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ADDIS ABABA UNIVERSITY
SCHOOL OF COMMERCE

DEPARTMENT OF MARKETING MANAGEMENT

**THE EFFECT OF PRODUCT QUALITY ON CUSTOMER
SATISFACTION: THE CASE OF ETHIO TELECOM**

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June 2019

Addis Ababa, Ethiopia

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SATISFACTION: THE CASE OF ETHIO TELECOM**

**A THESIS SUBMITTED TO ADDIS ABABA UNIVERSITY, SCHOOL OF
COMMERCE IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR THE DEGREE OF MASTER OF MARKETING MANAGEMENT**

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June 2019

Addis Ababa, Ethiopia

Declaration

I declare that this research report is my own work. It is submitted in partial fulfilment of the requirements for the degree of Masters of Marketing management in the University of Addis Ababa, School of commerce. It has not been submitted before for any degree or examination in any other university.

Taye Wolde -----

ENDORSEMENT

This thesis has been submitted to Addis Ababa University, School of commerce for examination with my approval as a university advisor.

Temesgen Belayneh (PhD)
(The Research Advisor)

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ACKNOWLEDGEMENTS

First and foremost, I would like to thank my Mum next to my Almighty GOD, who supported and encouraged me in every facet of my life. Next, I am strongly thankful to my Advisor, Dr. Temesgen Belayneh for his valuable comment and guidance throughout the study. Thank you Dr! I would also thank my examiner Dr. Belaynesh for her valuable comment. I would also like to express my appreciation for ethio telecom sales staff who supported me in collecting data for the questionnaire. For their support in providing the relevant data acquired. Special thanks to Addisu Kassaw product marketing manager Kalkidan Nigusse IBU marketing director at ethio telecom, and my friend Getaw Tsedeke who supported me by providing his laptop while my laptop damaged during analysis time. Furthermore, I would like to thank Tadlo Adugna, Helen Kifle and Netsanet Degifew and all my families and friends who were supported me in any way during my study.

LIST OF ACRONYMS/ABBREVIATIONS

AI: Artificial intelligence

B2C: Business to consumer

GSMA: Global system Mobile Association

IBU: International business unit

IOT: Internet of things

M2M: Machine to Machine

NPD: New product development

OECD organization of economic cooperation for development

SMS: Short message service

SPSS: Statistical Software for Social Science

TV: Television

VPN: Virtual private network

2G: 2nd generation network

3G: 3rd generation network

4G: 4th generation network

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Abstract

In today's dynamic business environment the customer is the heart and soul to the organization. Therefore, evaluating customer satisfaction is indispensable element in any strategy for product success and company business performance improvement. Satisfaction is a person's feelings of pleasure or disappointment that resulted from comparing a consumed product's perceived performance to expectations. Therefore, satisfaction was examined by the means of a survey using questionnaires. This research aims to analysis the effect of product quality on customer satisfaction in telecom sector in case of ethio telecom. In particular, this paper answers the effect of product quality on customer satisfaction through the eight product quality dimensions. It used quantitative research analysis method, and the data collected and analyzed with descriptive and inferential statistics. The result showed a positive correlation among the variables and significant effect of product durability, aesthetic and perceived quality to customer satisfaction. The result also showed insignificant effect of product performance, feature, conformance, reliability and serviceability to customer satisfaction.

Key Words: *Product quality, Customer satisfaction*

CHAPTER ONE

INTRODUCTION

This section mainly addresses the background of the study, statement of the problem, basic research questions, objectives of the study, significance of the study, scope and limitation of the study, organization of the paper and definition of terms.

1.1. Background of the study

One of the key issues in product strategy deals is the introduction of new products. The development and commercialization of new products is a vital part of a firm's efforts to sustain growth and profits over time. The success of new products depends on the product's fit with the firm's strengths and a defined market opportunity (O.C.Ferrell and Michael D. Hartline 2011).

New Product development is indispensable in maintaining a successful business. (Baker and Hart, 1999) described that, if the company do not change as the times, the markets and the products required, it is dead. On the other hand (Nolan, 1999) described, new product development is risky, and the failure of new products to stand up to the competitor pressures or consumer demands exerts a force on the organization such that the firm faces increasing survival pressures rather than demands for growth.

Therefore, the organization develops and familiarizes its competitive marketing strategy to the fundamental and varying conditions in the market, unless let alone to achieve its objectives, its continuous survival in the market is uncertain (Ma, 1999). A number of studies have been conducted to explore the link between product and service quality and customer satisfaction. A recent Nigerian study by Ojo (2010) described that in order to sustain high levels of customer satisfaction, it is required for the organization to update its product and services based on the expectations of customers. Not only meeting the demand of customers, but competitive advantage comes by exceeding the demands of the customer (Ojo, 2010). This develops customer satisfaction for long-term customer retention (Arslan, Umair, & Zaman, 2014).

Quality is a standard of relation between the real performance of the product with the customers' expectations or the difference between the customers' expectations and their realization of the service's real performance (Kotler and Keller 2012). (Macdonald 1998) sees that the advantage of quality management in productive organizations are taking care of customers through adopting an effective management outline with the customers, since the customers are the wealth in the organization. Pointed out that satisfaction is a positive feedback from the customer side towards

the consumed product. Customer Satisfaction is examination of feedback of customers after they purchased and used goods or service (Razak & Nirwanto 2016). According to Kotler and Keller (2012), "Customer satisfaction is a person's feelings of pleasure or disappointment that result from comparing a product's perceived performance to expectations".

Overall an organization should be able to create superior customer value in order to take competitive advantages (Day, 1990). Adopting a customer centric vision enables an organization understand their customers long years ago, to win by carefully positioning itself through innovation.

Rajasekhara Mouly (2010) findings on the case company customer satisfaction assessment shows that customers of ETC were dissatisfied with employees' interaction skills, disappointed with customer service delivery system and customers were not pleased with the complaint handling procedure and its outcome.

Therefore this study is to establish a relationship between product quality dimensions and customer satisfaction for telecom sector in ethio telecom.

1.2. Background of the company

Ethio telecom, formerly known as Ethiopian telecommunication corporation (ETC) established in 1894 during Emperor Menilik dynasty, and transformed its brand and trade name to ethio telecom on November 29, 2010 as per the council of ministry regulation No. 197/2010. It is an integrated telecommunications service provider offering internet, data, voice and value-added services public enterprise operating in Ethiopia. The company most new products are adapted product, new to the market product, and modified product.

The company aims next generation network. Its vision is to be a world-class provider of telecom services, and mission to provide world-class, modern and high-quality telecom services for all citizens equitably so as to transform the multifaceted development of the country to the highest level. Its value is customer-centric, excellence, accountability, impartiality and sharing.

Accordingly, ethio telecom is offering product and services to the market as a means of reaching its vision to be a world class telecom service provider.

It also involved various customers and received feedback from customers through survey questions, face to face and telephone interview, by visiting major and potential customer by sales and marketing team, collecting comments from public wing events and from multichannel Medias

and use the comments for product development enhancement. ethio telecom product roadmap and portfolio management shows that the company launched in average 34 new products per year to its residential and enterprise customers. Despite all the efforts there is a poor customer satisfaction. According to ethio telecom customer annual satisfaction survey conducted at national level last four years average customer satisfaction result shows 7.1 from 10. If this continues the vision may not be achieved. Therefore, need to arise the effect of product quality on customer satisfaction and improve customer satisfaction.

1.3. Statement of the problem

As indicated on the background of the company, ethio telecom launched many products per year to its customers. The preceding sections of the literature review have focused on how organizations product quality influence customer satisfaction. It has been ascertained that the product quality is important in determining the critical success factors for organizational performance. Customer satisfaction is key to any organization's success and this success is directly associated with the demands of the customer (Brady and Robertson, 2001 and Lovelock 2001). ethio telecom customer satisfaction survey result average result the preceding 5 years showed 7.3 (73% satisfied) this means there are unsatisfied customers.

