be seen as a single dependent variable whereas perceived after-sales service is regarded as an independent variable in a simple regression model.

The first table (Model Summary) in the output includes information about the quantity of variance that is explained by predictor variable. The first statistic, R, is the correlation coefficient between the predictor variable (after-sales service) and the dependent variable (customer satisfaction). The R was (0.691) at level ( $\alpha \leq 0.05$ ); whereas the model's coefficient of determination,  $R^2$  was (0.477). This is frequently used to describe the goodness-of-fit or the amount of variance explained by a given set of predictor variables. This means the 47.7% of broadband subscribers' satisfaction changeability's or variance results from the changeability in perceived after-sales service quality, while the remaining 52.3% are explained by other variables out of this model. This lower  $R^2$  value indicated that besides the after-sales service quality, there are other important variables which lead to enterprise broadband customers' satisfaction. Adjusted  $R^2 = 0.469$  with estimated standard deviation 0.757, the regression model is statistically significant since the probability level is below 0.001.

The second table (ANOVA) that describes the overall variance accounted for in the model. The F-statistic represents a test of the null hypothesis that the regression coefficients are all equal to zero. Put another way, this F statistic tests whether the  $R^2$  proportion of variance in the dependent variable accounted for by the predictors is zero. If the null hypothesis were true, then that would indicate that there is no (linear) regression relationship between the dependent variable and the predictor variables.

The analysis shows that, there is a significant main effect of ASS on subscribers' satisfaction  $F(1, 217) = 390.42$ ,  $p < 0.01$  at the 0.05 alpha level. The mean square, which indicates the amount of variance (sums of squares) divided by the degrees of freedom, equals 185.45. The Beta value (standardized coefficient) in the third table indicates the effect of change in the independent variables on dependent variables. For instance, a unit increases in ASS results in an increase of

customer's satisfaction by 0.691, vice versa, keeping another factors constant. Regarding the effects of each ASS dimensions on the customers' satisfaction (Appendix II), Delivery (DS) and Service Warranty (SWA) have significant effect as  $p < 0.005$  whereas Installation (IS) has insignificant effect as p-value was found to be 0.296 ( $p > 0.005$ ). Since the overall ASS affects the enterprise broadband subscribers' satisfaction significantly at level ( $\alpha \leq 0.05$ ), the hypothesis ( $H_1$ ) is accepted.

***H<sub>1</sub> = After-Sales Service has significant effect on Customer Satisfaction is accepted.***

Table 10: Regression Results of ASS Effect on CS

Model Summary				
Model	R	R <sup>2</sup>	Adjusted R <sup>2</sup>	Std. Error of the estimate
1	.691 <sup>a</sup>	.477	.469	0.757

<sup>a</sup> Predictor: (Constant), After-Sales Service (Delivery, Installation, Warranty)

ANOVA <sup>a</sup>						
Model		Sum of Squares	df	Mean Square	f	Sig.
1	Regression	185.45	1	185.45	390.42	0.000 <sup>b</sup>
	Residual	103.11	217	.475		
	Total	288.56	218			

<sup>a</sup> Dependent Variable: Customer Satisfaction

<sup>b</sup> Predictors: (Constant), After-Sales Service

Coefficients <sup>a</sup>						
Model		Unstandardized Coefficient		Standardized Coefficient	t	Sig.
		$\beta$	Std. Error	$\beta$		
1	(Constant)	.332	.260		1.278	.202
	Overall ASS	.993	.070	.691	14.176	.000

<sup>a</sup> Dependent Variable: Customer Satisfaction

(Source: Own Survey, 2018)

#### 4.4.2.2 Effect of Customer Satisfaction on Behavioral Intention

To test the effects of the variables of broadband internet enterprise subscribers' satisfaction on the variable of level of behavioral intention (repurchase intention and word of mouth), simple regression analysis was used. Table 11 presents the regression results of customer satisfaction of ET and behavioral intention. In terms of their relationship based on the conceptual model, customer satisfaction can be seen as a single independent variable whereas behavioral intention is regarded as dependent variable in a simple regression model.

Referring Table 11, the first statistic, R, is the correlation coefficient between the predictor variable (customer satisfaction) and the dependent variable (behavioral intention). The R was (0.660) at level ( $\alpha \leq 0.05$ ); whereas the model's coefficient of determination,  $R^2$  was (0.437). This means the 43.7% of behavioral intention changeability or variance results from the changeability in customer's satisfaction, while the remaining 56.3% are explained by other variables out of this model. Adjusted  $R^2 = 0.426$  with estimated standard deviation 0.381, the regression model is statistically significant since the probability level is 0.000.

The ANOVA analysis in the second table shows that, there is a significant main effect of customer satisfaction on behavioral intention  $F(1, 217) = 585.57$ ,  $p < 0.01$  at the 0.05 alpha level. The mean square, which indicates the amount of variance (sums of squares) divided by the degrees of freedom, equals 118.87.

