



**ADDIS ABABA UNIVERSITY
SCHOOL OF COMMERCE
DEPARTMENT OF MARKETING**

**THE EFFECT OF SERVICE QUALITY ON CUTOMER
SATISFACTION: IN THE CASE OF THE BILLING SYSTEMS
ON ETHIOPIA ELECTRIC UTILITY ENTERPRISE**

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**The Effect of Service Quality on Customer Satisfaction: The case of the billing
system on Ethiopia Electric Utility Enterprise**

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Statement of Certification

This is to certify that **Asenaku Fekadu** has carried out her research work on the topic entitled “The effect of service quality on customer satisfaction in the case of the billing methods on Ethiopia Electric Utility Enterprise” is her original work and is suitable for submission for the award of Masters Degree in Marketing Management.

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October, 2018

Declaration

I, Asenaku Fekadu, announce this research paper entitled “The effect of service quality on customer satisfaction in the case of the billing methods on Ethiopia Electric Utility Enterprise” is my own and I have the courage to say, it is original research work that has not been produced by others in any other institutions or universities for any other requirements in any form. To this end, I acknowledge all sources of information that I used to produce the study appropriately.

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Abstract

The purpose of this study was to investigate the effect of service quality on customer satisfaction in the case of the billing system on Ethiopia Electric Utility. The study used quantitative research method and employed explanatory survey design to objectively answer the research questions. For achieving the study objective, 386 sample respondents were selected through simple random sampling technique. Accordingly, data were collected through self administered questionnaire from sample respondents. Out of 386 respondents, workable data were obtained from 358 respondents. The data collected from the questionnaire were analyzed using. Statistical tools such as mean, standard deviation, correlation, and multiple regression analysis. The results of this study indicate that, except reliability the four service quality dimensions (tangibility, assurance, empathy and responsiveness) have positive and significant relationship with customer satisfaction. The finding of this study also indicates that majority of the respondents were disagree with the five dimensions of service quality. On the other hand the customers were dissatisfied with the overall satisfaction the firm billing methods. The results also indicate that unlike reliability the four service quality dimensions (tangibility, empathy, assurance and responsiveness) have positive and significant effect on customer satisfaction. Based on the findings of the study, the researcher forwards some recommendations to the EEU should work more in improving the low scored means of the five dimensions for EEU billing method.

Key words: EEU, Customer Satisfaction, Service Quality, SERVQUA

ACRONYMS

EEPE = Ethiopian Electric Power Enterprise

EEP=Ethiopian Electric Power

EEPCo = Ethiopian Electric Power Corporation

EEU = Ethiopian Electric Utility

WAAR= West Addis Abeba Region

CSC= Customer Service Center

CHAPTER ONE

INTRODUCTION

1.1 Background of the study

Ethiopia Electric Utility is one of electric energy selling organization in the country and it has several customer service centers to collect the consumption of its electric energy using two different billing methods which are pre paid and post paid billing system. EEU had implemented the new billing system mainly in Addis Ababa and some country sides within the four regions of North, South, East and West four regions to serve its several customers,

In today's competitive business environment and rapid technological change, the key to sustainable competitive advantage lies in delivering high quality services that will inturn result in satisfied customers. Bosh off & DuPlessis (2009) stated that high quality service as indicated by rapid technological development is a major differentiation variable and source of competitive advantage. Understanding the factors that influence customer satisfaction is, therefore, critical to design and deliver services that meet demands in the market. *Gibson (2005)* indicated that satisfied customers are likely to become loyal customers and are likely to spread positive information about the services.

A business can achieve success only by understanding and fulfilling the needs of customers. From a total quality perspective, all strategic decisions a company makes are "customer-driven." In other words, the company must show constant sensitivity to emerging customer and market requirements. According to the study by Collart (2000), one of the determinants of success of a firm is how the customers perceive the resulting service quality, as this is the key driver of perceived value. It is the perceived value which determines customer satisfaction. Many firms begin to track their customers' satisfaction through measuring their level of service quality perceived by their customers. (Yonatan, 2010)

Service quality involves a comparison of expectations with performance. According to Lewis and Booms (1983) service quality is a measure of how well a delivered service matches the customers' expectations.

Improving service quality is not a one time job rather it is a continuous process due to the ever increasing customer expectations and dynamic technological breakthrough. Due to the above mentioned facts, continuous service quality improvement is inevitable to survive in such an environment as profitable as possible, while introducing suitable technological enabler that improve and speedup this current service delivery process (Johnston & Clark ,2005).

One of the determinants of success of a firm is how the customers perceive the resulting service quality, as the perceived service quality is the key driver of perceived value (Collart, 2000). It is the perceived value, which determines customer satisfaction. Many service industries begin to track their customers' satisfaction through measuring their level of service quality perceived by their customers. Spreng and Olshavsky (1993) stated that customer satisfaction or dissatisfaction is considered to be the result of a comparison between the pre-use expectations that a customer has about the product or service and the post-use perception of product or service performance. The most widely used model to measure perceived service quality known as SERVQUAL was developed by Parasuraman et al. (1985, 1988).

1.2Background of the company

The Ethiopian Electric Light and Power Authority (EELPA), which was established in 1956, after having undergone restructuring was reorganized as the Ethiopian Electric power Corporation (EEPCO), EEPCO later spitted into two companies and one of these companies is the Ethiopian Electric Utility (EEU). The Ethiopian Electric Utility came into existence on The Regulation may be cited as the "Ethiopian Electric Utility Establishment Council of Ministers Regulation No. 303/2013".The Ethiopian Electric Utility (hereinafter the "Enterprise") is established as a public enterprise. The Enterprise shall be governed by the Public Enterprises Proclamation No. 25/1992. The Ministry of Water, Irrigation and Energy shall be the supervising authority of the Enterprise. The Enterprise shall have its head office in Addis Ababa and may have branch offices elsewhere as may be necessary.

Purposes for which the Enterprise is established are:

- (1) To construct and maintain electric distribution networks; to contract out the distribution networks construction to contractors as required;
- (2) To administer electric distribution networks, to purchase bulk electric power and sell electric energy to customers;
- (3) To initiate electric tariff amendments and, upon approval, to implement same;
- (4) In line with directives and policy guidelines issued by the Ministry of Finance and Economic Development, to sell and pledge bonds and to negotiate and sign loan agreements with local and international financial sources;
- (5) To undertake any other related activities necessary for the attainment of its purposes.

The firm is selling electric energy to different customers and it has several customer service centers to collect the consumption of its electric energy using two different billing methods which are pre paid and post paid billing system. In order to satisfy its customer, the company has introduced the card based electrometer of prepaid billing system that enables the firm to improve the postpaid billing system. This has been done with the intension to improve the service quality of the collection system by changing analog post paid meters to prepayment Electrometer, which enable the firm to collect the amount ahead of consumption with hundred percent performances.

The standard business model of electricity retailing involves the electricity company billing the customer for the amount of energy used in the previous month or quarter. In some countries, if the retailer believes that the customer may not pay the bill, a prepayment meter may be installed. This requires the customer to make advance payment before electricity can be used. If the available credit is exhausted then the supply of electricity is cut off by a relay. Site in (Wikipedia, the free encyclopedia ,2011).

According to Zeritu (2010) the issue of service quality is becoming a global concern that demands continuous reform to fit the confused environment and changing customer needs. Public sector in most in our country lack appropriate customer service policies, the institutional capacity and resources to cope with customer service challenges.

The prepayment system has been introduced to Ethiopia 12 years ago in 1999 E.C from two different international organizations; namely Chinese company and Egyptian company called Elsewedy electrometer. The firm basic objective of installing the newly prepayment system is

- To increase the quality of the current service delivery process
- To reduce the uncollectible balance from 25% to zero
- To reduce the service delivery process of old postpaid system
- To enable the customer to plan its consumption ahead, since the payment is made before consumption to unlike to the postpaid system.
- To reduce costs related to meter reading and bill processing
- To provide customer with alternative technologies

The pre paid customers are paying their electric consumption by charging their card at any time which is convince to them. Irrespective of the post paid customer classification, EEU follows 4 group of customers based on the billing cycle and general nomenclature stands from Group 1 to Group 4. The meter reading, bill generation and payment are shared accordingly. Group of Billing and collection cycle, the below table gives the details of Meter reading, generation and payment of bills along with transaction.

Table 1.1: EEU Customers' Grouping in Postpaid Meter reading, bill generation and payment

Group of Customer	Meter Reading	Generation of bill	Payment of bill
Group 1	1-7	15-18	26-30
Group 2	7-13	23-26	1-5
Group 3	13-18	28-2	5-10
Group 4	18-30/31	4-7	11-15

Source: West Addis Ababa Region Marketing and Sales Office

Furthermore, the quality level that is needed by customers to be satisfied has to do with every aspect of services providers starting from the time customers arrive at the gets of the organizations. One of the required qualities is, knowing the conditions under which

customers are. Once they are in; the customers may be in line, they may be in certain office waiting for concerned official and still others may be annoyed for one or the other reasons.

These efforts could identify customers' problems and give solutions to them. Customers' satisfaction depends on the extent to which customer's expectations about the services are fulfilled. Customers' expectations are not static but keep changing. Therefore, organizations need to monitor customers' expectations on a continuous basis and to be innovative in order to respond meaningfully to changes about the customers' expectation (Kotler, 1989:203)

In this regard, the Ethiopian government has recognized the need for appropriate service delivery policy to encourage public service organizations improve their services by applying various civil service reform programs to attain user satisfaction. However, regardless of the service delivery reform being introduced in the country, poor customer service delivery remains the feature of most public enterprises. As far as Ethiopian Electric Power Corporation (EEPCO) is concerned, the prevalence and impact of poor service delivery practice is explained by the organization management of EEPCO (hand book, 2007; 44).

1.3 Statement of the Problem

Service quality "has become as one of the key driving forces for business sustainability and is vital for firms' accomplishment" (Rust and Oliver, 1994). "Customer service quality is a crucial source of distinctive competence and often considered a key success factor in sustaining competitive advantage in service industries" (Palmer, 2001). Parasuraman et al., (1985) and Zeithaml et al., (1990) "noted that the key strategy for the success and survival of any business institution is the deliverance of quality services to customers."

According to (Yonatan, 2010) many authors agree that service quality leads to customer satisfaction. Although; high quality doesn't always results in high customer satisfaction, quality judgment is just one of the many aspects of determining customer satisfaction about services. One of the determinants of success of a firm is how the customers perceive the resulting service quality, as the perceived service quality is the key driver of perceived value (Collart, 2000). It is the perceived value, which determines customer satisfaction.

The issue of service quality is becoming a global concern that demands continuous reform to fit the confused environment and changing customer needs. Public sector in most in our country lack appropriate customer service policies, the institutional capacity and resources to cope with customer service challenges

In the past decade, the EEU has undergone a changes, resulting in a the new prepaid billing system, which is characterized by increase the quality of the current service delivery process, reduce the service delivery process of old postpaid system, enable the customer to plan its consumption ahead, since the payment is made before consumption to unlike to the postpaid system and reduce costs related to meter reading and bill processing. This can be achieved through providing quality services to its customers.

Different past studies shows that the company service delivery is not meet customer satisfaction. ZerituFikre's (2010) study shows that there was poor service quality and poor performance in service process like new connection, complaint handling and recovery of service failure procedure. So the corporation failed to meet such requirements in order to provide a reliable

service to its customers. Esraeal Birhanu (2015) study show a major problems in the technical services provided by Ethiopian electric utility are; handling disputed bills and the long time needed for fixing electricity failure and power supply connection.

As preliminary investigation conducted by researcher through interview with sales manager and some customers that reveal on postpaid system has a lot of limitations like it does not allow the customers to manage their own budget with utility cost savings, have billing discrepancies /between the actual meter reading and the ill required for payment/ due to error during meter reading data entry, lack of privacy/meter readers enter into their premises/ have disconnection and reconnection issues associated with accumulated unpaid bill. The prepayment system also has network problem/delay in processing time/, lack of proper infrastructure or technology to support the system, interruption of the power when the balance had been finished. Due to those problems the customers are dissatisfy by the billing service of EEU and all those problems make the organization not provide a quality service. There for it is important to conduct this study in-depth in order to know the extent of those problems. In this particular study, the researcher tried to assessed the effect of service quality on customer satisfaction of the two billing system. The

main focuses of the study would be directed in assessing the current level of customer satisfaction after the expansion and investigate the relationship between service quality and customer satisfaction using the SERVQUAL model of the five service quality dimensions.