Despite the number of researches that discussed and studied the impact of product quality on customer satisfaction that appear the performance of the company throughout service quality, still there are no many literature that focus exclusively on the effect of product quality on customer satisfaction in telecom sector.

Thus, the main reason of this study is to analyze the effect of product quality on customer satisfaction in telecom sector B2C customers.

1.4. Research Question

The basic research question is identifying what the effect is between selected product quality dimensions and customer satisfaction in the case company.

The research questions are:

1. How does the product performance affect customer satisfaction in the case of ethio telecom?
2. How does the product features affect customer satisfaction in the case of ethio telecom?
3. How does the product reliability affect customer satisfaction in the case of ethio telecom?
4. How does the product conformance affect customer satisfaction in the case of ethio telecom?

5. How does the product reliability affect customer satisfaction in the case of ethio telecom?
6. How does the product aesthetics affect customer satisfaction in the case of ethio telecom?
7. How does the product serviceability affect customer satisfaction in the case of ethio telecom?
8. How does the product perceived quality affect customer satisfaction in the case of ethio telecom?

1.5. Objectives of the Study

1.5.1 General objective of the study

The general objective of the study is to find out the effect of new product quality on customer satisfaction of the case company.

1.5.2 Specific objectives of the study

The specific objectives of the study are:

1. To determine the effect of product performance on customer satisfaction of the case company
2. To determine the effect of product feature on customer satisfaction of the case company
3. To determine the effect of product reliability on customer satisfaction of the case company
4. To determine the effect of product conformance on customer satisfaction of the case company
5. To determine the effect of product durability on customer satisfaction of the case company
6. To determine the effect of product aesthetics on customer satisfaction of the case company
7. To determine the effect of product serviceability on customer satisfaction of the case company
8. To determine the effect of product perceived quality on customer satisfaction of the case company

1.6. Significance of the study

This study will be very important to help the entity to be able to address weaknesses in new product development process. It also supports for thesis preparation, students to build practical knowledge in the study of customer satisfaction in relation to product quality especially in telecom industry and will be used as a reference.

1.7. Scope of the study

The scope of the study is focused on new product quality and its effect on customer satisfaction. Though the case company operates throughout Ethiopia providing telecom service for both enterprise and residential customers this research focused on residential (individual) customers. The study had methodological delimitation to nonprobability sampling and used quantitative methods by distributing questioners to case company questioners focused on product quality and customer satisfaction.

1.8. Limitation of the study

The customer satisfaction measured from product quality perspective only while other marketing mix couldn't consider to measure customer satisfaction. The research could not include the organization or management's perspective of the study for product quality and customer satisfaction cases. In addition, due to time limitation the researcher distributed the questioners without evaluating respondent's knowledge about telecom service, quality, and satisfaction concepts. Therefore, utmost care has been taken in the time of questionnaire distribution by translating and distributing the questioners in English and Amharic languages with list of some products developed by the case company to make it clear and understandable.

In addition, since the case company is a monopoly company operating in the nation the customer's response is from their expectation and knowledge rather than comparative solutions. Furthermore, a judgmental sampling was undertaken to gather the customer's feedback. It may be challenging to expect a higher response rate as respondents may not entirely understand the value of the research.

1.9. Definition of Terms

The following terms used in the proposal are defined as follows

Case Company: ethio telecom

Customer Satisfaction: The extent to which a product's perceived performance matches a buyer's expectations.

Marketing: Is getting the right goods and services to the right people at the right place at the right time at the right price with the right communication and promotion. (Kotler, P. 1997)

Operator: a telecom service provider in a given country

Product Quality: The characteristics of a product or service that bear on its ability to satisfy stated or implied customer needs.

Product: A product is anything that can be offered to a market to satisfy a want or need, including physical goods, services, experiences, events, persons, places, properties, organizations, information, and ideas.

Sales: the activity or business of selling products.

Strategy: strategy is concerned with making major decisions affecting the long-term direction of the business.

1.10. Organization of the paper

The paper is comprised in to five chapters in which the first chapter illustrates the study background, statement of the problem, basic research questions, objectives, significance of the study and delimitation of the study and definition of terms. The second part will be the review of related literature, in the third part research design, methodology and the study analysis used be described. In the fourth part result and discussion will be discussed. In the fifth part research summary, conclusion and recommendation discussed.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

Introduction

This chapter gives an overview of literature that is related to the research problem which presented in the study. Both theoretical and empirical reviews discussed in this chapter. In the review arguments of the model, the components of the model, strength and weakness discussed considering relationship to the study.

2.1. Theoretical review

2.1.1. Product development

Kotler and Armstrong (2012) described that product is anything that can be offered to a market for attention, acquisition, use, or consumption that might satisfy a want or need of customer. Ehsani (2015), said that quality of product is the customer's perception of the overall quality or superiority of the product or service, with respect to its planned purpose, relative to alternatives. Kotler and Armstrong (2012) assumed that product quality is the characteristic of a product or service that bear on its ability to satisfy stated or implied customer needs.

Effective product development is guided by a well-defined new product strategy. The new-product strategy achieves four main goals. It gives direction to the new product team, it helps to integrate functional or departmental efforts where understood by the new product team, it allows tasks to be delegated to team members who can be left to operate independently, and act of producing and getting managers to agree on a strategy requires which increases the likelihood of a more thorough search for innovation opportunities. (Kotler, Armstrong, Sounders and Wong; 1999). A new product that is introduced on the market evolves over a sequence of stages, beginning with an initial product concept or idea that is evaluated, developed, tested and launched on the market (Booz, Allen & Hamilton, 1982).

A product is a logical or physical object, which can be sold out to an end customer by the operators. This could be a mobile phone, internet connection, Voice call connection, VPN, Video on demand, Digital TV connection, etc. "A product can have its monthly rental, which we call periodic charges also. A product can be usage generating product or non-usage generating product. A usage generating product is sometime called event generating product and non-usage generating product

is called non-event generating product. For example, voice call connection, which comes along with a phone number, is a usage generating product because it generates usage whenever end customer uses this product to make a voice call. A simple phone set without a connection is a non-usage generating product and it could be given to a customer based on monthly rent only. So even if, a customer is not using it, he/she has to pay monthly rental” (Telecom Billing (<https://www.tutorialspoint.com/index.htm>))

2.1.2. Stages In The Product Development Process

As per author Kotler and Keller (2012), guided by a company’s new product strategy, a new product is best developed through a series of eight stages. Thus, at each stage management must decide whether to proceed to the next stage about on the product, or seek additional information where each stage has been labeled differently with respect to the company’s new product strategy.

1. Idea generation

According to Kotler and Keller (2012), idea generation should be systematic rather than haphazard. Otherwise, although the company will find many ideas, most will not be good ones for its type of business. A company typically has to generate many ideas in order to find a few good ones. (Kotler.P, et al 1999). According to p. Kotler and Keller, (2012), there are different sources for idea generation and concept development. These are, internal sources, customers, competitors, distributors, suppliers and other resellers.

2. Idea screening

Kotler and Keller, (2012), said that, the purpose of screening is to spot good ideas and drop poor ones as soon as possible. According to Pride and Forrel, (2005) in the process of screening, the ideas with the greatest potential are elected for further review. During screening, product ideas are analyzed to determine whether they much the organizations objectives and resources. If a product idea is similar to the firm’s existing products marketers must assess the degree to which the new product could cannibalize the sales of current products the company’s over all abilities to product and market the product is analyzed.