The Beta value (standardized coefficient) in the third table indicates a unit increase in subscribers' satisfaction results in an increase of behavioral intention by 0.660, vice-versa. Therefore, there is significant effect of customer satisfaction on behavioral intention at level ( $\alpha \leq 0.05$ ) and the hypothesis is accepted. Therefore,

***H<sub>2</sub> = Customer satisfaction has significant effect on behavioral intention is accepted.***



Table 11: Regression Results of CS Effect on BEV

Model Summary

Model	R	R <sup>2</sup>	Adjusted R <sup>2</sup>	Std. Error of the estimate
1	.660 <sup>a</sup>	.437	.426	0.381

<sup>a</sup> Predictor: (Constant), Customer Satisfaction

ANOVA<sup>a</sup>

Model	Sum of Squares	df	Mean Square	f	Sig.	
1	Regression	118.87	1	118.87	585.57	0.001 <sup>b</sup>
	Residual	43.95	217	.203		
	Total	162.82	218			

<sup>a</sup> Dependent Variable: Behavioral Intention

<sup>b</sup> Predictors: (Constant), Customer Satisfaction

Coefficients <sup>a</sup>

Model		Unstandardized Coefficient		Standardized Coefficient	t	Sig.
		$\beta$	Std. Error	$\beta$		
1	(Constant)	1.12	.092		12.17	.000
	Customer Satisfaction	.642	.022	.660	29.18	.000

<sup>a</sup> Dependent Variable: Behavioral Intention

(Source: Own Survey, 2018)

#### 4.4.2.3 Effect of After-sales Service on Behavioral Intention

Referring Table 12 presents the regression results of ASS and BEV. In terms of their relationship based on the conceptual model, ASS can be seen as a single independent variable whereas BEV is regarded as dependent variable in a simple regression model.

In this regard, the model summary's output includes information about the quantity of variance that is explained by independent variable. The first statistic, R, is the correlation coefficient between the predictor variable (ASS) and the dependent variable (BEV). The R was (0.485) at level ( $\alpha \leq 0.05$ ) whereas the model's coefficient of determination, R<sup>2</sup> was (0.235). This means the

23.5% of behavioral intention changeability's or variance results from the changeability in ASS, while the remaining 76.5% are explained by other variables out of this model. This lower  $R^2$  value indicated that besides the ASS, there are other important variables which affect subscribers' behavioral intention. Adjusted  $R^2 = 0.182$  with estimated standard deviation 0.593, the regression model is statistically significant as the probability level is 0.000.

The ANOVA analysis in the second table shows that, there is a significant main effect of ASS on behavioral intention  $F(1, 217) = 115.16, p < 0.01$  at the 0.05 alpha level. The mean square, sum of squares divided by the degrees of freedom, equals 56.43.

The Beta value (standardized coefficient) in the third table indicates a unit increases in ASS results in an increase of behavioral intention by 0.235, vice-versa, keeping another factors constant. In other word, a 100% change in customer satisfaction causes a 23.5% change in behavioral intention. Therefore, there is significant effect of ASSQ on BEV at level ( $\alpha \leq 0.05$ ) confidence level and the proposed hypothesis ( $H_3$ ) is accepted. Therefore,

***$H_3 = \text{After-sales Service has significant effect on Behavioral Intention is accepted.}$***

Table 12: Regression Results of ASS Effect on BEV

Model Summary

Model	R	$R^2$	Adjusted $R^2$	Std. Error of the estimate
1	.485 <sup>a</sup>	.235	.182	0.593

<sup>a</sup> Predictor: (Constant), After-sales Service

ANOVA<sup>a</sup>

Model	Sum of Squares	df	Mean Square	f	Sig	
1	Regression	56.43	1	56.43	115.16	0.000 <sup>b</sup>
	Residual	106.38	217	.490		
	Total	162.81	218			

<sup>a</sup> Dependent Variable: Behavioral Intention

<sup>b</sup> Predictors: (Constant), After-sales Service

Coefficients <sup>a</sup>

Model		Unstandardized Coefficient		Standardized Coefficient	t	Sig.
		$\beta$	Std. Error	$\beta$		
1	(Constant)	0.74	.115		6.435	.000
	After-sales Service	.531	.019	.485	27.945	.000

<sup>a</sup> Dependent Variable: Behavioral Intention

(Source: Own Survey, 2018)

#### 4.4.2.4 Mediating Effect of Customer Satisfaction on After-sales Service Quality and Behavioral Intention Relation

A mediation model is one that seeks to identify and explicate the mechanism or process that underlies an observed relationship between an independent variable and a dependent variable via the inclusion of a third explanatory variable, known as a mediator variable. Rather than hypothesizing a direct causal relationship between the independent variable and the dependent variable, a mediation model hypothesizes that the independent variable influences the mediator variable, which in turn influences the dependent variable. Thus, the mediator variable serves to clarify the nature of the relationship between the independent and dependent variables. In other words, mediating relationships occur when a third variable plays an important role in governing the relationship between the other two variables (Baron et al, 1986).

This hypothesis is tested by Baron and Kenny's (1986) three-step procedure for detecting mediation effects. First, the mediator (internet broadband enterprise subscribers' satisfaction) is regressed on the independent variable (ASS) to check if the latter affects the former.

$$CS = \beta_0 + \beta_{ASS} \times ASS$$

$$CS = 0.332 + 0.691 \times ASS \quad \dots \dots \dots \quad \text{eq. (1)}$$

Next, the dependent variable (behavioral intention) is regressed on the independent variable (ASSQ) to check if the latter affects the former.

$$BEV = \beta_0 + \beta_{ASS} \times ASS$$

$$BEV = 1.120 + 0.660 \times ASS \dots\dots\dots \text{eq. (2)}$$

Finally, the dependent variable is regressed on both the independent variable and the mediator to verify that the mediator affects dependent variable and that the effect of the independent variable decreases (i.e.,  $\beta_{ASSQ}$  in eq. (3) is much less than  $\beta_{ASS}$  in eq. (2)):

$$BEV = \beta_0 + (\beta_{ASS} \times ASS) + (\beta_{CS} \times CS)$$

$$BEV = 0.920 + 0.081ASS + 0.803CS \dots\dots\dots \text{eq. (3)}$$

Thus, Baron and Kenny's (1986) three conditions for mediation are satisfied. Therefore, customer satisfaction has a mediating effect on the relationship between after-sales service quality and behavioral intention; and the hypothesis is accepted. Therefore,