1.4 Research Questions

1. To what extent does tangibility influence the customer satisfaction of the EEU billing systems?
2. To what extent does reliability influence the customer satisfaction of the EEU billing systems?
3. To what extent does responsiveness influence the customer satisfaction of the EEU billing systems?
4. To what extent does assurance influence the customer satisfaction of the EEU billing systems?
5. To what extent does empathy influence the customer satisfaction of the EEU billing systems?

1.5 Research objectives

1.5.1 General Objective

The general objective of this study is to assess the effect of service quality on customer satisfaction of the two billing system of EEU.

1.5.2 Specific Objective

In order to analysis of the two billing system service quality of the organization, the specific objective of the study is:-

- ✓ To examine the effect of tangibility on customer satisfaction of the EEU billing systems
- ✓ To examine the effect of reliability on customer satisfaction of the EEU billing systems
- ✓ To examine the effect of responsiveness on customer satisfaction of the EEU billing systems

- ✓ To examine the effect of assurance on customer satisfaction of the EEU billing systems
- ✓ To examine the effect of empathy on customer satisfaction of the EEU billing systems

1.6. Significance of the Study

Customer satisfaction plays significant role in the achievement of organizational objectives. The study having analyzed the theoretical perspectives, and after processing the feedbacks from the various categories, will devise ways to improve service quality and increases customer satisfaction in the company. Moreover, the study is believed to have the following importance:-

- ❖ It will help the company to compare service quality the two billing system in terms customer satisfaction.
- ❖ EEU will get feedback about its customers' satisfaction level of the billing systems and help to take the necessary action.
- ❖ It will help the company to assess the problem of those billing methods in terms of quality service and customer satisfaction.

1.7. Scope of the Study

EEU had implemented this new billing system mainly in Addis Ababa and some country sides within the four regions of North, South, East and West, and the study would try to assess the level of customer satisfaction of the two billing system, it would be conducted only western Addis Ababa region. Since the researcher has chosen this region is because of the company to implement the new billing system had used as a pilot area and all process was take place in this region. The survey reaches the customers who are use post paid and prepaid billing systems. Geographically, the study focused on located in western Addis Ababa Regions customer service center No. 1 (Mexico) will be selected through convenience sampling techniques.

1.8. Limitation of the Study

The study has some limitations that would be considered. First, the study is conduct in EEU western Addis Abeba only. The results of the study would be more representative if the study had included some of the regional as well.

1.9. Definition of Terms

- **Quality service:** is becoming a requirement for all successful firms and organizations to remain competitive
- **Satisfaction** is the customers' evaluation of service in terms of whether that service has met their needs and expectations.
- **Domestic Customers:** are customers who consume the power supply for domestic purpose (for House lighting only)
- **Commercial Customers:** are customers who consume the power supply for commercial purpose
- **Industrial Customers:** are customers who consume the power supply for industrial activity purpose (for manufacturing)
- **Prepaid meter:** is a kind of new style meter which adopt micro-electronics techniques and it manage electricity fee by computer, which use smart card as media purchased electricity. In the same time the electronic watt-hour meter realize using electric power after prepaying in advanced.
- **Postpaid meter:** is a normal devise in which EEU installs at customers' house in order to measure how much energy they consumed in hourly basis.
- **Billing Cycle or Billing Period** means the period for which electricity bills shall be prepared for different categories of consumers by EEU.
- **Meter** means an equipment used for measuring electrical quantities like energy in KWh, and or KVAh maximum demand in KW and or KVA, reactive energy in KVAR hours etc. including accessories like Current Transformers (CT) and Potential Transformers (PT) where used in conjunction with such meter and any enclosure used for housing or fixing such meter or its accessories and any devices like switches or fuses used for protection and testing purposes.

1.10 Organization of the study

This research consists of five chapters. Chapter one is the general introduction and this one presents the back ground, the statement of the problem, the objective of the study, research question, the significance of the study, scope and limitation of the study.

Chapter two, literature review which is critical analysis of what other researchers have said on the subject and where the research project fit in ,the research gaps to be clearly identified . Chapter three, explanation of why the data are collected, what data collected, from where data collected, and how to collected data analyzed. Chapter four presents data analysis, results and discussion of findings. Analysis of results, this chapter described the research findings their analysis and look an attempt of interpreting the main findings of the study based on the stated objectives. Chapter five presents the summary of the major findings, conclusion and recommendations is given in this chapter.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

2. INTRODUCTION

The relationship between service quality and customer satisfaction in the service sector is a widely discussed topic in the literature. This chapter explores the various researches conducted by different authors in relation to the research topic in three sections. The reviewed literature helps in providing the right direction and laying the foundation to the proposed study and enabled to provide a general framework as well as conceptual understanding of the customers' perceptions regarding service quality. The first section reviews the theoretical literature and related models to the research problem. Key concepts on service quality, customer satisfaction and the relationship between service quality and customer satisfaction have been reviewed. In the second section, empirical analysis of past studies has been conducted. Finally, the conceptual framework of the study is provided based on the literature review.

2.1 Theoretical Review

A business can achieve success only by understanding and fulfilling the needs of customers. From a total quality perspective, all strategic decisions a company makes are “customer-driven.” In other words, the company must show constant sensitivity to emerging customer and market requirements. According to the study by Collart (2000), one of the determinants of success of a firm is how the customers perceive the resulting service quality, as this is the key driver of perceived value. It is the perceived value which determines customer satisfaction. Many firms begin to track their customers' satisfaction through measuring their level of service quality perceived by their customers.

2.1.1 Service Concept

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, as a result of bringing about a desired change in or on behalf of the recipient of the service (Lovelock and Wright, 2002). Services are deeds, processes, and performances (Zeithaml and Bitner, 2000). Services are described as objects of transaction offered by firms and institutions that generally offer services

or that consider themselves service organizations (Steve and Kim, 1995). Researchers studying service organizations point out that service possess certain characteristics that set them distinctly apart from products (e.g. Murdick, Render, & Russell, 1990). Kotler (1998) defined service as “an act or performance that one party can offer to another that is essentially intangible and doesn’t result in the ownership of a thing. Its production may or may not be tied to a physical product. There are four characteristics that differentiate service from products: intangibility, inseparability, heterogeneity and perish ability. (Zeithmal et al. 1985; Bitner et al. 1993)

According to Robin (1989) service has four characteristics. These are:

a) Intangibility:-services are intangible i.e. they do not have physical substance. Consumers cannot touch, see, smell, or taste services before purchasing them. This poses difficulties for the services marketer because target customers may be reluctant to buy what they cannot physically examine.

b) Heterogeneity:-services are heterogeneous i.e. they are not standardized .The nature of offering of any one seller may differ from one time period to another .Further, two or more employees of one firm may provide service that are quite different from each other.

c) Inseparability:-marketers and services they provide are always inseparable that is they are continually at the same place at the same time. Service cannot exist unless the marketer is present.

d) Perishability:-Service tends to have very short life spans. Tangible goods can be produced and then placed in inventory, so that they are available when and where customers want them. Service, however, cannot be stored.

2.1.2 Service Quality

Service quality is the ability of the organization to meet or exceed customer expectations. Customer expectation may be defined as the “desires and wants of consumers” that is what they feel a service provider should offer rather than would offer (Parasuraman, Zeithaml and Berry, 1988). Service quality has been defined as being the difference between customer perceptions of quality and the delivery of the service to customers (Gronroos, 1984 and Parasuraman et al. 1988). Oliver (1993) reports that service quality is a causal antecedent of customer satisfaction, due to the fact that service quality is viewed at transactional level and satisfaction is viewed to be an attitude. Service quality has reported as having apparent relationship to costs (Cosby, 1979),

profitability (Rust and Zahorik, 1993), customer satisfaction (Bolton and Drew, 1991), customer retention (Reichheld and Sasser, 1990), and behavioral intention and positive word-of-mouth. Service quality by its very nature is an elusive, indistinct and abstract concept. Customers do not easily articulate their requirements; also there are difficulties in delimiting and measuring the concept.

2.1.3 Customer Satisfaction

Customer satisfaction can also be defined as the “customer’s response to the evaluation of the perceived discrepancy between prior expectation and the actual performance of the product as perceived after its consumption” (Tse and Wilton, 1998). 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. Failure to meet needs and expectations is assumed to result in dissatisfaction with the product or service (Zeithaml and Bitner, 2000). According to Kotler and Keller (2006), Customer satisfaction is a person’s feeling of pleasure or disappointment resulting from comparing a product’s perceived performance (or outcome) in relation to his or her expectations. If the performance falls short of expectations, the customer is dissatisfied. If the performance matches the expectations, the customer is satisfied. If the performance exceeds expectations, the customer is highly satisfied or delighted.

Customer satisfaction is defined as an evaluation between what was received and what was expected (Oliver, 1977, 1981; Olson and Dover, 1979). Parker and Mathew (2001) treat customer satisfaction as having two approaches; process and outcome of a consumption experience. Jones and Sasser (1995) consider achieving customer satisfaction as being the main goal for service organizations. Moreover, increasing customer satisfaction helps organizations gaining market share, maximizing profits and reducing costs (Heskett et al. 1997; Reichheld, 1996). On that regard, William and Bertsch (1992) emphasize that achievement of a strong customer satisfaction is related to understanding customer needs and expectations. Additionally, Zeithaml (1988) finds out that customers who perceive that they receive value for money are more satisfied than customers who do not perceive they receive value for money.

2.1.4 Customer Satisfaction Measurement

Gauging the level of customer's satisfaction and its determinants is critical for every company. Marketers can use such data to retain customers, sell more products and service, improving the quality and value of their offerings, and operate more effectively and efficiently. Customer Satisfaction measurement includes qualitative and quantitative measures, as well as a variety of contacts methods with the customers. Customer satisfaction surveys measure how satisfied the customers are with relevant attributes of the product or service, and relative importance of these attributes (using attribute scale). Generally, these survey use 5-point semantic differential scales ranging from "very dissatisfied" to "very satisfied". Research shows that customers who indicate they are very satisfied (typically a score of 5 on the satisfaction scale) are much more profitable and loyal than customers who indicate that they are satisfied (a score of 4). Therefore, companies that merely strive to have "satisfied" customers are making a crucial error. Some marketers maintain that customers' satisfaction or dissatisfaction is a function of difference between what they had expected to get from the product or service purchased and their perceptions of what they received. A group of researchers developed a scale that measures the performance of service received against two expectations levels: adequate service and desired service. This approach is more sophisticated than standard customer satisfaction surveys and more likely to yield results that can be used to develop corrective measures for products and services that fail short of customers' expectations (Leon and lesile ,2007)

2.1.5 Relationship between Service Quality and Customer Satisfaction

Various researches on customer satisfactions imply that there is a relationship between service quality and customer satisfaction. Parasuraman et al., (1985) suggested that when perceived service quality is high, it will lead to an increase in customer satisfaction. *Oliver (1997)* defined customers' satisfaction as an overall emotional response to an entire service experience for a specific service encounter after purchasing good or service. However, there is no consensus among researchers, as they argue over whether a high degree of service quality always brings about satisfaction. The work of Bitner et al (1990) defined service quality as the customer's overall impression of the relative inferiority/superiority of a firm and its service offerings. On the other hand, there are many other researchers who concluded that service quality is a pre-requisite to satisfaction (*Ahmad & Kamal 2002; Cronin & Taylor 1992; Yavas et al. 1997 cited in*

Dehghan, 2006). *Iacobucci, Ostrom & Grayson (1995)* also stated that satisfaction is a positive outcome of providing good service. Others argue that service quality in addition to other elements such as product quality, price and others; determine customer satisfaction (*Wilson et al. 2008*). As *Clemes (2008)* also stated, service quality was only one of many dimensions on which customer satisfaction was based; Satisfaction was also one potential influence on future quality perceptions.

According to *Brink & Berndt (2005)*, customers perceive services in terms of the quality of service provided and the satisfaction level attained. These two concepts, service quality and customer satisfaction, are the focus of attention of organizations because they want to measure them. The reason for the focus on quality of service and customer satisfaction is the belief that organizations can differentiate themselves by means of providing better service quality and overall customer satisfaction.

2.1.6 Service Quality Models

As discussed above, there is no standard definition of service quality and there is no consensus as to the exact definition of service quality. Accordingly, measuring service quality has also been one of the most recurrent topics in management literature (*Parasuraman et al., (1988)*, *Gronroos, (1984)*, *Cronin et al., (1992)*). Various models have been developed by researchers in order to measure service quality.