3. Concept development and testing

Attractive ideas must now be developed into product concepts. It is important to distinguish between a produce idea, a product concept and a product image. (Kotler.P, et al 1999)

Concept development

A product concept is a detailed version of the idea stated in meaningful consumer terms. A product image is the way consumers perceive an actual or potential product. The marketer's task is to develop this idea into some alternative product concepts, find out how attractive each concept is to customers, and choose the best one (Kotler.P, et al 1999)

Concept testing

The more the tested concepts resemble the final product or experience, the more dependable concept testing is, prototypes that can help avoid costly mistakes. (kotler and keller, 2012)

A more concrete and physical presentation of the concept will increase the reliability of the concept test. Today, marketers are finding innovative ways to make product concepts more real to consumer subjects (Kotler.P, et al 1999)

4. Market strategy development

As The planned strategy of a new product that outlines the intended target market, the planed product positioning, and the safes, market share and profit goals for the first few years. (kotler and keller, 2012)

5. Business analysis

After management develops the product concept and marketing strategy, it can evaluate the proposal's business attractiveness. Management needs to prepare sales, cost, and profit projections to determine whether they satisfy company objectives. If they do, the concept can move to the development stage. As new information comes in, the business analysis will undergo revision and expansion (kotler and keller, 2012). Business analysis involves a review of the sales, costs and profit projections for a new product to find out whether they satisfy the company's objectives. If they do, the product can move to the product development stage. (Kotler.P, et al 1999)

6. Product development

The product development step, however, now calls for a large jump in investment. It will show whether the product idea can be turned into a workable product.(Kotler.P, et al 1999)

7. Market testing

After management is satisfied with functional and psychological performance, the product is ready to be branded with a name, logo, and packaging and go into a market test. When we develop a new product, say an improved liquid makeup, we know it's going to sell because we're familiar with the field. And we've got demonstrators in department stores to promote it. Many companies, however, believe market testing can yield valuable information about buyers, dealers, marketing program effectiveness, and market potential. (kotler and keller, 2012)

When a new product introduction requires a large investment, or the management is not sure of the product or marketing programed, the company may do a lot of test marketing. The system's effectiveness and customers' acceptance and reactions can then then be guided prior to making the decision to extend the service to cover all of its domestic or global networks. (Reeder &brierty, 2004)

8. Product launch and Commercialization

Once the product has successfully completed the concept and market testing stages it is ready for launching into aside marketplace. Generally, a product can be launch in two ways, first it can be launched nationally. On a given date the product is launched and available to customer across the nation. The second, option is to roll out this is where the product is rolled out area. This can mean geographically, progressing through several countries (kotler and keller, 2012). Commercialization incurs the company's highest costs to date. The firm will need to contract for manufacture or build or rent a full-scale manufacturing facility. To introduce a major new consumer packaged goods into the national market can cost in advertising, promotion, and other communications in the first year. (kotler and keller, 2012)

2.1.3. New Product Categories

The consulting firm Booz, Alien and Hamilton (1982) has identified six categories of new products in terms of their newness to the company and to the marketplace.

1. New to the world products: new products that create an entirely new market.
2. New product lines: new products that allow a company to enter an established market for the first time.
3. Additions to existing product lines: new products that supplement a company's established product lines
4. Improvements and revisions of existing products: new products that provide improved performance or greater perceived value and replace existing products.
5. Repositioning: existing products that are targeted to new markets or market segments.
6. Cost Reductions: New products that provide similar performance at lower cost.

Kotler states that only 10% of all new products are truly innovative and new to the world. These products involve the greatest cost and risk because they are new to both the company and the marketplace. Thus, most company new product activity is devoted to improving existing products. (Kotler, 1997)

Seres (1978) on the other hand, identifies three types of new products:

1. Improved products which are developments of existing products representing a meaningful alteration, similar to the above category improvements and revisions of existing products.
2. Imitative products which have already been introduced to the market by others, but are new to a firm, similar to the second category above new product lines.
3. Innovative products that are truly new to the market, similar to the first category above and new to the world products.

2.1.4. Product Quality

(Deming, 1982) taught that by adopting appropriate principles of management, organizations can increase quality and simultaneously reduce costs. The objective of total quality management as described by (Deming, 1982) is to develop a competitive advantage through achieving highest efficiency revealed in cost reduction and improvement of customer satisfaction.

Total quality management is an approach to improving the competitiveness, effectiveness and flexibility of a whole organization. It is essentially a way of planning, organizing and understanding each activity. Total quality management involves placing the customer as the focal point of operations. The purpose is to continuously improve process performance in order to satisfy customer requirements (Zairi&Sinclair, 1995).

Quality has been defined in four categories namely excellence, value for money, conformity to requirements and meeting of customer's requirements (Reeves & Bednar, 1994). Eight critical factors for product quality have been developed and utilized by the researcher's concerned (Black & Porter, 1996), and (Zeitz et al., 1997). They are top management support, quality information availability, quality information usage, employee training, employee involvement, product design, and supplier quality and customer orientation. Product quality is the ability of a product to meet or exceed customer's expectations (Waters & Waters, 2008). The most common operational definition suggests quality as the customer's insight of product and service excellence. In today's competitive environment, quality is the crucial to an organization's survival and success. Superior quality validates the worthiness of a company (Reeves & Bednar, 1994).

(Garvin, 1987) developed a system of thinking about the quality of products by describing the basic elements of product quality in eight dimensions. (Garvin, 1987) and (Kotler and Keller, 2012) developed a systematic thinking about the quality of product by describing the basic elements in eight dimensions, and that each of its dimensions can be used strategically to gain competitive advantage. These eight elements are performance, features, reliability, conformance, durability, serviceability, Aesthetic, and perceived quality. Performance refers to a product's primary operating characteristics. Features: are additional characteristics that enhance the appeal of the product to the customer. These are the secondary aspects of performance. Reliability is the likelihood that a product will not fail within a specific time period when put in use. Conformance is the precision with which the product or service meets the specified standards. Durability measures the length of a product's operating life. Serviceability is the speed, ease and costs with which the product can be put back into service when it breaks down. Aesthetics refers to how the product looks, feels, sounds etc. It is a matter of personal judgement and a reflection of individual preference. Perceived quality is the quality attributed by the customer, noting that perception is not always reality. According to Kotler and Keller (2011), customer satisfaction is the level of a person's feelings after comparing the performance of perceived product in the hope. Thus, the level of satisfaction is a function of the difference between the product or service perceived performance and the expectation.

2.1.5. Service quality

The quality of service is also reflected in product related strategies. The five distinct dimensions of quality of service suggested by (Parasuraman A. et al., 1988) are tangibility, reliability,

responsiveness, assurance and empathy. The elements of tangibility are physical facilities, equipment's, and appearance of personnel. The reliability is concerned with ability to perform the promised service dependably and accurately. The responsiveness is the willingness to help customers and to provide prompt service. The promise deals with the knowledge and courtesy of employees and their ability to encourage hope and confidence in customers. The empathy is concerned with caring and individualized attention the firm provides for its customers. The features, benefits, quality, and the identity of the product are emerged through the brand name.

2.1.6. Customer Satisfaction

Customers today have different needs and increasingly demand for better quality of products and services. However, mostly customer priorities often differ significantly from what organizations think they are (Hax & Wilde, 2003).

In general definition quality is satisfying customer's requirements at the level of their knowledge and expectation (Drucker 2005). What quality means for the customer today no longer set up a competitive advantage for tomorrow but the basic core offering expected by customers. Drucker (2005) suggests that the aim of any organization is to create value for customers. To have superior performance, need to serve the customer in unique ways to attract, satisfy, retain and loyal them (Hax & Wilde, 2003).

Customer satisfaction goes beyond service knowledge that a customer used through. It incorporates value judgment and comparison to expectation of what the service quality should be; oftentimes based it is an overall comparison between customer's perception for its value and the price that they pay (Rust & Zahorik, 1993). By focusing on customer value organizations think outwards, toward external customers and about ways in which customers can achieve greater responsiveness to their needs (Wooduff, 1997).