***H<sub>4</sub> = Customer satisfaction has a mediating significant effect on the relationship between after-sales service and behavioral intention.***

Table 13: Regression Results of ASS and CS Effect on BEV

Model Summary

Model	R	R <sup>2</sup>	Adjusted R <sup>2</sup>	Std. Error of the estimate
1	.857 <sup>a</sup>	.734	.732	.379

<sup>a</sup> Predictor: (Constant), After-sales Service, Customer Satisfaction

ANOVA<sup>a</sup>

Model	Sum of Squares	df	Mean Square	f	Sig	
1	Regression	119.51	2	59.754	297.28	.000 <sup>b</sup>
	Residual	43.31	216	.201		
	Total	162.82	218			

<sup>a</sup> Dependent Variable: Behavioral Intention

<sup>b</sup> Predictors: (Constant), After-sales Service ; Customer Satisfaction

Coefficients <sup>a</sup>

Model		Unstandardized Coefficient		Standardized Coefficient	t	Sig.
		$\beta$	Std. Error	$\beta$		
1	(Constant)	.920	.131		7.046	.000
	After-sales Service	.096	.045	.081	2.114	.035*
	Customer Satisfaction	.604	.029	.803	20.936	.000

<sup>a</sup> Dependent Variable: Behavioral Intention\*Significant at  $p < 0.005$ 

(Source: Own Survey, 2018)

#### 4.4.3 Structural Equation Modeling (SEM)

To test the validity of the proposed model and the hypotheses, SEM was also conducted. Overall fit of the structural model is checked initially by examining the chi-square statistics. A significant chi-square statistic indicates an inadequate fit, but this statistic is sensitive to sample size and model complexity. Therefore, rejection of a model based on this evidence alone is inappropriate (Hair et al., 1998). Other measures of fit compensating for sample size are also applied. They include goodness of fit index (GFI), adjusted goodness of fit index (AGFI), normalized fit index (NFI) and comparative fit index (CFI). GFI, the goodness of fit index, tells what proportion of the variance in the sample variance–covariance matrix is accounted for by the model. This should exceed .9 for a good model.

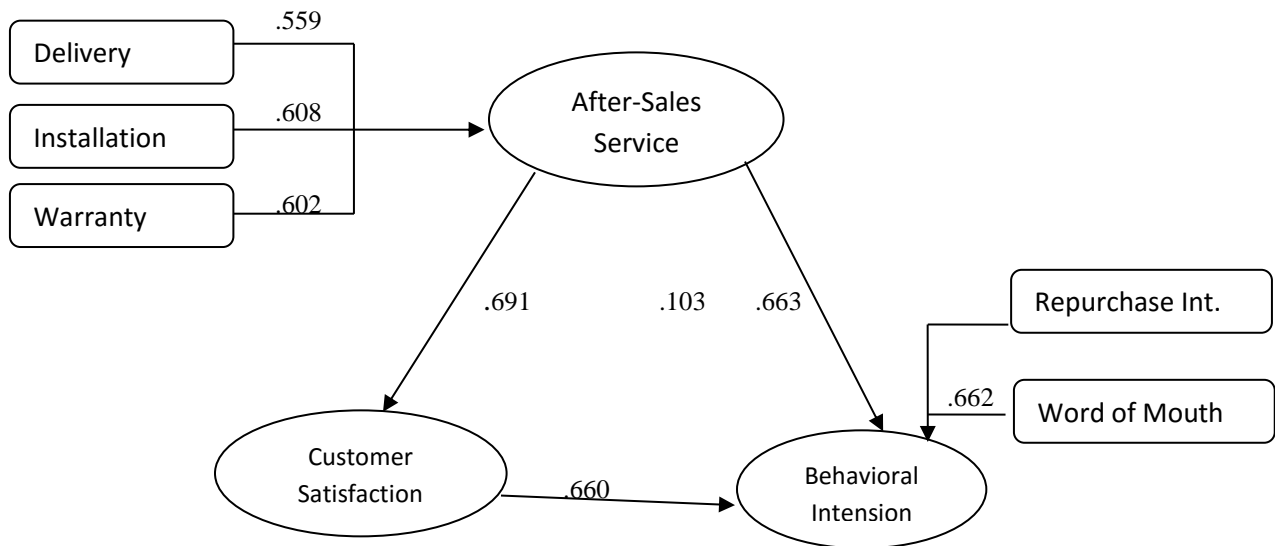
For the full model it will be a perfect 1.0. AGFI (adjusted GFI) is an alternate GFI index in which the value of the index is adjusted for the number of parameters in the model. The fewer the number of parameters in the model relative to the number of data points, the closer the AGFI will be to the GFI. The recommended acceptance of a good fit to a model requires that the obtained GFI and NFI, CFI values should be greater than or equal to 0.90 (Hair et al., 1998). The goodness-of-fit statistics of the structural model showed that the model reasonably fit the data (Table 4.14). Goodness of fit index = 0.990, adjusted goodness of fit index = 0.942, Normed fit index = 0.992, comparative fit index (CFI) of 0.994 and Tucker-Lewis index (TLI) of 0.981 indicating the same.