2.1.6.1 SERVQUAL Model

Parasuraman et al., (1988) developed the SERVQUAL model which is a multi-item scale developed to assess customer perceptions of service quality in service and retail businesses. The scale decomposes the notion of service quality into five constructs as follows: Tangibles, Reliability, Responsiveness, Assurance and Empathy. It bases on capturing the gap between customers' expectations and experience which could be negative or positive if the expectation is higher than experience or expectation is less than or equal to experience respectively.

Because of the significant effect of service quality on an organization's success, a customer-oriented model, SERVQUAL, was introduced to assess service quality more than a decade ago (*Parasuraman, Zeithaml, & Berry, 1988*). The aim of this model is to help managers diagnose and improve the quality of services under their control.

SERVQUAL is a general instrument which is a concise scale which can use as a basic skeleton of its expectations and perceptions for any kind of service business (Parasuraman et al., 1990). Then it is now replicated in many different service categories by other service researchers (Llosa et al., 1998). This model is used to measure a service quality based on the difference between consumers' expectations and experiences of service. The initial 10 categories of the model are reliability; responsiveness; competence; access; courtesy; communication; credibility; security; understanding/ knowing; and tangibles. Then it was refined on 1988 into 5 dimensions because of the overlap across the 10 criteria. These attributes are focused on the notion of perceived quality, and would represent how customers organize information about service quality they get in their minds and judge through the level of service quality as well as overall (Parasuraman et al., 1991). The 5 dimensions are composed of tangibles, reliability, assurance, responsiveness, and empathy.

- **Tangibles:** is attribute in which it is used to define appearance of physical facilities, equipment, personnel, and communication material, etc. Tangibles are more important in high contact services, for example conditions of the building.
- **Reliability:** is ability to perform the promised service dependably and accurately.
- **Responsiveness:** is use to define willingness to help customers and provide prompt service with customer requirements and complaints.
- **Assurance:** covers knowledge and courtesy of employees and their ability to inspire trust and confidence.
 - a. **Competence:** staff should possess the necessary skill, knowledge and information to perform the service effectively.
 - b. **Courtesy:** the politeness, respect, consideration and friendliness shown to the customer by the contact personnel.
 - c. **Credibility:** the extent to which the service is believed and trusted. It involves the service provider's name and reputation and personal traits of front list staff.

- d. Security:** the freedom from danger, risk and doubt. It involves physical safety, financial security and confidentiality.
- **Empathy:** is defined as caring, individualized attention the firm provides its customers.
 - a. Access:** the ease of approachability and contact; this includes convenient opening hours, location and getting through on the telephone.
 - b. Communication:** clear and regular communication with clients to keep them informed about the service, e.g. give detailed and accurate information whenever a delay in service occurs.
 - c. Understanding:** knowing the customer: involves understanding the customer's needs and requirements. It emphasizes close client focus and customization (Jannadi& Al-Saggaf, 2000).

Since the five dimensions mentioned above were generally written for any service sectors in any circumstances (Parasuraman et al., 1991), it needs to be adjusted specifically for each service provider. However it was found that there have been few empirical studies that have used the SERVQUAL approach. The first version of SERVQUAL was developed in 1985, based on a series of studies by Parasuraman and his colleagues who conceptualized service quality as the gap between customer expectations and perceptions (Ham *et al.*, 2003; Parasuraman *et al.*, 1988).

The confirmation/disconfirmation paradigm views customer satisfaction judgments as the result of the consumer's perception of the gap between their perceptions of performance and their prior expectations (Parasuraman *et al.*, 1994). Disconfirmation is positive when service performance exceeds expectations and negative when the opposite is the case.

Since then, the SERVQUAL instrument has been the predominant method used to measure consumers' perceptions of service quality. According to Ham *et al.* (2003), SERVQUAL has five generic dimensions or factors: tangibles, reliability, responsiveness, assurance, and empathy. The difference between expected and perceived services is defined as a gap. Expectations are viewed as "normative expectations", which means desires or wants of customers, i.e., what they feel a service provider should offer rather than would offer (Buttle, 1995). Also, Parasuraman *et al.* (1991a) argued that SERVQUAL is an instrument for measuring service quality performance.

Based on this approach, the use of perceptions in confirmation/disconfirmation paradigm is related to perceptions of performance.

2.1.6.2 The GAP model

Parasuraman, et al. (1985) developed the gap model of service quality in 1985. The model was further described by Zeithaml and Bitner (2003). The model identifies four specific gaps leading to a fifth overall gap between customers' expectations and perceived service. Customers have expectations for service experiences and they use them to measure against the perceived service performance in their judgment of service quality. It is essential, then, that managers determine what those expectations are when designing the service.

- GAP 1: Customer expectation-management perceptions gap, *The Knowledge Gap*.
- GAP 2: Management perception-service quality specifications gap, *The Policy Gap*.
- GAP 3: Service quality specifications-service delivery gap, *The Delivery Gap*.
- GAP 4: Service delivery-external communications gap, *The Communications Gap*.
- GAP 5: Expected service-perceived service gap, *The Service Quality Gap*.

2.2 Empirical review

There are many research and articles works done related with this study. However the researcher tries to see five of them which are more related to the topic. The titles with their objectives and major findings are discussed below to have an insight about these studies.

The first work is MA in business leadership done by Tibebe Zeleke (January, 2012) with title of "Impact of service quality on customer satisfaction at the public owned National Alcohol and Liquor Factory." The main purpose of the study is to analyze whether perceived customer service directly related to customer satisfaction regarding the National Alcohol & Liquor Factory (NALF)

Based on these objectives he found that five service quality dimensions were positively related to overall service quality and indeed drivers of service quality which in turn has an impact on customer satisfaction. The study findings also indicated that all the standardized coefficients relating the service quality dimensions to overall service quality and to customer satisfaction have the expected positive sign and are statistically significant.

The impact of five service quality dimensions on customer satisfaction was significant in all factors of service quality. More specifically, customers indicated high satisfaction with the five dimensions of service quality examined in the study (Reliability, Responsiveness, Empathy, Assurance, and Tangibles).

The second work is MBA thesis done by Yonatan, (June 2010) entitled as “Customers’ Perception of service quality in Ethiopia Banking sector”. His main objective is to assess the customers’ perception toward quality of service in the banking sector. He put specific objectives in the following manner

- To measure customers’ expectation and perception of each of the five dimensions of service quality using SERVQUAL instrument.
- To determine the gap in customers perceptions and expectations in each of the five dimensions of service quality for the three banks.

With these objectives he found that the customers’ expectations are not meet. Among the five dimensions of service quality Tangible and Responsiveness have higher gap scores at CBE and AIB. The Reliability dimension shows a negative gap score at all three banks showing that the customers do not perceive the banks provides consistent service.

The third work is entitled as “The effect of customer service quality on customer satisfaction in selected privet banks Addis Abeba” MBA thesis done by Tizazu Kassa (2012). The main objective of the study is to examined the effect of customer service quality on customer satisfaction in selected private banks in Addis Ababa

Based on these objectives he found that customers were most satisfied with the assurance dimensions of service quality. However, customers were less satisfied with reliability and empathy dimensions of service quality. The correlation result shows that, unlike responsiveness the four service quality dimensions (tangibility, assurance, empathy and reliability) are positively and significantly related with customer satisfaction.

The fourth work is entitled as “Service Quality from Customer Perception: Evidence from Carter Model on Bank Islam Brunei Darussalam (BIBD)” International Journal of Business and Management; Vol. 13, No. 2; 2018 done by QaisarAli1(2015).The main focus of this study is to examine the relationship between service quality and customers’ perception.Results of the study revealed that service quality and customer perception are significantly related and Carter model is suitable for Islamic banking system in Brunei.

The final work is entitled as “Analyzing the Impact of Service Quality Dimensions on Customer Satisfaction and Loyalty in the Banking Industry of Iran” International Journal of Academic Research in Accounting , Finance and Management Sciences, Vol. 3, No.3, July 2013, pp. 1–9 done by (Maysam MOLAEI), (Reza ANSAR) &(Hadi TEIMUORI). The main objective of this study is examines the effects of service quality dimensions on customer satisfaction and loyalty. The results of this study indicate that the dimension of responsiveness has the greatest impact on customer satisfaction and loyalty. Among the dimensions of service quality, two dimensions of reliability and empathy didn't have significant impact on customer satisfaction.

2.3 Conceptual Framework

The conceptual framework of the study is shown in the diagram below. The framework for the study is adopts and modify from reviewed literatures. The figure illustrates the relationship among service quality and customer satisfaction. The framework indicates that service quality will result in customer satisfaction. In this study the dependent and the independent variables are customer satisfaction and service quality respectively. Customer satisfaction is reflected from attitude, fulfillment of expectation, recommendation, and Service quality can be measure with five dimensions such as assurance, empathy, reliability, tangibility and responsiveness that have been identified by Parasuraman et al. (1985, 1988)

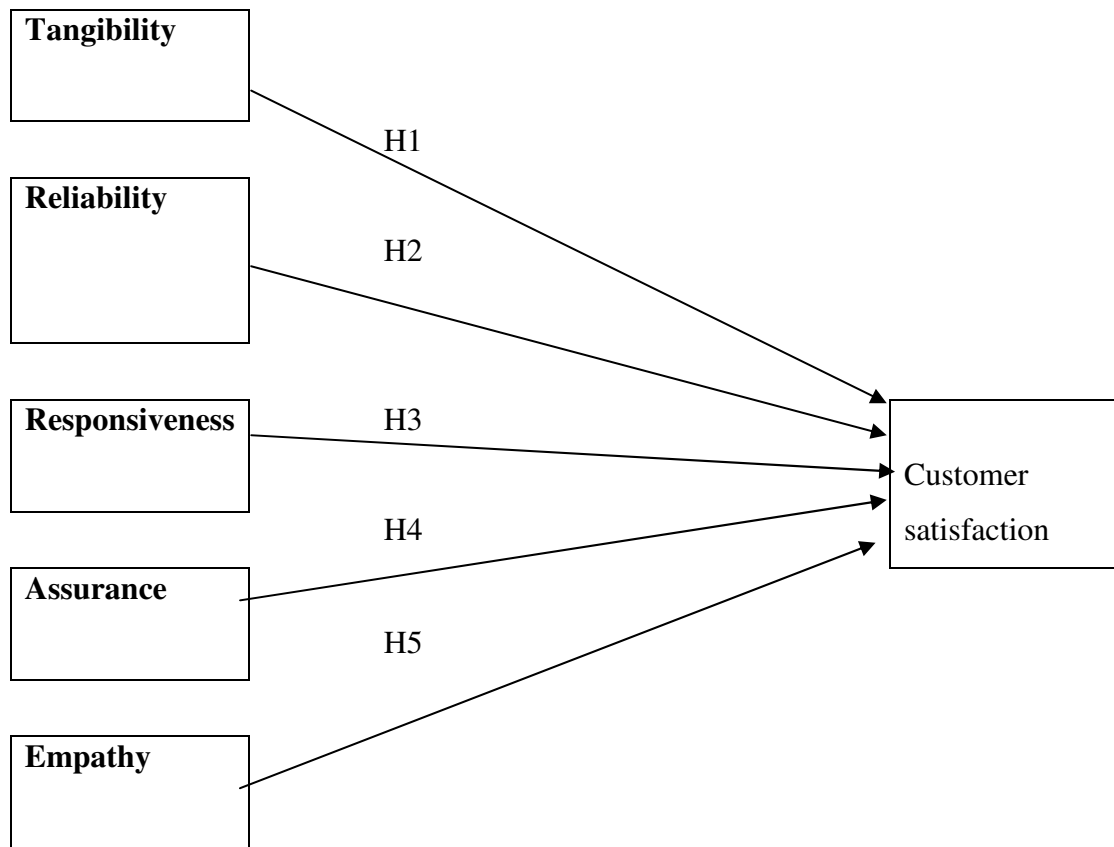


Figure 2.1 Conceptual framework of the influence of service quality on customer satisfaction

Source: Parasuraman et al., (1988).

Tangibility:

Tangible represents physical aspect of the services and all tools and equipment used to provisions of services (Hennayake, 2017). According to Ladhari, Ladhari & Morales (2011) idea of tangibles is a role in service sector a key tool to achieve customers' attention. All the customers in service sectors visually attract to all technological things provision by service sectors because tangible and intangible service are equally important to the success of the organization (Tax & Brown, 1998). The lack of modern technology would cause to dissatisfaction of the customers (Virk & Mahal, 2012). Therefore,

H1. Tangible has a positive and a significant effect on customer satisfaction.