Kotler and Keller (2012) said that satisfaction is a person's feelings of pleasure or disappointment that result from comparing a product's perceived performance to expectations. Whereas, customer satisfaction according to (Jahanshahi et al., 2011) customer satisfaction is the result of a customer's perception of the value received in a transaction or relationship. Kotler and Armstrong (2012) defined that "customer satisfaction is the extent to which a product's perceived Performance matches a buyer's expectations." Customer satisfaction consists of several indicators, namely loyalty, satisfaction, repurchase interest, small desire to make a complaint, the willingness to recommend the product, and the reputation of the company.

2.2. Empirical Review

2.2.1. Product quality

Customer perceived quality represents a key determinant of sustainable business success (Bartikowski et al., 2010). (Kumar et al.,2009) provides evidence of the positive impact of quality on company performance regarding the four domains of company performance studied, in particular employee relations participation and morale, operating procedures improved products and services quality and productivity, customer satisfaction reduced number of customer complaints and performance increased profitability.

(Karia & Hasmi, 2006) in their study of quality management practices in Malaysia found that they were positively correlated with employees' work-related attitudes such as job involvement, job satisfaction, career satisfaction and organizational commitment.

Although there is a clear contrast on the opinions of the specialists and scholars about the characteristics that distinct high-quality organization and their studies there is wide agreement on the importance of the role it plays in the success of these organizations and it's distinction form traditional organizations. The organization tends to rate the feeling of the consumer on the level of their product quality without rating their feelings on the organization itself. (Latif Atiyah, 2016)

2.2.2. Customer satisfaction

Asghar Afshar Jahanshahi (2011) discussed on his finding that, the product quality improvement increase customer satisfaction. Logical consequences when the customer is satisfied with the reliable product that emphasizes a standardized quality followed with an affordable price can increase the customer satisfaction, it appears in the interest of the buyers to repurchase over and over again. Customer satisfaction and loyalty are the most important factors that affect the organization. (Ismail Razak, 2016)

Customer satisfaction has a positive impact on the company's profit. Customer satisfaction is the foundation of every successful work, since customer satisfaction leads to repurchasing, and sharing positive feedback with other people to buy the product. Services presented for the customer has a positive impact thus, the organization gets the customer trust there is a close relation between service quality and the rate at which customers return to the company. (Latif Atiyah, 2016)

Based on the literature reviewed, it is recommended that strategic issues success factors (strategy, structure, organizational culture and management) and project related issue success factors (NPD

process, staff and Information) to be used to study and evaluate the implementation of NPD in the organization. On the other hand, (Garvin, 1987) and (Kotler and Keller, 2012) framework of the eight dimensions of product quality to be used in the research survey questionnaires to study and evaluate the implementation of product quality management in the organization. Hence, the following hypotheses were developed to test this phenomenon.

Hypotheses

H1 There is a direct relationship between Performance and Customer Satisfaction;

H2 There is a direct relationship between Features and Customer Satisfaction;

H3 There is a direct relationship between Reliability and Customer Satisfaction;

H4 There is a direct relationship between Conformance and Customer Satisfaction;

H5 There is a direct relationship between Durability and Customer Satisfaction;

H6 There is a direct relationship between Serviceability and Customer Satisfaction;

H7 There is a direct relationship between Aesthetics and Customer Satisfaction;

H8 There is a direct relationship between Perceived quality and Customer Satisfaction;

2.2.3. Empirical review on telecom product and services

The quality of mobile services on the global level is measured by GSMA (Global system Mobile Association) which has presented a number of indicators for the mobile phone service quality. According to Sutherland (2007) these indicators are access to network, service ease of access, service reliability and service retain ability. A study conducted in (2007) by Organization of Economic Cooperation and Development (OECD) elicited that the absence of accurate information about quality and lack of clear knowledge about the service charges affected the customer's behavior unpleasantly and highlighted that price and quality are two leading factors which are accountable for switching over to new services.

Through a Greek study by Sigala (2006), it was found that pleasant interaction between customers and staff, company's reputation, personalization and customization have an important role in the extents of service quality in telecom industry. Muhammad. A, Maria. I, Rashid. Z, (2014) through a research in Bangladesh showed that if service quality in the company is more than perceived indicates those customers are highly satisfied and loyal, they are ready to recommend others.

There is a significant relationship between reliability dimension of service quality and empathy with customer satisfaction in telecom sector of Pakistan (Muhammad. A, Maria. I, Rashid. Z,

2014). (Siew-Phaik Loke, Ayankunle Adegbite Taiwo, Hanisah Mat Salim, and Alan G. Downe, 2011) studies from Malesia indicated that reliability, responsiveness, assurance and empathy significantly positively influenced customer attitudes in terms of satisfaction and loyalty.

On the other hand Padma Yallapragada (2017) highlighted factors influencing customer satisfaction in telecom Industry of Dubai, it is concluded that price fairness and coverage are the key factors contributing towards customer satisfaction of University students very obvious that the companies should always continue to emphasize on price fairness and coverage for consumer satisfaction in telecom industry.

2.2.4. Global telecom trends

The telecommunications industry as a service provider, has gone through significant changes in recent years. “Rapid technology advances, deregulations and greater customer experience have increased pressure on telecom companies to offer new products into the market” (Robertson and Jones 1999). In the current space age, technological change advances in information and computing technologies in terms of hardware microprocessors, storage devices, etc. and software computation algorithms, databases, Internet, etc. have created continues effects and impacted every industry. Today, information is at everyone’s hand on a computer and mobile screen. Telecom systems and networks are connecting far and remote locations in the glob and play a significant role in the distribution of information and the progress of knowledge. The demand for different forms of communication, such as telephone, video calls, fax, email and Internet is steadily increasing and creating new business opportunities for telecom industry. (Beardsley et al. 2004).

According to GSMA (2018) business review evidence many operators are moving beyond their traditional telecom businesses to explore new opportunities in a fast changing competitive landscape focusing on areas of monitoring data traffic growth, content, device, cloud and big data analysis, IOT, machine to machine (M2M), and AI.

Monitoring data traffic growth benefit migrating customers to higher speed networks, use of shared & tiered data plans, bundling premium content, and sponsored data plans to access games & content services. **Content** such as providing non-broadcast TV, user generated video, video on demand, content view via mobile, operators developing content delivery platforms, direct to consumer distribution model, video accounts for majority of mobile data traffic are the major offer.

Device smartphone are proliferation, connected devices, internet access channels, augmented

technologies, and smart speakers that enhance telecom experience. **Cloud and big data analysis** are using smartphone & connected devices growth & use to generate huge data. Big data analytics increases the value of data & its use cases as providers of first-party data. Operators are well positioned to take advantage of these opportunities. Mobile advertising and big data analytics are use cases. **IOT & M2M** is estimated 25 billion IOT connections by 2025 which increasingly be commoditized and providing an end to end service. It will create big opportunity in enterprise as well as consumer segment. **AI** (artificial intelligence) enhances business and digital transformation drive autonomous and intelligent networks, improve customer experience through greater learning of their behavior, digital assistants, network planning, customer care and advertising AI as a service

Internet of things (IOT) market

As the size of the IOT market grows and the ecosystem matures, the business case for IOT is shifting from just connecting devices to addressing specific problems or needs with solutions. For operators, the risk is that they invest a lot of money to provide a great pipe without participating in the growth segments on top (applications, platforms and services). Mobile operators are therefore deploying different strategies and business models to better utilize the opportunity. Some of the actions taken by operators are expand platform capability beyond default connectivity platform to device management and application. Enablement platform capabilities to capture the revenue potential, make connectivity management platform, and providing end to end solutions.