Table 14: Goodness-of-Fit Statistics

Model	GFI	AGFI	NFI	TLI	CFI
Default Model (Value)	0.990	0.942	0.992	0.981	0.994
Accepted Value	>0.90	<0.90	>0.90	>0.90	>0.90

Source: Own Survey, 2018

Figure 4.1 presents unstandardized mediation model depicting the proposed relationships among after-sales service quality (delivery, installation, and service warranty), enterprise customers' satisfaction and behavioral intention (repurchase intention and word of mouth). The results, showing all coefficients as being highly significant, strongly support the proposed mediation hypothesis. Comparison of the after-sales service coefficient in the ASS-CS-BEV model as shown in figure 4.1, the direct effect of ASS on behavioral intention declines (though it is still significant) when satisfaction is included as a mediator. (0.485 to 0.103 for standardized). This suggests subscribers' satisfaction has a significant mediating effect on the relationship between perceived service quality and behavioral intention; then, the hypothesis (H<sub>4</sub>) is accepted. In summary, the findings from the above analysis examining the mediating role of broadband subscribers' satisfaction on the impact of after-sales service on behavioral intention suggest that they use their level of satisfaction to make inferences about the soundness of service quality that could affect their future behavioral intention.



Source: Own Survey, 2018

Figure 4.1 Standardized Mediation Model (ASS-CS-BEV)

## 4.5 DISCUSSION

Hypothesis one measures the ET's enterprise customers of broadband internet subscribers' satisfaction of the after-sales service provided by the company in terms of after-sales delivery, installation and provision of service warranty. It was found that there is a significant positive relation between the after-sales service and customer satisfaction in the case analysis of Ethio Telecom. Majority perceives the overall after-sales service positively especially the provision of service warranty for the system and accessories' malfunction. It can be taken as good implication that users may have doubts on the reliability of the system's proper functionality. It is also supported by their neutrality on the quality of the installation. Even though the after-sales delivery was found to be satisfactory, both after-sales delivery and installation service needs further improvement to exceed customer satisfaction along with supplying quality products like modem, power back-up and cables. The results of this study are consistent with the findings of Zeithaml (2009), Anderson et al. (1994), Cronin et al. (2005) and Fornell et al., (1996). These studies all reported that service quality was consistently found to have more impact on customer satisfaction.

Hypothesis two was established that customer satisfaction is positively related to positive future behavioral intentions, and the finding supports this hypothesis. If the average satisfaction is raised by one unit, the behavioral intentions are increased by 0.660units, implying that they are more likely to purchase and/ or recommend telecom to others if new technology (product/ service) is introduced. These results support the general findings of Cronin and Taylor (1992), Zeithaml et al. (2009). These authors reported that there were direct effects of customer satisfaction on behavioral intentions. This result supports many researchers' propositions that customer satisfaction influenced behavioral intentions, which, in turn, resulted in long- or short-term profitability. In addition, the aim of managing customer satisfaction was to obtain a higher rate of customers' favorable behavioral intentions and to improve the market share and profits of an organization (Yee et al. 2010, Fornell, 1994, Zeithaml et al., 2009)

Hypothesis three proposed that after-sales service has a significant effect on enterprise customers' behavioral intention. The results of this study are consistent with the findings of Taylor et al. (1997) and (Cronin et al., 2005). These studies all reported that service quality was consistently found to have impact on behavioral intention. The mean scores of after-sales service, for all the three

dimensions, ranges from 2.60 to 4.59 indicating the inconsistency of enterprise internet subscribers' perception on the quality of after-sales service being offered by Ethio Telecom. After delivery, flawless installation service accounted for their dissatisfaction of the customers as to fail to exceed their expectation.

Hypothesis four also proposed that customers' satisfaction has a mediating effect on the relationship between the after-sales service and behavioral intention. The influence of the after-sales service quality on behavioral intention was not just direct but was also mediated by their satisfaction. This finding supports the finding of Cronin and Taylor (1992) that marketers needed to focus on customers' satisfaction as an important determinant of enhancing the predictive power of service quality results in long term relationship through repurchase and recommendation. The analysis results indicate that compared to other after-sales service dimensions, provision of service warranty and delivery of products safely to the place of the subscriber are the most important dimensions based on their perception. On the other hand, the delay in delivery and flawless installation were perceived negatively as the worst service of the company. Thus, extra efforts are mandatory to attain its valued customers' satisfaction.



## **CHAPTER FIVE**

### **SUMMARY, CONCLUSION AND RECOMMENDATIONS**

In this chapter, an attempt has been made to present the summary of major findings, conclusions and recommendations. At the end suggestions for future research are discussed.

#### **5.1 SUMMARY OF MAJOR FINDINGS**

The respondents' profile indicated that more than half (58.7%) of the participant was IT managers from their respective enterprises. Majority (42.2%) subscribed for ADSL and (36.2%) accounted for EPON broadband internet services. They demanded overall system maintenance/ repair for about five times since their subscription. Their demographic characteristics imply that enterprises assign proper or qualified manpower to handle IT related tasks; preferred relatively high-quality broadband internet service but still they encountered with system and component failure considerably which needs further system and accessories' quality improvement.

The effect of after-sales service and customers' satisfaction on their behavioral intention was studied in this research taking Ethio Telecom's enterprise broadband internet subscribers as a case study. The main objective was to find out the relationship between the stated variables and identifying which of the service quality dimensions significantly contribute to the overall service quality. The results of descriptive and inferential analysis of the study variables such as after-sales service quality (delivery, installation and service warranty), customer satisfaction and behavioral intention (repurchase and word of mouth) are summarized as follows.