Reliability:

Reliability is determined by the accuracy of service, on-time performance services, service delivery and service provisions. (<https://www.researchgate.net>). The firm the right way performing service with promised time, and the accuracy of billing has a positive relationship to customer satisfaction. Therefore this study is assuming that,

H2. Reliability has a positive and a significant effect on customer satisfaction.

Responsiveness:

Responsiveness is a firm's willingness to assist its customers by providing fast and efficient service performance (Gupta & Agarwal, 2013). Further, it is reached that willingness or readiness of employees to provide the required customer service without any inconvenience at any time will strongly influence the level of customer satisfaction (Parasuraman et al., 1988). Therefore this study is assuming that,

H3. Responsiveness has a positive and a significant effect on customer satisfaction.

Assurance:

According to Sadek, Zainal, Taher & Yahya (2010) assurance service quality dimension of service industry are the polite and friendly staff, easy to use the service, knowledgeable and experienced the service provider cause to increase satisfaction of customers. Therefore this study is assuming that,

H4. Assurance has a positive and a significant effect on customer satisfaction.

Empathy:

Empathy means taking care of the customers by giving individual attention to them (Blery et al., 2009) and also empathy includes convenient & flexible working hours & location

(Gupta & Agarwal, 2013). Customers may remain unsatisfied with the service quality if gap is left in empathy (Iglesias & Guillen, 2004). That means the firm has to know their customers' interest at heart; understand the specific needs of their customers, working hours of the vending stations are convenient to customers and giving customers individual attention. Hence, this study assumes that,

H5. Empathy has a positive and a significant effect on customer satisfaction.

CHAPTER THREEE

RESEARCH METHODOLOGY

3.1 Description of research area

Ethiopia Electric Utility is one of electric energy selling organization in the country and it has several customer service centers to collect the consumption of its electric energy using two different billing methods which are pre paid and post paid billing system. EEU had implemented this new billing system mainly in Addis Ababa and some country sides within the four regions of North, South, East and West four regions to serve its several customers, and the study tried to assess the customer satisfaction level of service quality the two billing system of the EEU, it would be conducted only western Addis Ababa region. Since the researcher has chosen this region is because of the company to implement the new billing system had used as a pilot area and all process was take place in this region.

3.2 Research Approach

In this research would be applied quantitative approach for the intention of getting the general picture of the existing billing systems. Quantitative method used to examining the relationship among variables and to track data through rating-scale questionnaires based on previous theory as mentioned by SERVQUAL model developed by Parasuraman, Zeithaml and Berry (Parasuraman et al., 1990).

3.3 Research Design

The research design use in the study would be explanatory. The main aim of explanatory research is to identify any causal links between the factors or variables that pertain to the research problem. This design selects because the purpose of this study is to analysis the effect of of service quality on user satisfaction in the case of the billing system of EEU. Explanatory is the appropriate research design for this study.

3.4 Data source and type

The study of this research employs the basic fact finding techniques; among the primary data sources, collected through personally distributed the questionnaire. As part of secondary data would be use customer complaint applications, and customer service procedure, made a

preliminary investigation. Based on the facts gathered through the above mentioned techniques conclusion and recommendation would be produced.

3.5 Population and Sample

3.5.1 Research population

There are four regions of east, west, north and south in EEU. Among this regions in order to know the satisfaction level of service quality of billing systems the study would be used the customers who use post paid and pre paid billing system in Western Addis Ababa region customers taken as the population. Since the researcher has chosen this region is because of the company to implement the new billing system had used as a pilot area and all process was take place in this region.

3.5.2 Research Sample

Western Addis Ababa region has 26 districts (customer service centers), among this the study to select the sample from the total population of WAAR customers the researcher used a convince and simple random sampling. The researcher is using convince sampling techniques to select the target customer service center from out of the total 26 customer service of Western Addis Ababa region customer service center No.1(Mexico) will be taken as the target population.

The target populations of this study was the customers who are using post paid and pre paid billing system in Western Addis Ababa region customer service No. 1(Mexico). Through non probability simple random sampling technique the researcher would be administered the questionnaires for all customers in whom every single element in the population has a known and equal chance of being selected as a subject.

3.5.3 Determination of the Sample Size

There are 11500 customers in WAAR customer service center No.1 (Mexico). It is very expensive in terms of money and time to collect data from the population, so that the researcher has to determine sample which is representative for the total population. Yamane (1967) provides a simplified formula to calculate sample sizes of finite population, which is used to determine the sample size for this study. A 95% confidence level is assume for this formula to determine the sample size, at $e=0.05$. The sample size is determined by the following formula.

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

Where **n** is the required sample size, **N** is the population size and **e** is the level of precision.

Applying the above formula,

$$n = \frac{11500}{29.75} = 386$$

The sample size for this research is 386 customers of Ethiopia Electric Utility

A sample of 386 users out of total population were selected from a given population (Krejcie & Morgan, 1970) at 95% of confidence level. The rules of thumb proposed by Roscoe (1975) suggest that sample size larger than 30 and less than 500 are appropriate for most research. Hence, the sample size determined for this research is consistent with the above criteria. The researcher personally distributed the questionnaire using non probability simple random sampling technique to the users and confirmed their willingness to respond the same.

3.6 Data collection Procedure

Copies of the questionnaires distributed to collect necessary information from respondents. The researcher would be use one structure questionnaire for the respondents the customers of pre paid and post paid billing users to gather the data. The respondents have a number of alternative options with structural questionnaire from which they must choose the one that most closely approximates their view. The value of the study and the instructions was explained to the subjects. Respondents would be request to complete the questionnaires which was collected by the researcher from individual respondents.

3.7 Reliability and Validity of the Instruments

The validity and reliability of the data were checked carefully. Validity and reliability of scores on instruments, additional standards for making knowledge claims, lead to meaningful interpretations of data.

3.7.1 Validity

Validity is the most critical criterion and indicates the degree to which an instrument measures what it is supposed to measure (Kothari, 2004). In this research content, the researcher has used questionnaires that their validity and reliability are checked and are modified according to literatures within the specific topic. Also an approval from expert on the subject and other consultants was applied in order to increase the face/content validity. Prior to the actual data collection, pilot test was conducted by distributing sample questionnaires to 19 respondents.

3.7.2 Reliability

The data reliability test is measured by using Cronbach's Alpha. Cronbach's Alpha was calculated as part of the reliability test to assess how valid the results were and should produce similar generalized results if the sample size were increase (Field, 2009). Alpha values range from a maximum of 1.0 for a perfect score to minimum of 0.7.

Table 3.1 Reliability Statistics

Item	Cronbach's Alpha	No. of Item
Tangibility	.816	3
Reliability	.822	5
Responsiveness	.817	4
Assurance	.804	5
Empathy	.825	4
Overall reliability	.820	26

Source: Survey 2018

According to Webet Zeleke (2018) scales exhibiting a coefficient alpha between 0.80 and 0.96 are considered to have very good reliability, between 0.70 and 0.80 are considered to have good reliability, and alpha value between 0.60 and 0.70 indicates fair reliability and when the coefficient alpha is below 0.60, the scale has poor reliability. To meet consistency reliability of the instrument, the questionnaire was distributed to 26 customers of EEU and Cronbach's alpha was found .820 the questionnaire for service quality and customer satisfaction. Therefore, based on the above test results, the five service quality dimensions and the customer satisfaction scored an acceptable Cronbach's coefficient Alpha and the instrument is found reliable form measuring the independent and dependent variables.

3.8 Data Analysis

SPSS version 20 computer soft ware program was used, then export to SPSS to analyze the findings. After exporting to SPSS, the raw data concerning the respondents' demographic and organizational variables would be depicted using different tables. After the respondents profile is present, the service quality variables were processed using descriptive staticsand infernal analysis such as correlation and regression of variance to test the significant mean differences between/ among respondents' views on service quality variables (the dimensions) and their customer service satisfaction level

The interpretations were made for all five Likert scale questions investigating the degree of satisfaction of EEU billing methods. The scale includes five categories; from 1 – highly dissatisfied/Highly disagree to 5-highly satisfied/highly agree. Consequently, the neutral/average attitude „3“will be taken as a reference point by averaging the scales; that is, the mean scores as above 3 (Average/neutral) if opinions tend to be favorable to the given point of view; and below 3 (Average/neutral) if opinions tend to be unfavorable to the given point of view. This corresponds to what Best and Kahan (1995) explains about Likert Scale interpretation. Accordingly, the study used a key for interpretation data is shown in Table 3.3

Table 3.3 The Representation of the Different Levels of Satisfaction

	Mean Average Range		Level of Satisfaction
1	Low	From 1 to 1.80	Highly Dissatisfied
2		From 1.81 to 2.60	Dissatisfied
3	Moderate	From 2.61 to 3.40	Average /neutral
4	High	From 3.41 to 4.20	satisfied
5		From 4.21 to 5	High satisfied

3.9 Ethical Consideration

First permission was obtained from customers as the study used data from customers which was collected through questionnaire. Respondents were told not to write their names on the questionnaire to maintain confidentiality of information provided by respondents. Respondents were also assured of that the responses would be used for academic purpose only. Brief description of the central objectives of the study and the potential benefit of the research outcome was clearly given in the introductory part of the questionnaire so as to motivate them to participate in the study and provide relevant information about the company under study. Finally, respondents were included in the study based on their free will.

CHAPTER FOUR

DATA ANALAYSIS AND ENTERPRETATION

4.1 Introduction

In this chapter the results obtained from the study are presented and discussed using different statistical tools and presented in two sections. First descriptive analysis is presented to provide brief overview of respondents, to assess respondents' perception toward the service quality dimension, and also review the current level of satisfaction with service offered by EEU billing methods. The analysis was done using mean and standard deviation values which were computed for each variable and the results are presented using tables and graphs. The second inferential analysis section is used to present the relationship between service quality dimensions and customer satisfaction.

4.2 Response Rate

A total of 386 questionnaires were administered for this study, of which 358(93%) returned and analyzed using descriptive and inferential statistic.

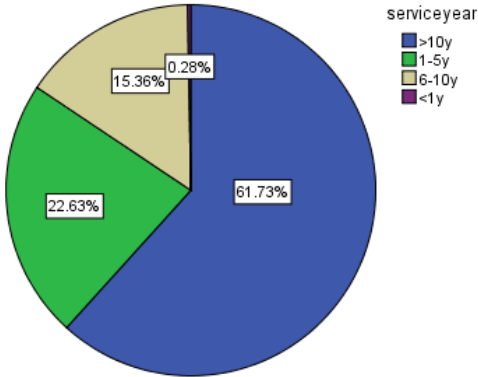
4.3 Descriptive Analysis

The descriptive analysis part presents brief overview of respondent's profile, respondent perception toward the five service quality dimension and the level of customer satisfaction with the billing systems offered by EEU.

4.3.1 Respondents profile

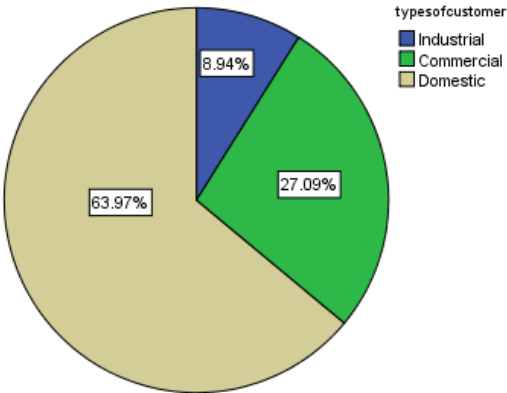
This sections a brief review respondents' profile to give a summarized picture of the sampled respondents. Respondents profile aggregated by customer type, meter type and length of year being a customer of EEU are provided using pie charts.

Figure 4.1No of year using service



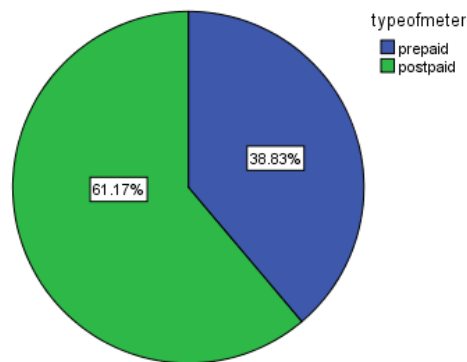
61.73% of the respondents had been customers of EEU for more than 10 years, and 22.63% were using the service for one to five years, while 15.36% were using the service for six to 10 years. The remaining 0.28% had been customers for less than one year. It indicates that majority of respondents are they are using the service more than ten year.