In the core of digitalization, moving towards an age of automation supported by technology advancement

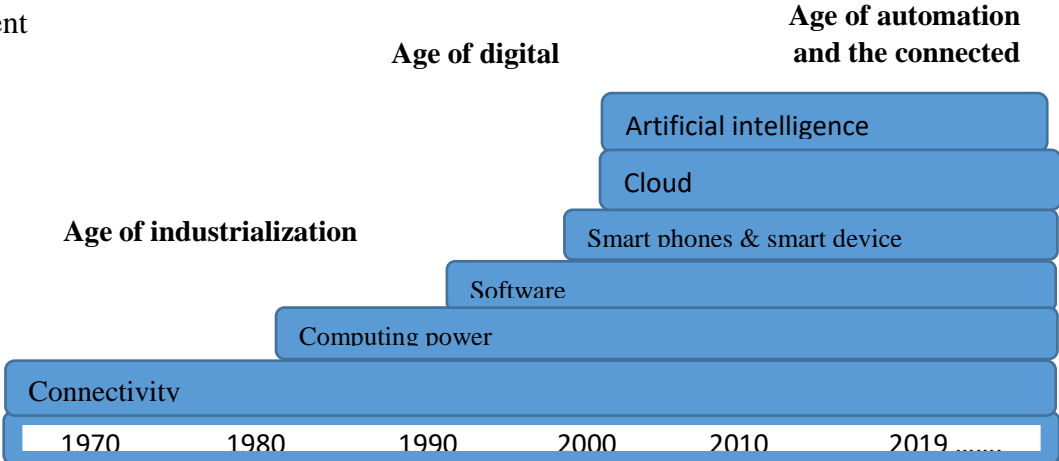


Fig 1. Global telecom trend, Source: GSMA business review February 2019

2.2.5. Conceptual framework

The conceptual framework developed based on the literature review. It indicates the crucial relationships between independent dependent variables, which is useful to show the effect of variables.

Independent variables

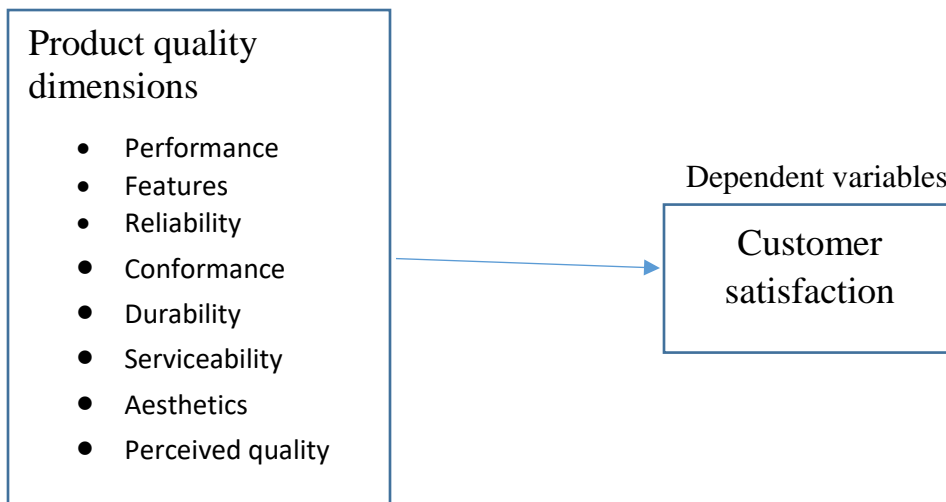


Fig 2. Conceptual framework

Source: researcher own design (2019)

CHAPTER THREE

RESEARCH DESIGN AND METHODOLOGY

3.1. Introduction

Research is defined as something that people undertake in order to find out things in a systematic way, thereby increasing their knowledge. The term methods refer to techniques and procedures used to obtain and analyze data whereas methodology refers to the theory of how research should be undertaken (Saunders, 2007).

3.2. Description of the Study Area

The study will be conducted at Telecommunication Company which is named ethio telecom. The study efforts on the product quality and customer satisfaction. The study area focused at ethio telecom customers at the capital city of the nation Addis Ababa.

3.1. Research Approach

There are two main research approaches that used for any research which is called deduction and induction. With deduction theory and hypotheses are developed and a research strategy designed to test the hypothesis. While with induction, data are collected and a theory developed as a result of the data analysis (Saunders, 2007). This research followed deductive research approach as the research questions and hypothesis developed and tested. It seeks systematical gathering and analyzing of relevant data in order to develop foundation for determination of effectiveness of product quality on customer satisfaction.

3.2. Research Design

The research design refers to the overall strategy that a researcher chooses to integrate the different components of the study in a coherent and logical way, thereby ensuring will effectively address the research problem. The classification of research purpose most often used in the research methods literature is the threefold one of exploratory, descriptive and explanatory (Kent, 2007).

The purpose of this research is to investigate the effect of product quality on customer satisfaction in the case company. Thus, the researcher employed a descriptive and an explanatory research (sequential explanatory strategy) design by using both quantitative and qualitative approaches in order to obtain the desired results and to explore detailed evidence about the problem. In research used both quantitative and qualitative method of research approach.

A research that focuses primarily on the construction of quantitative data follows a qualitative method (Kent, 2007).

A descriptive research method's main purpose is to describe the characteristics and details of the population (Robert K. Yin. (2014)). Therefore, to carry out the study to determine product quality factors and its relationship with the variables identified in the conceptual framework, quantitative primary data collection is proposed to be collected using survey questionnaires. The questioners distributed to customers of the case company.

3.3. Data source and Types

In order to collect the data from relevant source, primary and secondary data collection method deployed. The primary data collected through questioner methods. Whereas the secondary data collected from journals, articles, related research, company business plan and strategy archive hardcopy and soft copy documents, and websites.

3.4. Population and Sample

3.4.1. Population

The target population for this study is case company B2C customers.

3.4.2. Sampling

For some research questions it is possible to collect data from an entire population as it is of manageable size. However, research questions where it would be impossible to collect data from entire population, sample will be selected (Saunders, 2007). Therefore, questions focused on product quality and customer satisfaction distributed to case company customers selected samples at selected ethio telecom shop site at Addis Ababa.

3.4.3. Sampling technique

In order to attain the research objectives, probability simple random sampling employed for marketing team to select the representative samples. While for case company customer response because of the geographic dispersion and proximity of the population focused only on Addis Ababa Customers, nonprobability judgmental sampling technique used to select the members of the sample. The total population of this study is 41Million Thus, the following formula was applied in order to calculate the sample size to be representative of the population. The formula by (Yemane, 1967:886), as cited by (Israel Gelan. D, 1992) used to calculate the actual sample size.

In this study, the researcher used level of statistical significance or precision sampling error (e) has taken 5%, and then the sample size was determined as follows.

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

Where, n= sample size, N= population. e = tolerable error

$$\frac{41000000}{1 + 41000000(0.05)^2} = \text{Sample size} = 400$$

3.5. Data Collection Procedure

To collect the primary data the researcher distributed questioners to data collector friends and ethio telecom sales representatives. The questionnaire distributed for customers was collected through personal contact by the researcher and supported by friend and ethio staffs. For the secondary data business plan, market strategy, product roadmap, articles, journals, books and other relevant documents reviewed. The secondary data was reviewed online from internet, from the company website, books, and articles and shared folder.

3.6. Data collection instrument

The primary data collection instrument was survey (questioner distribution). The researcher practiced identification of background of respondent's telecom service usage, a detailed schedule with open and closed questions for information and for discerning opinions used.

The questionnaire consists 2 parts. The first one is the general information section contains the overall information of the respondents. The second part is the essential information section that covered the research questions on product quality and customer satisfaction distributed to case company customers. The designed questionnaires were adopted and modified from previous research work of (Shaheen Mansori 2018) the effects of product quality on customer satisfaction and loyalty. Furthermore the questioners translated to Amharic language by professionals. In the first section of the questionnaire nominal measurement scales were used to measure the general information of the respondents. While in the second section of the questionnaire rating scales of using a five-point Likert scale were used to measure the intensity of the respondents' attitude towards product quality and customer satisfaction.