Regarding delivery, majority (mean 4.28) perceived the service positively even if ET fails to expedite its relevant paper works (mean 3.29) at delivery. They also showed their neutral (mean 3.17) stand on installation service quality even though disagreed on provision of flawless installation (mean 2.62) and fairness of elapsed time between promised and actual date of

installation (mean 2.77). On the other hand, the overall service warranty provided to the broadband subscribers were perceived positively (mean 4.30).

This can be taken as implication of inconsistent service being provided by ET that affects the overall customer satisfaction (mean 3.58) substantially for the fact that delivery was perceived positively, installation was ignored (took neutral stand) while service warranty was highly appreciated. The results also revealed that subscribers' intention of repurchase (mean 3.46) and recommendation (mean 3.55) the service to others were slightly above average. The company still failed to instill confidence on its enterprise customers through effective and efficient quality internet service provisions.

Based on multiple regression analysis results, all dimensions of after-sales service except installation had significant relationship with customer satisfaction and behavioral intentions. Based on the findings, all after sales service dimensions and customer satisfactions explain 73.4% ( $R^2=0.734$ ) of the variance in the overall behavioral intention perception which indicates that besides the after-sales service and their satisfaction, there are other important variables which lead to enterprise broadband subscribers repurchase intention or recommendation.

Regarding the contribution of each after-sales service quality dimensions on customer satisfaction and behavioral intention, Delivery ( $\beta = 0.369$ ) and Service Warranty ( $\beta = 0.129$ ) have significant effect at  $p < 0.05$  whereas Installation ( $\beta = 0.163$ ) has insignificant effect as p-value was found to be 0.296 ( $p > 0.05$ ). The Beta value ( $\beta = 0.660$ ) of customer satisfaction confirms it has a significant effect on behavioral intention at  $p < 0.05$  while After-sales service quality ( $\beta = 0.235$ ) had significant effect on BEV at level ( $p < 0.05$ ).

Comparison of the after-sales service quality coefficient in the ASSQ-CS-BEV model, the direct effect of ASSQ on behavioral intention declines (though it is still significant) when satisfaction is included as a mediator ( $\beta = 0.485$  to  $\beta = 0.103$  for standardized). This suggests subscribers' satisfaction has a significant mediating effect on the relationship between perceived after-sales service and behavioral intention.

In summary, the findings from the above analysis examining the mediating role of broadband subscribers' satisfaction on the impact of after-sales service quality on behavioral intention suggest

that they use their level of satisfaction to make inferences about the soundness of service quality that could affect their future behavioral intention.

## **5.2 CONCLUSION**

The purpose of this study was to investigate the effect of after-sales service and enterprise broadband subscribers' satisfaction on their behavioral intention. This study necessitates ET's concerned managements to develop various strategies and policies to provide guaranteed quality after-sales services to broadband internet subscribers.

Ethio Telecom's after-sales service was found to have significant and positive influences on enterprise broadband internet subscribers' satisfaction and their behavioral intentions as well. Failure to provide quality services may cause negative impact on their repurchase intentions and recommendation to others. Furthermore, the findings of the study have shown that subscribers' satisfaction has a mediating effect on the relationship between after-sales service and behavioral intention.

In this research, structural equation modeling (SEM) was employed for further analysis of the results. Confirmatory factor analysis (CFA) was performed to test whether the relationship between the observed variables fit hypothesized measurement model. The proposed model (structural model) was tested through path analysis to test predictions and to explore the relationship among after-sales service quality, subscribers' satisfaction and their behavioral intention.

The overall findings offer strong empirical support for the intuitive notion that improving service can increase favorable behavioral intentions and decrease unfavorable intentions. The findings demonstrate the importance of strategies that can steer behavioral intentions in the right directions, including striving to meet broadband subscriber's desired-service levels (rather than merely performing at their adequate-service levels), emphasizing the prevention of service problems, and effectively resolving problems that do occur. However, companies wanting to improve service, especially beyond the desired-service level, should do so in a cost-effective manner. The empirical findings have specific implications for firms' research and resource-allocation decisions pertaining

to improving service quality. A salient issue of many companies on the after-sales service research agenda underlies understanding the impact of service quality on profits.

### **5.3 RECOMMENDATIONS**

Based on the analysis of this study, the following recommendations have been forwarded to Ethio Telecom staffs and decision makers in the order of importance to enterprise broadband internet subscribers.

- The company should keep up providing good after-sales services given by its technical staffs. In addition, time of delivery and installation should as to the standards of the company to exceed its customers' expectation.
- The company should maintain as it is (or amend when necessary) its service warranty policy as it excels the subscribers' satisfaction which lead to repurchase and recommendation the service for others.
- The marketing managements of the company should give due consideration for all aspects of after-sales service dimensions equally and in an integrated manner to delivery efficient an effective service up to the standers of the users' expectation.
- ET should train its IT specialists and other technical staffs to have competitive capability to improve delivery and installation of broadband internet system and answer users 'after sales service inquiry promptly.
- The company should give much attention to installation problems and product qualities since it has a great consequence for subscribers especially for enterprise users.
- Service environment provided by the company should include adequate information, users' manual and operational instruction guides as a simple direction to solve minor system malfunctions.
- The company should provide updated and new innovations to mitigate accessories' failure and for ease of maintenance.
- Except enterprise subscribers in Addis Ababa, other broadband users and similar product-mix providers were excluded in this study. Thus, this study can be used as a spring-board or reference for further research to have the big picture of the industry in regard to quality service provision.