Figure 4.2 Types of customer



63.97% of the respondents had been domestic customers of EEU, while 27.09% were commercial customer. The remaining 8.94% had been industrial customers. It shows that majority of respondents are domestic customers.

Figure 4.3 Types of Meter



A profile of the sampled respondents showed that the meter type comprised of 61.2% post paid customer and 38.8% pre paid customers. It designates that majority of respondents are postpaid customers.

4.3.2 Descriptive analysis on five service quality dimension

4.3.2.1: Tangibility Dimensions

The tangibility dimension describes the overall appearance of the office, personnel and equipments. Table 4.1 presents respondents' perception on the four items of the tangibility dimension. The items are analyzed and interpreted using the highest and lowest mean.

Table 4.1 Tangibility

Questions	N	Mean	Standard Deviation
The firm has up to date equipments	358	2.09	1.145
Well dressed and neat employees	358	1.76	.743
A clean and adequate office space	358	1.72	.449
Over all responsiveness mean		1.86	0.453

Source: **Survey 2018**

As table 4.1 shows, perception of the respondents on the tangibility dimension, the all items are scored a low means which are below 2.61. The finding indicated that EEU is not performing very well in the tangibility dimension like having attractive physical facilities and deploying modern equipment.

The results imply that the overall appearance of EEU offices and equipment is not good and appealing for customers. Although it is rated below the average, the appearance of employees will need improvement to further improve the level of satisfaction under the tangibility dimension.

4.3.2.2: Reliability Dimensions

The reliability dimension describes the ability of EEU employees to provide promised services dependably and reliably. Respondents' perception on the five items of the reliability dimension is presented in Table 4.2 below. The items are analyzed and interpreted using the highest and lowest mean.

Table 4.2 Reliability

Questions	N	Mean	Standard Deviation
Employee dependability handling service problem	358	1.47	.499
Employees provide accurate information to customers	358	1.63	.482
The bill is more or less correct	358	1.70	.457
Provide services at the promised time	358	2.89	1.181
Over all reliability mean		1.92	0.283

Source: **Survey 2018**

The above table 4.2 illustrates that the respondents scored average means of 2.89 for the item of “Provide services at the promised time”, the finding also indicated that customers perceive that EEU is performing well in delivering service as promised.

Under this dimension, majority of the respondents dissatisfied by the following items, with a low means which are scored below 2.61. The items are:-“Employee dependably handling service problem”, “Employee provides accurate information”, and “The bill is more or less Correct”. Therefore, the respondents were observed that, EEU employees didn’t provided accurate information and they didn’t handled the service problem dependably. This finding also pointed out by Webet Zeleke(2018) in Etho Telecom ,the study found majority of customers (66.6%) perceive that ethio telecom employees don’t have sincere interest in solving problems.

4.3.2.3: Responsiveness Dimension

The responsiveness dimension is about the willingness of employees to help customers and provide prompt service and has four elements under it. Respondents’ perception towards the four items of the responsiveness dimension is presented in Table 4.3 below. The items are analyzed and interpreted using the highest, moderate and lowest mean.

Table 4.3 Responsiveness

Questions	N	Mean	Standard Deviation
Employees provide punctual service	358	1.98	1.075
Employees give quick response to customer requests.	358	1.64	.729
Employees willingness to help customers	358	1.37	.484
The employees are never to busy to response to customer	358	1.49	.616
Over all responsiveness mean		1.62	0.448

Source: **Survey 2018**

Majority of respondents under the responsiveness dimension fall under the low category with mean scored below 2.61. This shows that customers perceive that EEU is not responsive in informing customers when service will be provided and by providing prompt service. It also further indicates that employees are play an important role in influencing the perception of customers while interacting with customers in providing important information and response to customers' requests or issues. Although customers perceive that EEU is not performing well under the responsiveness dimension.

4.3.2.4: Assurance Dimensions

The assurance dimension describes the knowledge and courtesy of EEU employees and their ability to convey trust and confidence on customers. Respondents' perception towards the four items of the assurance dimension is presented in Table 4.4 below. The items are analyzed and interpreted using the highest, moderate and lowest mean.

Table 4.4 Assurance

Questions	N	Mean	Standard Deviation
The employees are trustworthy	358	2.47	1.321
Feel safe in transaction	358	2.68	1.242
Employees behavior instills confidence	358	2.58	1.293
Knowledgeable employees	358	2.33	1.278
Skill employees		2.44	1.279
Over all assurance mean		2.50	0.893

Source: **Survey 2018**

As table 4.4 shows, perception of the respondents on the assurance dimension, the item “Fell safe in transaction” scored a moderate mean of 2.67 which is above 2.60. The finding indicated that EEU is performing well on the assurance dimension revealing that customers were feel safe with their transaction.

Under this dimension the respondents four of five items scored a low means of “Trust worthy”(2.47), “Employee behave instills confidence”(2.58), “Employee knowledge” (2.32) and “Employee skill” (2.44). It indicated that majority of the respondents of not satisfied with the under the assurance dimension items and employee are not confident about the way EEU employees treat them. This also indicates EEU employees are not performing in having knowledgeable and courteous.

4.3.2.5: Empathy Dimensions

The last dimension, Empathy, is about EEU employees being caring and providing individualized attention to customers. Respondents’ perception towards the four items of the responsiveness dimension is presented in Table 4.5 below. The items are analyzed and interpreted using the highest, moderate and lowest mean.

Table 4.5 Empathy

Questions	N	Mean	Standard Deviation
A convenience working hours	358	2.67	1.389
Gives individual attention	358	2.43	1.294
Understand a specific need	358	2.53	1.137
Treat a friendly manner	358	2.478	1.323
Over all empathy mean		2.52	0.558

Source: **Survey 2018**

Analysis one of the four items under this dimension reveals that majority of customers perceive that EEU has convenient operating hours which scored average mean of 2.66. The remaining three items scored low mean under this dimension with dissatisfaction which is below 2.61. This indicates that customers' perceive that employees don't give individual and personal attention, don't understand specific needs and don't have customers' best interest at heart.

4.3.3 Descriptive Analysis of customer satisfaction

In order to assess the current level of customer satisfaction, respondents were requested to indicate their level of satisfaction with the billing methods provided by EEU using a 5 point Likert scale, from 1 – highly dissatisfied/Highly disagree to 5-highly satisfied/highly agree. The level of satisfaction with EEU billing method is assessed using the mean scores of six variables. Analysis and discussion of the level of satisfaction presented under in the following sections.

Table 4.6 Level of customer Satisfaction

Questions	N	Mean	Standard Deviation
Completing the billing method	358	2.77	1.379
The performance of Employee	358	2.33	1.052
The employee professional competency	358	2.43	1.248
The firm quick billing service	358	2.39	1.353
The employee respective behavior	358	2.20	1.067
The overall satisfaction of the firm billing service	358	2.69	1.277
Overall satisfaction level mean		2.47	.813

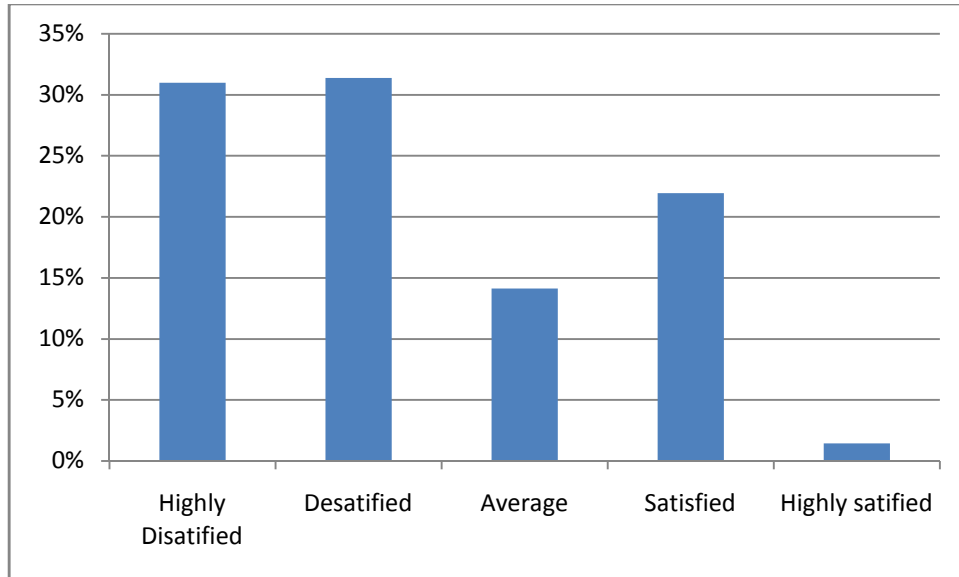
Source: Survey 2018

As shown the above, majority of the respondent were dissatisfied the following four of the six items under the level of satisfaction which are scored low mean with items as “ Performance of employee” (2.33), “The employee professional competency” (2.43), “ Quick billing service” (2.39) and “ Employee respective behavior” (2.77). Hence, the remaining two items, “Completing the billing method”, and “The overall satisfaction of the firm billing service” are also scored moderate means with 2.77 and 2.69 satisfaction rates respectively. The result indicates that EEU customers are overall dissatisfied with the billing method provided by EEU. On the other hand, employees response on one of the measure of customer satisfaction shows respondents don’t perceive that the employee performance with professional competency and respective behavior.

4.3.3.1 Analysis of overall level of customer satisfaction

The overall level of customers’ satisfaction is analyzed using descriptive statistics and presented in Figure 4.4 below using the mean percentage of the variables measures used to assess customer satisfaction.

Figure - 4.4: Level of Customer Satisfaction at EEU Billing Methods



Source: **Survey 2018**

As shown in Figure 4.4 above, 31% and 31.39% of respondents are highly dissatisfied and dissatisfied while 21.94% and 1.45% are satisfied and highly satisfied customers respectively. The remaining 14.14% are average, neither satisfied nor dissatisfied with the billing services provided by Ethiopia Electric Utility. The analysis indicated that EEU customers are overall dissatisfied with the service provided by EEU billing methods

4.4 Inferential Analysis

The inferential analysis section includes correlation and regression analysis to assess the relationship between the SERVQUAL service quality dimensions and customer satisfaction.

4.4.1 Correlation Analysis

Correlation is a statistical measure that indicates the extent to which two or more variables fluctuate together. A positive correlation indicates the extent to which those variables increase or decrease in parallel and a negative correlation indicates the extent to which one variable increases as the other decreases. The values of the correlation coefficients ranges from -1 (negatively correlated), to 0 (uncorrelated) to 1(positively correlated). The sign of the correlation coefficient defines the direction of the relationship. The absolute value indicates the strength of

the correlation. Dancey and Reidy (2004) stated that a correlation result which is 0 indicates zero correlation, a result between 0.1 and 0.3 indicates a weak correlation among variables, a result which is between 0.4 and 0.6 shows a moderate correlation, a result between 0.7 and 0.9 indicates a strong correlation among variables while a result which is equal to 1 indicates a perfect correlation.

To determine the relationship between service quality dimensions (tangibility, reliability, responsiveness, assurance, and empathy) and customer satisfaction, Pearson correlation was computed. Table 4.7 below presents the results of Pearson correlation on the relationship between service quality dimension and customer satisfaction.

Table 4.7 the correlation between the five service quality dimensions and customer satisfaction.

		Correlations					
		Tangibility	Reliability	Responsiveness	Assurance	Empathy	Satisfaction
Tangibility	Pearson		.049	.652**	.775**	.296**	.634**
	Correlation	1					
	Sig. (2-tailed)	.358	.359	.000	.000	.000	.000
	N	358	358	358	358	358	358
Reliability	Pearson	.049	1	-.010	.065	.156**	-.130*
	Correlation	.359		.854	.223	.003	.014
	Sig. (2-tailed)	.358	.358	.358	.358	.358	.358
	N	358	358	358	358	358	358
Responsiveness	Pearson	.652**	-.010	1	.551**	.433**	.577**
	Correlation	.000	.854		.000	.000	.000
	Sig. (2-tailed)	.358	.358	.358	.358	.358	.358
	N	358	358	358	358	358	358
Assurance	Pearson	.775**	.065	.551**	1	.307**	.706**
	Correlation	.000	.223	.000		.000	.000
	Sig. (2-tailed)	.358	.358	.358	.358	.358	.358
	N	358	358	358	358	358	358
Empathy	Pearson	.296**	.156**	.433**	.307**	1	.371**
	Correlation	.000	.003	.000	.000		.000
	Sig. (2-tailed)	.358	.358	.358	.358	.358	.358
	N	358	358	358	358	358	358
Satisfaction	Pearson	.634**	-.130*	.577**	.706**	.371**	1
	Correlation	.000	.014	.000	.000	.000	
	Sig. (2-tailed)	.358	.358	.358	.358	.358	.358
	N	358	358	358	358	358	358

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

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

Source: **Survey 2018**

The results in table 4.7 indicate that, there is positive and significant relationship between tangibility and customer satisfaction ($r = 0.634$, $p < 0.01$), responsiveness and customer

satisfaction ($r = 0.577$, $P < 0.01$), assurance and customer satisfaction ($r = 0.706$, $P < 0.01$), empathy and customer satisfaction ($r = 0.371$, < 0.01).