3.7. Data analysis methods

The data obtained through surveying are analyzed statistically by descriptive and inferential analysis using SPSS software. Descriptive analysis refers to statistical describing aggregating & presenting the construction of association. While inferential analysis refers to the use of statistical

tests to see whether a pattern, observed is due to chance or due to the program or intervention effect and find out if there is relation between variables.

Used multivariate and bivariate techniques. Multivariate analysis assesses the relationships among three or more variables simultaneously. The most common multivariate analysis is regression analyses a single dependent variable and two or more independent variables. Bivariate analysis assesses the relationship between two variables. The most common bivariate statistics are correlation coefficients. (Phyllis. T, Ross. D, And Brian. C, 2007)

Accordingly, the researcher used descriptive analysis for the first part of the questionnaire and inferential analysis like correlation and regression for the second part of the questionnaire.

3.8. Reliability and validity

3.8.1. Reliability

Reliability tests the consistency and stability of a measurement instrument (Andy, 2006). There are different methods of reliability test, for this study Cronbach’s alpha reliability test is considered to be suitable. According to reliability statistics, Cronbach’s Alpha coefficient is as shown in the bellow table 3.1, which is acceptable based on different literatures. As described by Andy (2006) the values of Cronbach’s Alpha result should greater than 0.7. The Alpha value in this study is greater than 0.7 and therefore it is good and acceptable.

Table 1 Reliability Test Table

Variables	Cronbach's Alpha	N of Items
Performance	.763	3
Features	.918	3
Reliability	.882	3
Conformance	.887	3
Durability	.917	3
Aesthetics	.802	3
Serviceability	.890	3
Perceived quality	.896	3
Customer satisfaction	.763	7

Source: Survey result (2019)

3.8.2. Validity

Validity is concerned with the research measuring what it purport to measure and to approximate the acceptability of the results whether the research findings are really about what they appear to be about (Saunders, 2007). To preserve data integrity a great attention was put on designing of the questions and the structure of the questioner. It was also adopted and modified from previous research work of (Shaheen Mansori 2018) the effects of product quality on customer satisfaction and loyalty. Furthermore the questioners translated to Amharic language by professionals.

3.9. Research Ethics

Ethical research should consider the outset of the research. It concerns in all the stages of the research such as collecting the data, data accessing or analyzing the data. It associated with the power relationship between the researcher and those who accessed the data (Saunders, 2007)

The researcher will apply ethical cod promoted by the Ethiopian government and social values. Participants can consent, free from compulsion of outside pressure and they comprehend the risks and benefits involved.

CHAPTER FOUR

RESULTS AND DISCUSSIONS

Introduction

This chapter presents the analysis of the data and discussion of the result. In the first part the demographic data of the respondents presented and then analysis of collected data discussed. The data collected from respondents were analyzed and interpreted, based on the specific objectives and hypotheses of the study, using descriptive analysis, correlation analysis and regression analysis. The data analysis was undertaken with the help of a software Statistics Package for Social Sciences (IBM SPSS version 20).

4.1. General Information Analysis

Through personal, total of 400 questionnaires were distributed to customers of ethio telecom sample respondent, out of which 354 returned and 3 responses were discarded because they didn't answered most questions, so that 351 responses used which is 87% of responses.

Table 2 Frequency Distributions of Respondents demographic variable

Demographic variables		Frequency	Percent	Valid Percent	Cumulative Percent
Sex of respondents	Valid male	206	58.7	58.7	58.7
	female	145	41.3	41.3	100.0
	Total	351	100.0	100.0	
Age of respondents	Valid 14-22	30	8.5	8.5	8.5
	23-28	152	43.3	43.3	51.9
	29-39	100	28.5	28.5	80.3
	40-49	55	15.7	15.7	96.0
	>50	14	4.0	4.0	100.0
	Total	351	100.0	100.0	

			Frequency	Percent	Valid Percent	Cumulative Percent
Marital Status of respondents	Valid	Single	191	54.4	54.4	54.4
		Married	154	43.9	43.9	98.3
		Divorced	4	1.1	1.1	99.4
		Widowed	2	.6	.6	100.0
		Total	351	100.0	100.0	
Education background	Valid	1-8	52	14.8	14.8	14.8
		9-12	44	12.5	12.5	27.4
		Level	104	29.6	29.6	57.0
		BA/BSC	124	35.3	35.3	92.3
		MA/MSC/MBA	26	7.4	7.4	99.7
		PHD	1	.3	.3	100.0
		Total	351	100.0	100.0	
			Frequency	Percent	Valid Percent	Cumulative Percent
Occupation status of respondents	Valid	employe d	236	67.2	67.2	67.2
		Self-employe d	56	16.0	16.0	83.2
		student	32	9.1	9.1	92.3
		other	27	7.7	7.7	100.0
		Total	351	100.0	100.0	

Source: survey result (2019)

4.1.1. Gender

Gender allocation of the respondents from the ethio telecom customer's representative which the research was conducted indicated on table 2 as it is indicated 58.7% were male and 41.3% were female respondents.

4.1.2. Age

According to table 2, the age of majority respondent customers has been between 23 and 28 years old that shares 43.3% followed by 23-39 years old which denoted 28.5%. And the remaining 14.3% were 18 to 29 years old. The lowest age group found >50 years old 4% and 14-22 years old 8.5%. The age between 40-49 is 15.7%. This indicates that ethio telecom has a young and adult age group customers.

4.1.3. Marital Status

As shown on Table 4.1, the marital status of the respondent was single 54.4%, Married 43.9%, divorced 1.1% and widowed 0.6% respondents.

4.1.4. Educational Background

As indicated on table 2, the respondents' education qualification levels confirm 35.3% were first degree holders, followed by Level (29.6%) and grade 9-12 (12.5%), grade 1-8 is (14.8%). The lowest score concerning education status is 2nd degree which accounts 7.4%. There was only one (0.3%) respondent educated at PHD level.

4.1.5. Occupation

As shown on Table 4.5, the respondents' occupation confirmed 67.2% employed, 16% self-employed, 9.1% student and the remaining 7.7% are unemployed. This shows the highest number of telecom service customers in Addis Abeba are employed.

4.1.6. Monthly Income

As described in Table 3, 33.6% of the respondents have monthly income from 5000 to 10000birr, the second largest group 26.5% is from 3500 to 5000birr.the third group 18.5% have income from 2500 to 3500irr. The fourth group 11.4% have income between 10000 to 30000birr. 5.7% of the

respondents have monthly income greater than 30000birr. Income below 1000 and income from 1000 to 2500 is taken 1.4% of respondents for each. The remaining 1.4% is missed data.

Table 3 Frequency Distributions of Respondents Income

		Frequency	Percent	Valid Percent	Cumulative Percent
Monthly income	Valid <1000	5	1.4	1.4	1.4
	1000-2500	5	1.4	1.4	2.9
	2500-3500	65	18.5	18.8	21.7
	3500-5000	93	26.5	26.9	48.6
	5000-10000	118	33.6	34.1	82.7
	10000-30000	40	11.4	11.6	94.2
	>30000	20	5.7	5.8	100.0
	Total	346	98.6	100.0	
	Missing System	5	1.4		
Total	351	100.0			

Source: Survey result (2019)

4.1.7. Monthly expenditure for telecom service

As described in Table 4, the majority of the respondents (50.4%) have 100 to 250birr monthly expenditure for telecom service followed by monthly expenditure from 2500 to 1000 birr 18.2% from 50 to 100birr 15.4%. the lowest percentage respondents for the expenditure is between 1000 to 5000 birr. 2.3% of the respondents have greater than 5000 monthly expenditure for telecom service. This shows half of the respondent's monthly expenditure for telecom service were from 100 to 250birr.