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## APPENDICES

### Appendix – 1 English and Amharic Version

**ST. MARY’S UNIVERTSITY**  
**SCHOOL OF GRADUATE STUDIES**  
**DEPARTMENT OF MARKETING MANAGEMENT**

#### Survey Questionnaire

Dear Respondents,

My name is Dagmawit Teshome, a postgraduate student of St. Mary University School of Graduate studies. I am conducting a study to assess the effect of after sales service on customer satisfaction in the case of Ethio Telecom Enterprise broadband Internet subscribers. The purpose of this questioner is to gather information about Ethio Telecom key account enterprise customers’ satisfaction level on after sales service quality. Your honest and sincere responses for this questionnaire will play a great role in making the research successful. I assure you that all the responses will be treated confidentially and only be used for academic purpose. Participation is purely voluntary and no need to write your name.

I thank you in advance for offering your golden time and if you have any question, please feel free to contact me by the below contact:

Dagmawit Teshome  
Phone: +251 911514341  
Email: [dagmawitteshome97@gmail.com](mailto:dagmawitteshome97@gmail.com)

## **Part 1: General Information about the Respondents**

1. Your company type?

- Private Enterprise
- NGO's/ International organizations
- Governmental Organization

2. What kind of Ethio telecom Broadband internet service your companies subscribe?

- Fixed Broadband internet - ADSL (Copper)
- Fixed Broadband internet – EPON (Fiber)
- Wireless point to point Broadband internet

3. Your position in the company?

- General Manager
- IT manager
- Other (please specify) \_\_\_\_\_

5. How often do you get after sales service from Ethio telecom for Broadband internet service?

- None
- 1-5 Times
- 6-10 Times
- Above 10 Times

6. Select the type of after sales service you get from ET

- Billing case
- Maintenance/ Repair
- Modem Replacement
- Power back up
- Reconfiguration
- Other (please specify) \_\_\_\_\_

## **Part 2: Rating After Sales Service Quality Dimensions**

This section is aimed to evaluate ET after-sales service , each statement relates to your feelings about the service based on your experience. This part is organized in five Likert scale measurement express your level of evaluation by ticking (√) under the numbers of the five alternatives. The score levels are described as:

1- Strongly Disagree;    2- Disagree;    3- Neutral;    4- Agree;    5- Strongly Agree

Dimension	Code	Attributes	Likert Scale				
			SDA (1)	DA (2)	N (3)	A (4)	SA (5)
Delivery	DS1	ET delivers its service at promised time					
	DS2	ET transfer product to your place (modems, power backups, cables...)					
	DS3	ET deliver quality products such as modems, cables power backups...					
	DS4	ET has proper delivery paper works such as acceptance sheet, invoice, user's manual, etc...					
	DS5	ET delivery personnel are kind and friendly					
			SDA (1)	DA (2)	N (3)	A (4)	SA (5)
Installation	InS1	ET gives accurate information about time of installation					
	InS2	Time elapsed between delivery and installation is fair					
	InS3	ET maintenance personnel are attentive on installation in order to avoid damages					
	InS4	ET installation is flawless					
	InS5	ET installation personnel are kind and friendly					
	InS6	Ethio telecom technicians give proper advice and instructions					
			SDA (1)	DA (2)	N (3)	A (4)	SA (5)
Service Warranty	SWA1	Ethio telecom has reasonable warranty policy					
	SWA2	Ethio telecom provides warranty for technical malfunction (reconfiguration)					
	SWA3	Ethio Telecom has maintenance/ damage repair warranty (cable replacement, routing)					
			SDA (1)	DA (2)	N (3)	A (4)	SA (5)
Repurchase Intention	RPI	I prefer ET in the next purchase (if new technology or accessories introduced)					
			SDA (1)	DA (2)	N (3)	A (4)	SA (5)
Word of Mouth	WOM	ET after sales service is recommendable to others					

Whereas, the score levels for Overall Customer Satisfaction is described as:

1- Strongly Satisfied; 2- Satisfied; 3- Neutral; 4- Dissatisfied; 5- Strongly Dissatisfied

Dimension	Code	Attributes	S-SAT (1)	SAT (2)	N (3)	DISSAT(4)	S-DISSAT (5)
Overall Satisfaction	OCS1	Your satisfaction level on delivery of Ethio telecom after sales service					

	OCS2	Your satisfaction level on installation of Ethio telecom after sales service					
	OCS3	Your satisfaction level on service warranty provision of Ethio telecom after sales service					
	OCS4	Your satisfaction level on billing quality of Ethio telecom after sales service					

**Many Thanks for Your Kind Co-operation!!!**

**ውድመልስ ሰጪዎች**

እኔ ዳግማዊት ተሾመ በቅድስ ተማርያም ዩኒቨርሲቲ የድህረምረቃ ተማሪ ነኝ የኢትዮጵያ ኢንተርኒት ምዘት የብሮድባንድ ኢንተርኔት ተጠቃሚዎች እንደ ደንበኛ በድህረ ሽያጭ አገልግሎት ያላቸውን እርካታ በሚመለከት ጥናት እያካሄድኩኑዎ:: የዚህ ቃለመጠይቁ አላማ ስለኢትዮ ጅምር ምና ምና ከድህረ ሽያጭ በኋላ ስለሚሰጠው የአገልግሎት ጥራት ደንበኞች በኢትዮጵያ ስርዓት ስለሚያገኙት የእርካታ ደረጃ መረጃ ለመሰብሰብ ነው እርስዎ የሚሰጡት እውነተኛ እና ሐቀኛ ምላሽ ይህ ምርምር ውጤታማ እንዲሆን ከፍተኛ ሚና ይጫወታል:: ሁሉም የሚሰጡት ምላሾች በሚስጥራዊነት እንደሚጠበቁ ላረጋግጥልዎት እወዳለሁ ምላሾቹ ጥቅም ላይ የሚውሉት ለአካዳሚክ አላማብቻ ነው:: በቃለመጠይቁ መሳተፍ በበጎ ሁኔታ ቃደኝነት ላይ ተመሰረተ ነው እናም ስምዎን መጻፍ አያስፈልግዎትም:: እርስዎ ለሰጡኝ ወርቃማ ገቢዎች በቅድሚያ አመሰግናለሁ:: ጥያቄ የሚኖርዎት ከሆነ እባክዎት ከዚህ በታች የተመለከተውን ስልክ መጠቀም እኔን ያግኙኝ