The finding on the above table further indicates that the highest relationship is found between tangibility (.634) and assurance (.706) with customer satisfaction. Unlike reliability four service quality dimensions (tangibility, responsiveness, assurance and empathy) has a positive relationship with customer satisfaction. Thus, it's possible to conclude that four of the five service quality and customer satisfaction is positively related, which indicates that better service quality will result in higher rate of customer satisfaction.

As shown in table 4.7, two of the five service dimensions have statistically significant correlation, the moderate correlation being between the responsiveness (0.577) and empathy (.371) dimension with customer satisfaction. The result also show that the weak correlation between reliability (-.130) and customer satisfaction.

4.4.2 Regression Analysis

4.4.2.1 Simple Linear Regression Analysis

Assumptions of simple linear regression analysis, According to Field (2009), to run a simple linear regression, checking critical assumptions is essential and it is helpful to draw conclusion about the population under study. In this regard, normality of both predictor and predicted variables and the linearity of relationship between the independent and dependent variables were checked, and the results presented as follows.

4.4.2.2 Normality Test

As Field (2009) and Garson, (2012) noted, many statistical procedures assumed that the sampling distribution is normally distributed and so, if the sample data are approximately normal then the sampling distribution will be also. In this regard, it is useful to test for normality of the sample data. Therefore, it was checked for the data to see if they are normally distributed through quantify aspects of a distribution (i.e. skew and kurtosis) and presented as follows.

Table 4.8 Test of normality of the data

	N	Skewness		Kurtosis	
	Statistic	Statistic	Std. Error	Statistic	Std. Error
Tangibility	358	.226	.129	-.594	.257
Reliability	358	-.715	.129	.228	.257
Responsiveness	358	.163	.129	-1.117	.257
Assurance	358	.469	.129	-1.111	.257
Empathy	358	.393	.129	.139	.257
Satisfaction	358	.273	.129	-.977	.257
Valid N (listwise)	358				

Source: **Survey 2018**

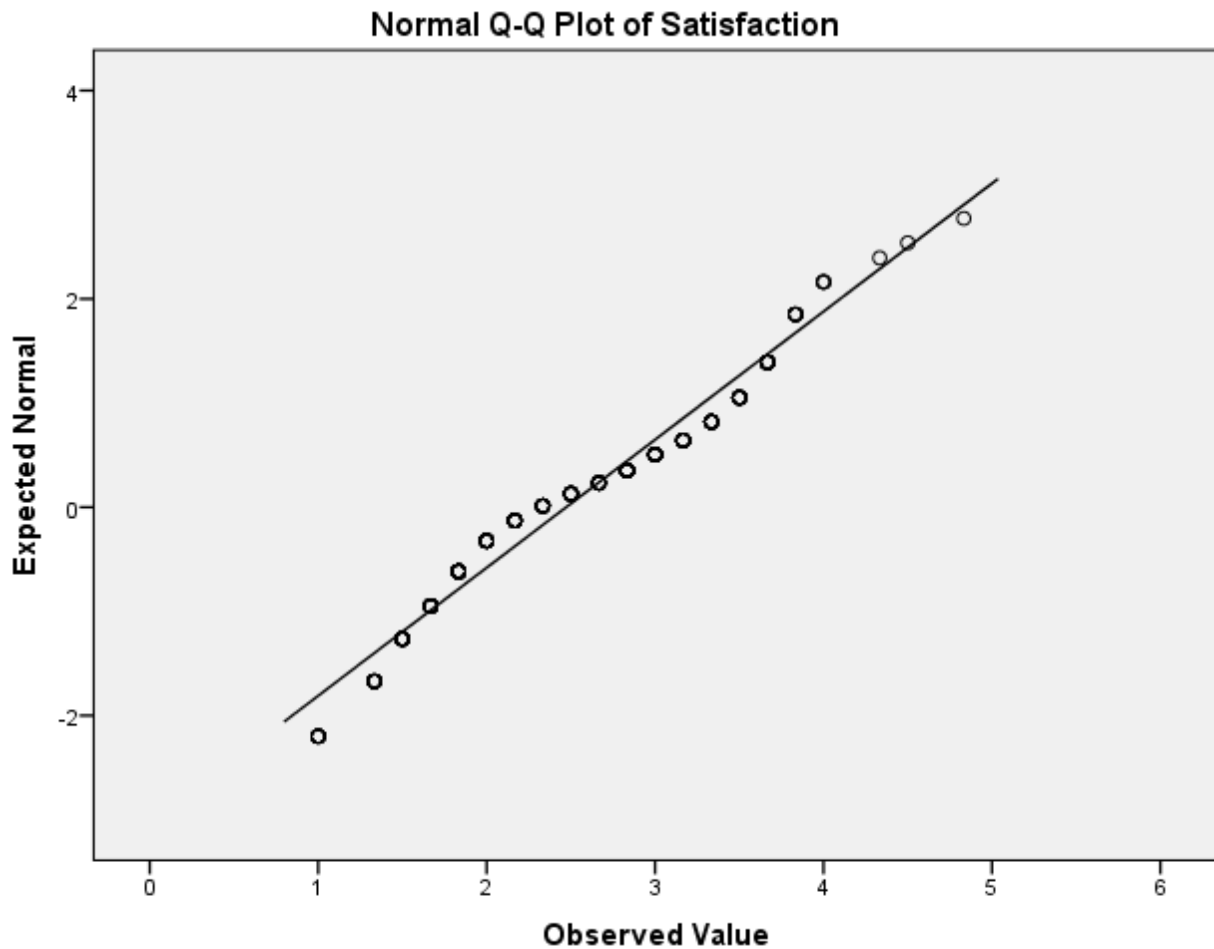
According to Garson (2012), as a rule of thumb, for normality skew should be within the +2 to -2 range, when the data are normally distributed. Some statisticians also prescribe +1 to -1 as a more stringent criterion when normality is critical. In this regard, as shown in the above table (table 4.8), the skew value is fit within the limit and ranges between -.715 and .469; which is close to zero. Considering the notion of Field (2009), ‘the further the value is from zero, the more likely it is that the data are not normally distributed and vice versa’, the data, therefore, in this research, is said to be normally distributed.

Furthermore, as Garson (2012) suggests, kurtosis should be within the +2 to -2 range when the data are normally distributed, while some statisticians prescribe +1 to -1 as a more stringent criterion when normality is critical. Taking both options in to consideration, when we look at table 4.8, the kurtosis value is fit within the limit and ranges between -1.117 and -.228. Therefore, we can induce that abnormality of the data distribution cannot be a problem for this study.

4.4.2.3 Linearity Test

Since general linear model assume linearity, it is necessary testing for non linearity. In this regard as Garson (2012) pointed out, simple inspection of scatter plots is a common method for determining if nonlinearity exists in a relationship. Consequently, the researcher run simple scatter plot to see if there is a linear relationship exists between the variables.

Figure 4.4: Normally distributed errors



Source: **Survey 2018**

The normal probability plot also shows up deviations from normality. The straight line in this plot represents a normal distribution, and the points represent the observed residuals. Therefore, in a perfectly normally distributed data set, all points will lie on the line (Field, 2009).

Likewise, as we seen in the above figure (figure 4.6), the dots are closely plotted to the straight line, which indicate a small or no deviation from normality and there are no extreme cases observed. Therefore, the assumptions of simple linear regression have been met and we can possibly assume that the model is accurate and can probably generalize to the population.

4.4.2. 4 Multicollinearity Test

In multiple regression analysis, the regression coefficients become less reliable as the degree of correlation between the independent variables increases. Thus, if there is a high degree of correlation between independent variables, we have a problem of what is commonly described as the problem of multicollinearity (Kothari, 2004).

In this regard, based on the correlation matrix (table 4.7), the correlation between service quality dimensions and customer satisfaction. As a result, checking for the multicollinearity effect (Collinearity diagnosis) is essential. Consequently, the collinearity statistics result for all independent variable constituents were performed on SPSS and presented as follows.

Table 4.9: Multicollinearity Test Coefficients (a)

Service Quality Dimensions	Collinearity Statistics	
	Tolerance	VIF
Tangibility	.325	3.076
Responsiveness	.963	1.039
Reliability	.504	1.983
Assurance	.391	2.560
Empathy	.780	1.283

a. Dependent Variable: Satisfaction

b. Source: **Survey 2018**

According to Saunders, et al. (2009), most regression programs can compute variance inflation factors (VIF) for each variable and as a rule of thumb; VIF above 5.0 suggests problems with multicollinearity. Moreover, Field (2009), also underline that, values for “Tolerance” below 0.1 indicate serious problems, although several tacticians suggests that values for “Tolerance” below 0.2 are worthy of concern. Accordingly, as we seen in the above collinearity table (table 4.9), multicollinearity is not the problem of this model, because VIF (variance inflation factor) of the model is well less than 5.0 and the tolerance is not less than .10. The value of VIF ranges between 1.039 to 3.076 and the tolerance of the variables ranges between .325 and

.963. Therefore, the variables are not overlapped and they are free from collinearity effect which possibly hinders the prediction ability of the model.

4.4.2.5 Multiple Regression Analysis

Multiple regression analysis was employed to examine the effect of customer service quality dimensions on customer satisfaction. The following subsections present the results of multiple regression analysis.

Table 4.10 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.771 ^a	.594	.588	.52174

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

b. Source: **Survey 2018**

Table 4.10 shows the multiple linear regression model summary and overall fit statistics. The regression model presents how much of the variance in the measure of customer satisfaction level is explained by the underlying factors of customer satisfaction (the model). As indicated in this table, the adjusted R² of the model is .588 with the R² = .594. This means that the linear regression explains 59.4% of the variance in the data. The model or the predictor variables have accounted for 59.4% in the criterion variable (customer satisfaction). The remaining 40.6% are explained by other variables out of this model.

Table 4.11 Statically Significant

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	140.292	5	28.058	103.077	.000 ^b
	Residual	95.818	352	.272		
	Total	236.110	357			

a. Dependent Variable: Satisfaction

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

Source: **Survey 2018**

The above ANOVA table (table 11), help us to make sure the above model (on model summary table) statistically significant predictor of the outcome (customer satisfaction) and it is evidenced that the model is statistically predictor of customer satisfaction because the p value is less than .001. Therefore, a significant amount of customer satisfaction is influenced by the five service quality dimensions which constitute Tangibility, Reliability, Responsiveness, Assurance and Empathy. Thus, service quality found statistically and significantly predict customer satisfaction; and it can be concluded as, the overall regression model is significant, $F(5, 351) = 103.077$, $p < .001$, $R^2 = .594$ (i.e., the regression model is a good fit of the data).

Table 4.12: Regression Result of Service Quality Dimensions and Customer Satisfaction

Coefficients^a					
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	.989	.233		4.238	.000
1 Tangibility	.185	.112	.099	1.659	.098
Reliability	-.539	.099	-.188	-5.430	.000
Responsiveness	.312	.087	.172	3.600	.000
Assurance	.458	.049	.503	9.254	.000
Empathy	.208	.056	.143	3.710	.000

Dependent Variable: Satisfaction ** $P < 0.01$ Source: **Survey 2018**

Dependent Variable: Satisfaction

The table 4.12 shows that the service quality dimensions (independent variables) contributing to the variance of the overall customer satisfaction (dependent variable) is explained by the standardized Beta coefficient. Based on the statistical data obtained from the above model summary table (table 10), all the service quality dimensions together explain about 59.4% the variance in customer satisfaction.

From this influence exerted on customer satisfaction, four of the five service quality dimensions have statistically unique contribution for the outcome with Beta value of Reliability (beta=-.539, $P < .001$), Responsiveness (beta= .312, $P < .001$), Assurance (beta= .458, $P < .001$) and Empathy

(beta= .208, $P < 0.001$). , it shows that, among the four service quality, assurance has a strong contribution to customer satisfaction, since it has larger standardized coefficients of .503.