Table 4 Frequency Distributions of Respondents Expenditure for Telecom services

		Frequency	Percent	Valid Percent	Cumulative Percent
Monthly expenditure for telecom service	Valid <30	6	1.7	1.7	1.7
	30-50	37	10.5	10.5	12.3
	50-100	54	15.4	15.4	27.6
	100-250	177	50.4	50.4	78.1
	250-1000	64	18.2	18.2	96.3
	1000-5000	5	1.4	1.4	97.7
	>5000	8	2.3	2.3	100.0
	Total	351	100.0	100.0	

Source: Survey result (2019)

4.1.8. Telecom product and service usage

From the collected data as showed on the chart. The majority of respondents (70.94%) were all offers user, i.e. voice call, Internet service, subscribe device and value added service user. 19.66% use only voice call, 9.4% use only voice and Internet services.

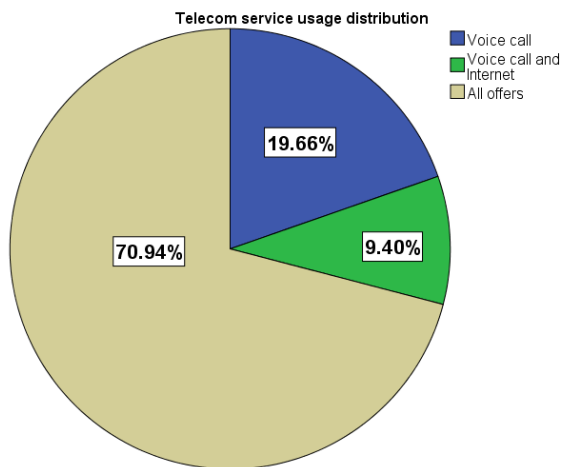


Fig 3. Telecom product and service usage

Source: Survey result (2019)

4.1.9. Network mode

Based on the collected data the network connectivity mode used by the respondent indicated that the majority 66.10% use 3G network mode on their mobile.

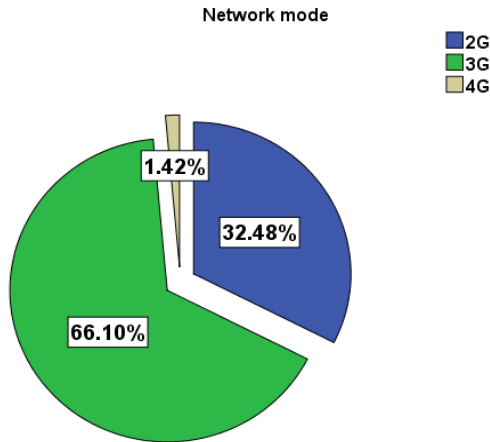


Fig 4. Network connectivity mode preference

Source: Survey data (2019)

4.1.10. Mobile device type

As shown on the Bar chart 64.1% (225) of the respondents use Smart phone device, 30.8% (108) of the respondents use feature phone devices, 4% (14) use tablet and phablet devices, and the remaining 1.1% (4) use other type of devices.

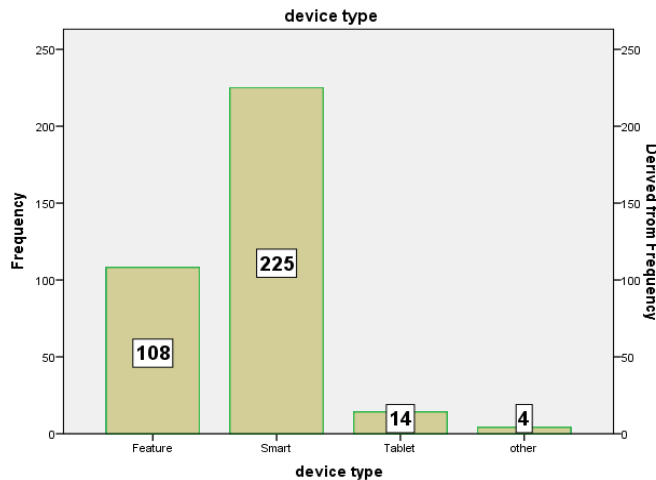


Fig 5. Device type using for, Source: Survey result (2019)

4.2. Correlation Analysis between Dependent and Independent variables

Correlation analysis is a very useful means to measure the linear association between two variables with a single number that falls between -1 and +1 (Taylor, 1990). Pearson correlation test was done to test the strength of a linear association between the variables.

As shown on table 5, Pearson correlation, the highest positive correlation coefficient denoted between product conformance and durability (.585) indicates that there is a statistically significant ($p < .001$) linear relationship between these two variables such that the more conformance a product has, the more that durable. The second highest positive correlation observed that there is a statistically significant ($p < .001$) positive correlation coefficient (.555) for the association between reliability and conformance of product, indicating that the linear relationship between these two variables which the values of one variable increase as the other increases. The third correlation coefficient (.541) also indicates a positive association between product feature and durability at ($p < .001$) positive level of significance. On the other hand insignificant correlation (.098) for the association between performance and serviceability.

Aesthetics has the highest correlation coefficient in relation to customer satisfaction which is 0.501. This indicates that aesthetics has significant positive relationship with effectiveness of customer satisfaction. Durability, conformance, reliability, perceived quality, feature, performance, and serviceability have a correlation coefficient of 0.476, 0.426, .364, 0.346, 0.319, 0.311, and 0.287 respectively at 0.01 level of significant. This also implies that performance, feature, reliability, conformance, durability, aesthetics, serviceability, and perceived quality have effect on the effectiveness of customer satisfaction with the level of 0.01 significance.

According to Ratner (2009) when interpreting correlation coefficient 'r' value ranging from 0-0.3 indicates a weak positive and 0.3-0.7 indicates moderately positive relationship. Therefore, the research finding indicates that serviceability has a weak positive correlation with customer satisfaction. And the remaining six independent variables (performance, feature, reliability, conformance, durability, aesthetics, and perceived quality) have moderately positive correlation with the dependent variable customer satisfaction. The detail correlation analysis output is summarized on the below table.

Table 5. Pearson correlation table (Correlation Matrix with dependent variables)

Correlations									
	Perfor mance	Featu re	Relia bility	Conf orma nce	Dura bility	Aesth etics	Servicea bility	Percei ved quality	Customer satisfacti on
Performance	1								
Feature	.206**	1							
Reliability	.348**	.354**	1						
Conformance	.303**	.522**	.555**	1					
Durability	.265**	.541**	.432**	.585**	1				
Aesthetics	.406**	.455**	.532**	.439**	.424**	1			
Serviceability	.098	.334**	.343**	.296**	.281**	.418**	1		
Perceived quality	.176**	.379**	.371**	.353**	.265**	.383**	.335**	1	
Customer satisfaction	.311**	.319**	.364**	.426**	.476**	.499**	.287**	.346**	1

Source: Survey result (2019)

4.3. Regression Analysis

The following eight hypotheses were formulated on the basis of previous research literature review, and based on (Garvin, 1987) and (Kotler and Keller, 2012) framework of the eight dimensions of product quality.