ዳግማዊት ተሾመ

251911514341

ኢሜይል: [dagmawitteshome97@gmail.com](mailto:dagmawitteshome97@gmail.com)

**ክፍል አንድ**

**ስለ መልስ ሰጪዎቼ ጠቅላላ መረጃ**

1. የኩባንያ ወይም አይነት
  - ሐላፊነቱ የተወሰነ የግል ድርጅት
  - የፋይናንስ ተቋማት
  - መያያዥ / አለም አቀፍ ድርጅቶች
  - መንግስታዊ ድርጅቶች
  - የህዝብ ድርጅቶች
  
2. የእርስዎ ኩባንያ የሚያገኘው ምን ዓይነት የኢትዮጵያ ኢንተርኔት ምዘት የብሮድባንድ ኢንተርኔት አገልግሎት ነው?
  - ፊክስ ድብረት የብሮድባንድ ኢንተርኔት - ኤዲኤስኤል (ኮፐር)
  - ፊክስ ድብረት የብሮድባንድ ኢንተርኔት - ኢፒኤን (ፋይበር)
  - የኖርላስ ፖይንት ቱ ፖይንት የብሮድባንድ ኢንተርኔት
  
3. በኩባንያ ወይም የእርስዎ ሐላፊነት ደረጃ
  - የናስራ አስኪያጅ
  - የአይ.ቲ.ስራ አስኪያጅ
  - ሌሎች (እባክዎ ይዘርዝሩ)

4. ከኢትዮጵያውያን የሥራ ስልጠና አገልግሎት ለሚሰጡት የሥራ ስልጠና አገልግሎት የሚያገኙት  
 የለም  1-5  6-10  10 በላይ
5. ከኢትዮጵያውያን የሥራ ስልጠና አገልግሎት ይምረጡ  
 የክፍያ ጉዳይ  ጥገናና እድሳት  የሞደም መተኪያ  
 ፓወርባክፕ  ሪ ኮንፈገሬሽን  ሌሎች አባባቶች ይዘርዘሩ

**ክፍል ሁለት**  
**የድህረ ሽያጭ አገልግሎት ጥራት መለኪያዎችን ደረጃ መስጠት**

ይህ ክፍል የሚያልመው የኢትዮጵያውያን የድህረ ሽያጭን መገምገም ነው።

እያንዳንዱ መገለጫ በአርስ ወይም ድመሰረት ስለ አገልግሎቱ ያልሰጡትን ስሜት የሚገልጽ ነው። ይህ ክፍል በአምስት የሊከርት ስኬር መለኪያ የተዘጋጀ ሆኖ እናም እርስዎ የሚያደርጉትን ነገር በኖር የገምገማዎችን ደረጃ ከአምስት ስኬር መለኪያ ስር በምልክት በማድረግ ነው።

የውጤቱ ደረጃዎችን ከዚህ በታች ተገልፀዋል

1. በጣም አልስማማም
2. አልስማማም
3. አስተያየት የለኝም
4. እስማማለሁ
5. በጣም እስማማለሁ

መለኪያ	ኮድ	ባህሪያት	የሊከርት ስኬል				
			በጣም አልስማማም (1)	አልስማማም (2)	አስተያየት የለኝም (3)	እስማማለሁ (4)	በጣም እስማማለሁ (5)
ማስረከብ	የማአ1	ኢትዮጵያውያን አገልግሎቱን በተጠቀሰው ጊዜ ይሰጣል					
	የማአ2	ኢትዮጵያውያን ምርቱን በታወቀው ላይ ያስረክባል (ሞደሞች፣ ፓወርባክፕ፣ ኬብሎች ---)					
	የማአ3	ኢትዮጵያውያን እንደ ሞደም ፓወርባክፕ ኬብሎች የመሳሰሉ ሌሎችን ጥራት ያላቸውን ምርቶች ያስረክባል					
	የማአ4	ኢትዮጵያውያን እንደ መቀበያ ቅጽ ደረሰኝ የተጠቃሚዎች መመሪያ ወይም የመሳሰሉትን ተገቢ የሆኑ የማስረከቢያ ወይም ረቀቅ ጽሑፍ አሉት					
	የማአ5	የኢትዮጵያውያን ክትትል የሚፈጽሙ ሰራተኞች ደግና ተግባራዊ ወይም ሌሎች ናቸው					