4.4.2.5.1 Summary of the Proposed Hypothesis

Hypothesis testing is based on standardized coefficients beta and P-value to test whether the hypotheses are rejected or not.

H1: There is positive and significant relation between Tangibility and customer satisfaction

The results of multiple regressions, as presented in table 4.12 above, revealed that tangibility has a positive and significant effect on customer satisfaction with a beta value (beta = 0.099, $P > 0.01$). Therefore, the researcher accepts that, tangibility has a positive and significant effect on customer satisfaction. The result show that the tangibility dimension of service quality and customer satisfaction is positively related, which indicates that better this dimension will result in higher rate of customer satisfaction.

H2: There is negative and significant relation between Reliability and customer satisfaction

The results of multiple regressions, as presented in table 4.12 above, revealed that reliability has a negative and significant effect on customer satisfaction with a beta value (beta = -0.188, $P < 0.01$). Therefore, the researcher accepted that, reliability has a negative and significant effect on customer satisfaction. The result show that the reliability dimension of service quality and customer satisfaction is negatively related.

H3: There is positive and significant relation between Responsiveness and customer satisfaction

The results of multiple regressions, as presented in table 4.12 above, revealed that responsiveness has a positive and significant effect on customer satisfaction with a beta value (beta = 0.172, $P < 0.01$). Therefore, the researcher accepted that, responsiveness has a positive and significant effect on customer satisfaction. The result show that the responsiveness dimension of service quality and

customer satisfaction is positively related, which indicates that better this dimension will result in higher rate of customer satisfaction.

H4: There is positive and significant relation between Assurance and customer satisfaction

The results of multiple regressions, as presented in table 4.12 above, revealed that assurance has a positive and significant effect on customer satisfaction with a beta value (beta = 0.503), at 99% confidence level ($p < 0.01$). Therefore, the researcher accepted that, tangibility has a positive and significant effect on customer satisfaction. The result show that the assurance dimension of service quality and customer satisfaction is positively related, which indicates that better this dimension will result in higher rate of customer satisfaction.

H5: There is positive and significant relationship between Empathy and customer satisfaction

The results of multiple regressions, as presented in table 4.12 above, revealed that empathy has a positive and significant effect on customer satisfaction with beta value (beta = 0.143, $P < 0.01$). Therefore, the researcher accepted that, empathy has a positive and significant effect on customer satisfaction. The result show that the empathy dimension of service quality and customer satisfaction is positively related, which indicates that better this dimension will result in higher rate of customer satisfaction.

4.5. Discussion of Results

This section discusses the findings of the statistical analysis in relation to the previous research and literature.

4.5.1. Descriptive statistics (mean, and standard deviation) and correlation analysis for the service quality dimensions and customer satisfaction.

The finding of this study is more specifically conclude that, from the five service quality dimensions were the least service quality in EEU billing methods. Therefore this conclusion is differ to the study conducted by Tizazu Kassa (2012), his finding of study also conclude that, customers were most satisfied with the assurance dimensions of service quality and less satisfied with reliability and empathy dimensions of service quality.

In regard to the correlation result the study conclude that, unlike reliability four of the five service quality has been a positive and relationship between the customer satisfactions. Accordingly, it is found that, assurance is the highest and lowest is the lowest correlated service quality, with customer satisfaction. However this conclusion is differing from the study conducted by Tizazu Kassa (2012), unlike responsiveness the four service quality dimensions (tangibility, assurance, empathy and reliability) are positively and related with customer satisfaction. The findings of his study also indicated that tangibility is the highly correlated service quality, with customer satisfaction.

4.5.2. Regressing customer satisfaction on the service quality dimensions

The result of this study indicates that, except the reliability dimension four of the five service quality has a positive and significant effect on customer satisfaction. Though this conclusion is differing to the study conducted by Tizazu Kassa (2012), he conclude that four service quality dimensions including tangibility, reliability, assurance and empathy have positive and significant effect on customer satisfaction. The findings of his study also indicated that tangibility is the most important factor to have a positive and significant effect on customer satisfaction. Tibebe Zeleke (January, 2012), his finding also differ to this study finding, all of the five service quality and customer satisfaction have positive sign and are statistically significant

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATION

5.1 Summary of Major Findings

In this study, the researcher was analyzed in the effect of service quality on customer satisfaction on Ethiopia Electric Utility in the case of the billing methods. Accordingly, to meet the research objective, the researcher collected data from sample respondents; and analyzed the collected data through descriptive and inferential statistics. By doing so, the following major findings were obtained.

The demographic characteristics of the respondents indicate that, majority of customers (64%) were domestic and (27.1%) were commercial the remaining 8.9% were industrial. With regard to number of year using service, the highest share of respondents, (61.7%), were using the service more than 10years, (22.6%) were using the service for one to five years, the remaining (15.4%) and (.03%) were using the service for six to ten and less than one year respectively. In this study majority of respondents meter types (61.2%) were postpaid customers and (38%) were prepaid customers. The analysis shows that majority of respondents are domestic customers, postpaid meter user and they are using the service more than ten year.

The descriptive analysis result revealed that, mean score for the five service quality dimension of the billing methods ranges between 1.62 and 2.52, which fall around the low mean. This indicates that all of the five service quality dimensions are not better in EEU billing methods.

The descriptive statistics employed for assessing the current level of customer satisfaction at EEU billing methods also revealed that, the overall satisfaction the firm billing service scored low mean of 2.47. It shows that majority of the customers dissatisfied by the EEU billing methods.

The correlation result show that there is a positive and significant relationship between tangibility and customer satisfaction, responsiveness and customer satisfaction, assurance and customer satisfaction, empathy and customer satisfaction. However, the results indicate that,

there is negative and significant relationship between reliability and customer satisfaction. The finding also indicates that the highest relationship was found between assurance and customer satisfaction, while the lowest relationship was found between reliability and customer satisfaction.

Furthermore, the multiple regression results showed that except reliability the four service quality dimensions (tangibility, responsiveness, assurance and empathy) have positive and significant effect on customer satisfaction.

The R square value of 0.594, demonstrates that 59.4% of variation in customer satisfaction can be accounted by the service quality dimensions. The findings of this study also indicated that assurance is the most important factor to have positive effect on customer satisfaction, followed by responsiveness, empathy, and tangibility.

5.2. Conclusion

The finding showed that majority of respondents are domestic customers and they are using the service more than ten year. In addition to this their meter types also (61.2%) were postpaid customers and (38%) were prepaid customers.

The finding of the study indicates that customer's of EEU were not satisfied by the five service quality dimensions (tangibility, reliability, responsiveness, assurance and empathy).

The correlation result shows that, unlike reliability the four service quality dimensions (tangibility, assurance, empathy and responsiveness) are positively and significantly related with customer satisfaction.

The hypotheses drawn for the four variables of tangibility, responsiveness, assurance and empathy were accepted because they had a significant and positive effect on customer satisfaction. The remaining one variable which is reliability was also accepted because it had a significant and negative effect on customer satisfaction.

In terms of the stated research hypotheses the following specific empirical findings emerged from the investigation: The four service quality dimensions including tangibility, responsiveness, assurance and empathy have positive and significant effect on customer satisfaction. The findings of this study also indicated that assurance is the most important factor to have a positive and significant effect on customer satisfaction. In addition to this, except reliability the four service quality dimensions significantly explain the variations in customer satisfaction.

Service quality “has become as one of the key driving forces for business sustainability and is vital for firms’ accomplishment” same is true since the five service quality dimensions affect were the major factor to affect customer satisfaction of the EEU billing methods.

5.3. Recommendations

Depending on the findings of the study and conclusions made, the researcher came up with some important recommendations which would help the organization to focus EEU billing methods that can largely contribute to the improvement on level of customer satisfaction. The recommendations given are the following:

Although, EEU billing methods is important in improving the level of customer satisfaction, the organization is better-off to emphasize on the five service quality dimensions, which contribution to increase the customer satisfaction. Therefore, the firm should work more in improving the low scored means of each dimension.

When we look at customers’ perception towards the five service quality dimensions, the billing methods scored low mean of the five service quality dimension. Therefore, the respondents were dissatisfied with under the five service quality dimensions. This indicates that, the majority respondents were disagreed with the service quality of EEU billing method. This is to say, the EEU management should focus on this factor to maximize customer satisfaction with the billing methods.

Furthermore, to measure the general perception of the respondents regarding to the billing methods in the subject of the level of customer satisfaction, majority of respondents were dissatisfied. Accordingly, employees response is one of the measure of customer satisfaction, therefore the respondents didn’t perceived that the employee performance with professional competency and

respective behavior. Therefore, the organization should receive feedback from employees as to know the level of customer satisfaction of billing methods.

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Appendix

Appendix I

English Questionnaire

Addis Ababa Univeersity

School of Commerce

Sir/ Madam, the purpose of this questionnaire is to gather data regarding the effect of Service quality on Customer satisfaction in the case the two billing system of EEU Western Addis Ababa region. The study is purely for academic purpose and thus does not affect you in any case. Your genuine, frank, timely response is vital for the success of the study. Therefore, I kindly request you to respond to each question item carefully and oblige.

Note:-

1. No need of writing your name.
2. Where alternative answers are given, encircle your choice and put “√” mark where necessary.

INTRODUCTION: I am currently doing thesis on “The effect of service quality on customer satisfaction: In the case of the two billing system on Ethiopia Electric Utility Enterprise”. The study is purely for academic purpose and thus does not affect you in any case. Your genuine, frank, timely response is vital for the success of the study. Therefore, I kindly request you to respond to each question item carefully and oblige.

To the end, I would like to forward my deepest gratitude for your unreserved cooperation in filling the questioner.

Part I: Background information of respondents

Directions: Please circle from the alternatives that are most applicable answer to you in respect of each of the following items.

1. For how long are you a customer of the corporation?

1. More than 10 years

2. 1- 5 years

3. 6 – 10 years

4. Less than 1 year

2. According to the type of customer which type of customer you belong to

1. Industrial

2. Commercial

3. Domestic

3. According to meter type of the corporation you belong to

1. Pre paid meter user

2. Post paid meter user

Part II Questionnaires related to service quality

How do you rate service quality in the EEU billing systems related to the following service quality dimension?

Instructions: Please tick the number that you feel most appropriate, using the scale from 1 to 5 (Where 1 = strongly disagree, 2 = disagree, 3 = Neutral, 4 = agree and 5 = strongly agree).

Dimension	1	2	3	4	5
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Tangibility					
1. The firm has up to date equipments					
2. Employees of the organization at the front line position are well dressed and appear neat					
3. The firm has offices at locations convenient to its customers					
Reliability					
4. Employees show dependability in handling service problem.					
5. Employees provide accurate information to customers.					
6. The bill is more or less correct					
7. The firm is provide service at the designed and promised time					
Responsiveness					

8. Employees provide punctual service					
9. Employees give quick response to customer requests.					
10. Employees willingness to help customers					
11. The employees are never too busy to response to customer					
Assurance					
12. Personal behavior of the employees are excellent that the customer can trust					
13. Customer feel safe in the transaction with the firm employees					
14. Employee instills confidence in customers.					
15. The employees have sufficient knowledge of service information					
16. The employee has the required skill in providing services.					
Empathy					
17. The firm has working hours convenient to all of its customers					
18. Employees give individual attention to customers.					
19. Employees know what customers needs are.					
20. Employees always treat consumer in a friendly manner					

Part III Questionnaires related to level of customer satisfaction

How do you rate your level of satisfaction the following service quality of the billing systems?

Instructions: Please tick the number that you feel most appropriate, using the scale from 1 to 5 (Where 1 = strongly dissatisfied, 2 = dissatisfied, 3 = Average, 4 = satisfied 5 = strongly satisfied).

Customer satisfaction	1	2	3	4	5
	Strongly Dissatisfied	Dissatisfied	Average	Satisfied	Strongly Satisfied
4. I am satisfied with the firm billing services.					
5. I am satisfied with the performance of the firm employees					
6. I am satisfied with the firm employees' professional competence					
7. I am satisfied with the quick service of the firm.					
8. I am satisfied with the respectful behavior of employees.					
9. I am satisfied with the overall level of satisfaction of the service quality of the billing systems?					

Appendix II

Amharic Questionnaire

አዲስ አበባ ዩኒቨርሲቲ የንግድ ስራ ትምህርት ቤት

ውድ ደንበኞች፡-

የዚህ መጠይቅ ዋና አላማው በኢትዮጵያ ኤሌክትሪክ አገልግሎት ምዕራብ አዲስ አበባ የሚሰጠው የክፍያ አገልግሎት በደንበኞች እርካታ ላይ ስለሚኖረው ተፅዕኖ የሚያተኩር ጥናታዊ ጽሁፍ ለማዘጋጀት መረጃ ለመሰብሰብ ሲሆን እርስዎ ይህንን መጠይቅ በመሙላት አስፈላጊውን ትብብር እንዲያደርጉልኝ ስል በአክብሮት እጠይቃለሁ።

ጥናቱ የሚደረገው ሙሉ በሙሉ ለትምህርት አላማ ስለሆነ በየትኛውም መልኩ እርስዎን የማይነካና የማይጎዳ ነው። እርስዎም የሚሰጡት መረጃ የላቀ፣ እውነተኛ፣ ተአማኝነት ያለውና ትክክለኛ ምላሽ ለጥናቱ መሳካት እጅግ ጠቃሚ ነው። በመሆኑም እያንዳንዱን ጥያቄ በጥንቃቄና በትክክል እንዲመልሱ በአክብሮት እጠይቃለሁ።

ማስታወሻ፡-

- ስም መጥቀስ አያስፈልገውም
- ተለዋጭ ምርጫ ለቀረበላቸው ጥያቄዎች መልሱን በማክባብ ይመልሱ

1. የግል መረጃ

መመሪያ እባክዎን ከተሰጡት አማራጮች የተስማሙበት ላይ ምልክት ያድረጉ

1. በዚህ ድርጅት ውስጥ ደንበኛ ከሆኑ ምን ያህል ጊዜ ሆኖታል;

- | | |
|----------------|----------------|
| 1. ከ10 ዓመት በላይ | 2. 1- 5 ዓመት |
| 3. 6 — 10 ዓመት | 4. ከ 1 ዓመት በታች |

2. በድርጅቱ የደንበኛ ዓይነት እርስዎ የየትኛው የደንበኛ ዓይነት ነዎት

1. የቤት ውስጥ አገልግሎት ተጠቃሚ

13. ሠራተኞቹ የድርጅቱን እይታ የሚያስመሰክሩ ናቸው?					
14. ሠራተኞቹ ቅኖች ናቸው?					
15. ሰራተኞቹ ስለ ክፍያ አገልግሎቱ በቂ መረጃ አላቸው					
16. ሠራተኞቹ ደንበኞችን ለማስተናገድ ባቂ እዉቀት አላቸው?					
የሥራ ባለቤትነት					
17. ድርጅቱ ለክፍያ አገልግሎቱ አመቺ የሥራ ሰዓት አለው?					
18. ሰራተኞቹ የደንበኞችን ፍላጎት ይገነዘባሉ.					
19. ሰራተኞቹ ለግለሰቦች ትኩረት ይሰጣሉ.					
20. ሠራተኞቹ አገልግሎቱን ለደንበኞች ቀለል በሚል መልኩ ያስተናግዳሉ					

III. የደንበኛ የእርካታ መጠይቅ

መመሪያ:- እባክዎን ከተሰጡት አማራጮች የተስማሙበት ላይ () ምልክት ያድርጉ።

የሚስባቡበት የሚከተሉት ናቸው።

- | | | |
|---------------|---------------|----------------|
| 1. በጣም አልረካሁም | 2. አልረካሁም | 3. በከፊል እረክቻለሁ |
| 4. እረክቻለሁ | 5. በጣም እረክቻለሁ | |

	1	2	3	4	5
	በጣም አልረካሁም	አልረካሁም	በከፊል እረክቻለሁ	እረክቻለሁ	በጣም እረክቻለሁ
የደንበኛ እርካታ					
1. በድርጅቱ የክፍያ አከፋፈል አገልግሎቶች እረክቻለሁ					
2. በድርጅቱ ሠራተኞች የስራ ክንውን እረክቻለሁ					
3. በድርጅቱ ሠራተኞች የሙያ ብቃት እረክቻለሁ					
4. በድርጅቱ ፈጣን አገልግሎት እረክቻለሁ					
5. በሰራተኞቹ የደንበኛ በአክብሮት ባህሪ እረክቻለሁ					
6. ባጠቃላይ በድርጅቱ የክፍያ ሂደቱን በአገልግሎት ጥራት ሙሉ እርካታ አግኝቼያለሁ?					

Appendix III

SPSS Results

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.820	.798	26

Service year

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid >10y	222	62.0	62.0	62.0
Valid 1-5y	81	22.6	22.6	84.6
Valid 6-10y	55	15.4	15.4	100.0
Total	358	100.0	100.0	

Types of customer

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Industrial	32	8.9	8.9	8.9
Valid Commercial	97	27.1	27.1	36.0
Valid Domestic	229	64.0	64.0	100.0
Total	358	100.0	100.0	

Types of meter

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid prepaid	139	38.8	38.8	38.8
Valid postpaid	219	61.2	61.2	100.0
Total	358	100.0	100.0	

T1

	Frequency	Percent	Valid Percent	Cumulative Percent
SD	139	38.8	38.8	38.8
D	127	35.5	35.5	74.3
Valid N	12	3.4	3.4	77.7
A	80	22.3	22.3	100.0
Total	358	100.0	100.0	

T2

	Frequency	Percent	Valid Percent	Cumulative Percent
SD	130	36.3	36.3	36.3
D	204	57.0	57.0	93.3
Valid N	3	.8	.8	94.1
A	21	5.9	5.9	100.0
Total	358	100.0	100.0	

T3

	Frequency	Percent	Valid Percent	Cumulative Percent
SD	100	27.9	27.9	27.9
Valid D	258	72.1	72.1	100.0
Total	358	100.0	100.0	

Rel1

	Frequency	Percent	Valid Percent	Cumulative Percent
SD	190	53.1	53.1	53.1
Valid D	168	46.9	46.9	100.0
Total	358	100.0	100.0	

Rel2

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid SD	131	36.6	36.6	36.6
D	227	63.4	63.4	100.0
Total	358	100.0	100.0	

Rel3

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid SD	106	29.6	29.6	29.6
D	252	70.4	70.4	100.0
Total	358	100.0	100.0	

Rel4

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid SD	48	13.4	13.4	13.4
D	126	35.2	35.2	48.6
A	184	51.4	51.4	100.0
Total	358	100.0	100.0	

Rep1

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid SD	141	39.4	39.4	39.4
D	149	41.6	41.6	81.0
A	68	19.0	19.0	100.0
Total	358	100.0	100.0	

Rep2

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid SD	164	45.8	45.8	45.8
D	176	49.2	49.2	95.0
A	18	5.0	5.0	100.0
Total	358	100.0	100.0	

Rep3

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid SD	225	62.8	62.8	62.8
D	133	37.2	37.2	100.0
Total	358	100.0	100.0	

Rep4

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid SD	204	57.0	57.0	57.0
D	131	36.6	36.6	93.6
N	23	6.4	6.4	100.0
Total	358	100.0	100.0	

A1

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid SD	94	26.3	26.3	26.3
D	138	38.5	38.5	64.8
N	25	7.0	7.0	71.8
A	65	18.2	18.2	89.9
SA	36	10.1	10.1	100.0
Total	358	100.0	100.0	

A2

	Frequency	Percent	Valid Percent	Cumulative Percent
SD	46	12.8	12.8	12.8
D	175	48.9	48.9	61.7
N	25	7.0	7.0	68.7
A	73	20.4	20.4	89.1
SA	39	10.9	10.9	100.0
Total	358	100.0	100.0	

A3

	Frequency	Percent	Valid Percent	Cumulative Percent
SD	93	26.0	26.0	26.0
D	111	31.0	31.0	57.0
N	20	5.6	5.6	62.6
A	120	33.5	33.5	96.1
SA	14	3.9	3.9	100.0
Total	358	100.0	100.0	

A4

	Frequency	Percent	Valid Percent	Cumulative Percent
SD	114	31.8	31.8	31.8
D	128	35.8	35.8	67.6
N	24	6.7	6.7	74.3
A	69	19.3	19.3	93.6
SA	23	6.4	6.4	100.0
Total	358	100.0	100.0	

A5

	Frequency	Percent	Valid Percent	Cumulative Percent
SD	98	27.4	27.4	27.4
D	128	35.8	35.8	63.1
N	32	8.9	8.9	72.1
A	75	20.9	20.9	93.0
SA	25	7.0	7.0	100.0
Total	358	100.0	100.0	

E1

	Frequency	Percent	Valid Percent	Cumulative Percent
SD	93	26.0	26.0	26.0
D	105	29.3	29.3	55.3
N	28	7.8	7.8	63.1
A	92	25.7	25.7	88.8
SA	40	11.2	11.2	100.0
Total	358	100.0	100.0	

E2

	Frequency	Percent	Valid Percent	Cumulative Percent
SD	88	24.6	24.6	24.6
D	159	44.4	44.4	69.0
N	16	4.5	4.5	73.5
A	59	16.5	16.5	89.9
SA	36	10.1	10.1	100.0
Total	358	100.0	100.0	

E3

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid SD	49	13.7	13.7	13.7
D	189	52.8	52.8	66.5
N	21	5.9	5.9	72.3
A	80	22.3	22.3	94.7
SA	19	5.3	5.3	100.0
Total	358	100.0	100.0	

E4

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid SD	96	26.8	26.8	26.8
D	135	37.7	37.7	64.5
A	19	5.3	5.3	69.8
S	76	21.2	21.2	91.1
SS	32	8.9	8.9	100.0
Total	358	100.0	100.0	

S1

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid SD	81	22.6	22.6	22.6
D	98	27.4	27.4	50.0
A	50	14.0	14.0	64.0
S	80	22.3	22.3	86.3
SS	49	13.7	13.7	100.0
Total	358	100.0	100.0	

S2

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid SD	84	23.5	23.5	23.5
D	139	38.8	38.8	62.3
A	73	20.4	20.4	82.7
S	56	15.6	15.6	98.3
SS	6	1.7	1.7	100.0
Total	358	100.0	100.0	

S3

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid SD	99	27.7	27.7	27.7
D	115	32.1	32.1	59.8
A	59	16.5	16.5	76.3
S	60	16.8	16.8	93.0
SS	25	7.0	7.0	100.0
Total	358	100.0	100.0	

S4

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid SD	123	34.4	34.4	34.4
D	101	28.2	28.2	62.6
A	33	9.2	9.2	71.8
S	71	19.8	19.8	91.6
SS	30	8.4	8.4	100.0
Total	358	100.0	100.0	

S5

	Frequency	Percent	Valid Percent	Cumulative Percent
SD	103	28.8	28.8	28.8
D	138	38.5	38.5	67.3
A	70	19.6	19.6	86.9
S	35	9.8	9.8	96.6
SS	12	3.4	3.4	100.0
Total	358	100.0	100.0	

S6

	Frequency	Percent	Valid Percent	Cumulative Percent
SD	76	21.2	21.2	21.2
D	114	31.8	31.8	53.1
A	31	8.7	8.7	61.7
S	117	32.7	32.7	94.4
SS	20	5.6	5.6	100.0
Total	358	100.0	100.0	

Descriptive Statistics

	N	Mean	Std. Deviation
Tangibility	358	1.8585	.43338
Reliability	358	1.9253	.28348
Responsiveness	358	1.6236	.44821
Assurance	358	2.5006	.89327
Empathy	358	2.5258	.55842
Satisfaction	358	2.4721	.81325
Valid N (listwise)	358		

Descriptive Statistics

	N	Mean	Std. Deviation
T1	358	2.0922	1.14490
T2	358	1.763	.7425
T3	358	1.7207	.44930
Rel1	358	1.4693	.49975
Rel2	358	1.6341	.48236
Rel3	358	1.7039	.45717
Rel4	358	2.8939	1.18104
Rep1	358	1.9860	1.07548
Rep2	358	1.6425	.72998
Rep3	358	1.3715	.48388
Rep4	358	1.4944	.61605
A1	358	2.4721	1.32126
A2	358	2.6760	1.24168
A3	358	2.5838	1.29315
A4	358	2.3268	1.27765
A5	358	2.4441	1.27942
E1	358	2.6676	1.38968
E2	358	2.4302	1.29398
E3	358	2.5279	1.13663
E4	358	2.4777	1.32348
S1	358	2.7709	1.37934
S2	358	2.3324	1.05247
S3	358	2.4330	1.24785
S4	358	2.3966	1.35315
S5	358	2.2039	1.06657
S6	358	2.6955	1.27661
Valid N (listwise)	358		