			ቦገም አልሰማማ ም(1)	አልሰማማ(2 )	አስቴያየት የሰኝም(3)	አስማማላሁ(4 )	ቦገም አስማማላሁ(5 )
ተከላ	የተአ1	ኢትዮጵያውያን ስለሙሉ አዲስ ስርዓት ማሰባሰቢያ					
	የተአ2	በርክክብ እና በሙሉ አዲስ ስርዓት ማሰባሰቢያ					
	የተአ3	የኢትዮጵያውያን ጥገና ስራ ተኮሮች ስለተከላተኩረት የሚሰጡ ጠናቸው የዚህም አላማገጥ ዳት እንዳይከተል ለማድረግ ነው					
	የተአ4	የኢትዮጵያውያን ተከላቸግር የለበትም					
	የተአ5	የኢትዮጵያውያን ተከላ ስራ ተኮሮች ደግና ተግባራዊ ሆኖቻቸው					
	የተአ6	የኢትዮጵያውያን ቴክኒሻኖች ተገቢውን ምክርና መመሪያ ይሰጣሉ					
			ቦገም አልሰማማ ም(1)	አልሰማማ(2 )	አስቴያየት የሰኝም(3)	አስማማላሁ(4 )	ቦገም አስማማላሁ(5 )
የአገልግሎት ትዋስትና	የአዋ1	ኢትዮጵያውያን አግባብነት ያለው የዋስትና ፖሊሲ አለው					
	የአዋ2	ኢትዮጵያውያን ስለቴክኒካዎች ግርዋት ይሰጣል (ሪኮንፊዳንስ)					
	የአዋ3	ኢትዮጵያውያን ጥገና የጉዳት እድሳት ዋስትና አለው (ሞደም መተካት መስመር ወዘተ)					
			ቦገም አልሰማማ ም(1)	አልሰማማ(2 )	አስቴያየት የሰኝም(3)	አስማማላሁ(4 )	ቦገም አስማማላሁ(5 )
የመልሰሙን ዛት ፍላጎት	የመመፍ1	በሚቀጥለው አዲስ ግዢ ደብዳቤ ኢትዮጵያውያን ይመርጣሉን					
			ቦገም አልሰማማ ም(1)	አልሰማማ(2 )	አስቴያየት የሰኝም(3)	አስማማላሁ(4 )	ቦገም አስማማላሁ(5 )
ለሌሎች ስለ አገልግሎት መንግር	ለስመ1	የኢትዮጵያውያን የድህረ ሽያጭ አገልግሎት ለሌሎች የሚመከር ነው።					

በሌላበኩል የሁሉም የደንበኞች እርካታ የውጤት ደረጃ ከዚህ እንደሚከተለው ተገልጿል፡፡

- 1. በጣም ረክቻለሁ
- 2. ረክቻለሁ
- 3. አስተያየት የለኝም
- 4. አልረካሁም
- 5. በጣም አልረካሁም

መለኪያ	ኮድ	ባህሪያት	የሊከርት ስኬል				
			በጣም ረክቻለሁ (1)	ረክቻለሁ (2)	አስተያየት የለኝም (3)	አልረካሁም (4)	በጣም አልረካሁም (5)
አጠቃላይ እርካታ	አአ 1	ከድህረ ሽያጭ አገልግሎት በኋላ በኢትዮ ቴሌኮም ርክክብ ላይ የእርስዎ የእርካታ ደረጃ					
	አአ 2	ከድህረ ሽያጭ አገልግሎት በኋላ በኢትዮ ቴሌኮም የተከላ ደረጃ ላይ እርስዎ ያልዎት የእርካታ					
	አአ 3	ከድህረ ሽያጭ አገልግሎት በኋላ የኢትዮ ቴሌኮም የዋስትና አሰጣጥ አገልግሎት የእርስዎ የእርካታ ደረጃ					
	አአ 4	ከድህረ ሽያጭ አገልግሎት በኋላ በኢትዮ ቴሌኮም የክፍያ ጥያቄ ጥራት ላይ እርስዎ ያልዎት የእርካታ ደረጃ					

ስለትብብርዎ በእጅጉ አመሰግናለሁ!!!



Appendix II

Dimensions of ASS on CS

Model		Unstandardized Coefficient		Standardized Coefficient	t	Sig.	
		$\beta$	Std. Error	$\beta$			
1	(Constant)	.332	.260		1.278	.202	
	ASSQ	Delivery	.369	.107	.559	3.449	.000
		Installation	.163	.097	.608	1.680	.296
		Warranty	.129	.124	.602	1.040	.001
		Overall ASS	.993	.070	.691	14.176	.000

CS on BEV Dimensions (Repurchase Intention and Word of Mouth)

Model		Unstandardized Coefficient		Standardized Coefficient	t	Sig.
		$\beta$	Std. Error	$\beta$		
1	(Constant)	.568	.283		2.01	.000
	Customer Satisfaction	.612	.037	.688	16.54	.000

<sup>a</sup> Dependent Variable: Repurchase Intention (Behavioral Intention)

Model		Unstandardized Coefficient		Standardized Coefficient	t	Sig.
		$\beta$	Std. Error	$\beta$		
1	(Constant)	.456	.092		12.17	.000
	Customer Satisfaction	.609	.022	.630	27.68	.000

<sup>a</sup> Dependent Variable: Word of Mouth (Behavioral Intention)

ASS Dimensions on BEV Dimensions

Model		Unstandardized Coefficient		Standardized Coefficient	t	Sig.
		$\beta$	Std. Error	$\beta$		
1	(Constant)	.261	.087		3.000	.002
	Delivery	.600	.208	.501	2.885	.008
	Installation	.437	.177	.380	3.736	.019
	Word of Mouth	.691	.326	.652	2.119	.001

<sup>a</sup>Dependent Variable: Repurchase Intention (Behavioral Intention)

Model		Unstandardized Coefficient		Standardized Coefficient	t	Sig.
		$\beta$	Std. Error	$\beta$		
1	(Constant)	.714	.107		6.673	.000
	Delivery	.653	.441	.437	1.481	.000
	Installation	.333	.290	.322	1.148	.0211
	Word of Mouth	.509	.083	.652	6.121	.000

<sup>a</sup>Dependent Variable: Word of Mouth (Behavioral Intention)