H1 There is a direct relationship between Performance and Customer Satisfaction

H2 There is a direct relationship between Features and Customer Satisfaction

H3 There is a direct relationship between Reliability and Customer Satisfaction

H4 There is a direct relationship between Conformance and Customer Satisfaction

H5 There is a direct relationship between Durability and Customer Satisfaction

H6 There is a direct relationship between Serviceability and Customer Satisfaction

H7 There is a direct relationship between Aesthetics and Customer Satisfaction

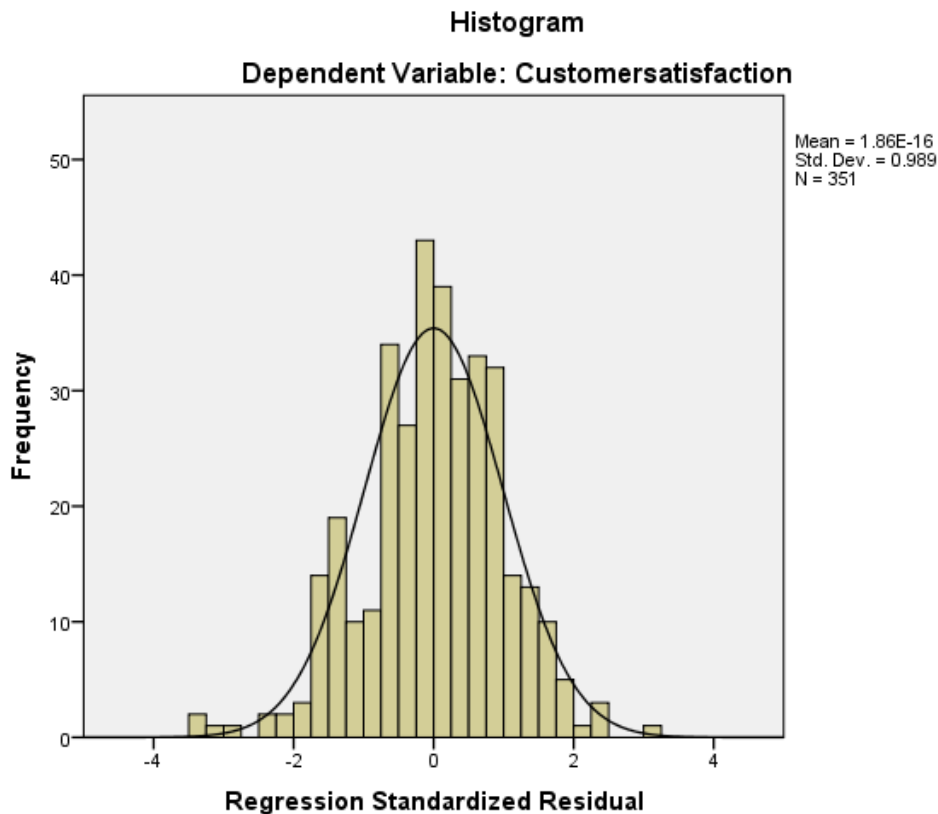
H8 There is a direct relationship between Perceived quality and Customer Satisfaction

Before conducting a multiple regression analysis, normality and linearity of the dependent variable and multi-collinearity test of independent variables were tested. The following tests were conducted in order to ensure the appropriateness of data to assumptions of regression analysis to test determinants of effectiveness of customer satisfaction. Having normal distribution is the key assumption of linear regression (Kothari 2004).

4.3.1. Normality test

In order to conduct hypothesis test about the model parameter, the normality assumption must be fulfilled. The normality assumption is about the mean of the residuals is zero (normality of the error distribution). In this study, the normality of the data was checked as shown in fig.6, the histogram is bell-shaped, which tip to infer that the residual are normally distributed. Meaning the residual mean is zero and standard deviation approaches zero. Thus, no violations of the assumption normally distributed error term.

Fig 6. Normality Test

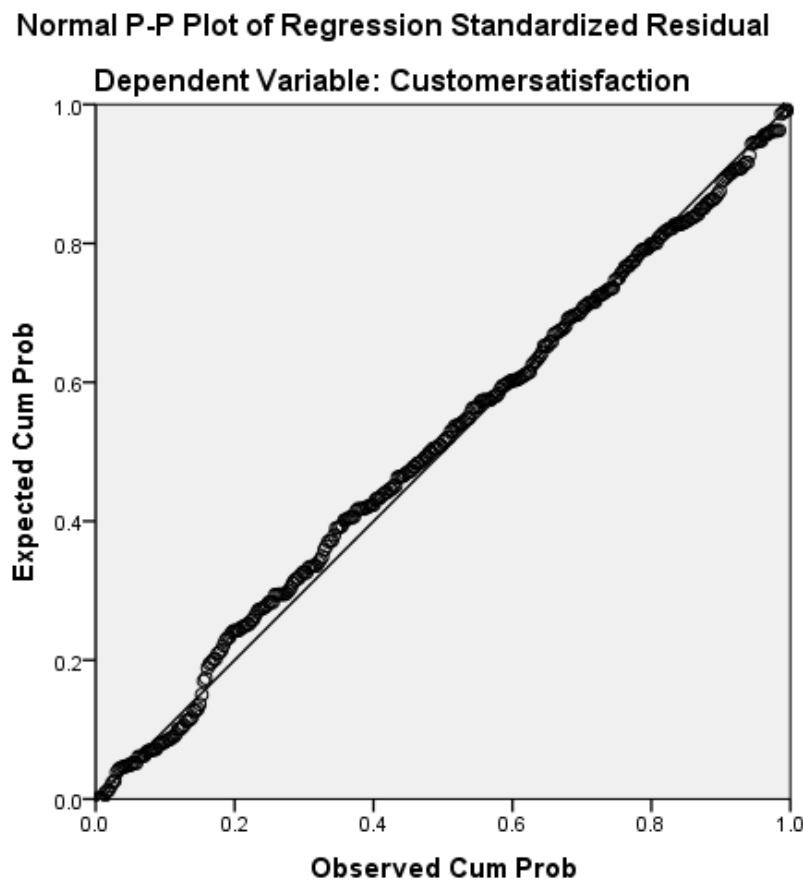


Source: Survey data (2019)

4.3.2. Linearity test

Linearity is the assumptions which explain the use of linear regression models for the purpose of prediction. It shows the degree to which the change in the dependent variable is related to the change in the independent variables. Linearity of the relationship between dependent and independent variables is most evident in a plot of residual versus predicted values of the part of standard regression output. Fig. 7 shows the plot of standard regression output of the study indicating linearity of the relationship between customer satisfaction (dependent variable) and performance, feature, reliability, conformance, durability, serviceability, aesthetics, and perceived quality (Independent variables). The painted graph here under describes that the relationship is linear. Hence the normality assumption is satisfied as essential and it is possible to conclude that the inferences of the researcher will made about the population parameter from the sample is valid.

Fig 7. Linearity Test



Source: Survey data (2019)

4.3.3. Multicollinearity test

Multicollinearity is a situation that occurs when some predictor variables in the model are correlated with other predictor variables. To measure multicollinearity, it is possible to examine the variance inflation factors (VIF). VIF measure how much the variance of an estimated regression coefficient increases if predictors are correlated. VIF values shall not be greater than 10 than 0.1, and any VIF values 5 -10 implies the associated regression coefficients are poorly estimated because of multicollinearity. Plus the value of tolerance should be greater than 0.1. Table 6of collinearity statistics of the study output shows that all VIF measures of each predictor variables do not fall neither above ten nor between 5 to 10, and the tolerance value is greater than 0.1. This indicate that there is no serious problem of multicollinearity between independent variables. Therefore, all the variables were retained for use in the estimation.

Table 6. Multi-collinearity test output

Coefficients^a

Model	Collinearity Statistics	
	Tolerance	VIF
1 (Constant)		
Performance	.789	1.267
Feature	.577	1.732
Reliability	.557	1.794
Conformance	.501	1.997
Durability	.561	1.781
Aesthetics	.542	1.846
Serviceability	.755	1.324
perceived quality	.749	1.334

a. Dependent Variable: Customer satisfaction

Source: Survey data (2019)

4.3.4. Model Summery

The value R Square in Table 7 indicate that there is almost 37% variation in the dependent variable (customer satisfaction) due to one unit change in independent variables (product Performance, feature, reliability, conformance, durability, aesthetics, serviceability, and perceived quality)

Table 7: Model summery of multiple regression analysis

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.608 ^a	.370	.355	.37563

a. Predictors: (Constant), perceived quality, Performance, Serviceability, Durability, Reliability, Feature, Aesthetics, Conformance

b. Dependent Variable: Customer satisfaction

As indicated on table 7 the value R-square measures the goodness of fit of the independent variables (product Performance, feature, reliability, conformance, durability, aesthetics, serviceability, and perceived quality) in explaining the variations in effectiveness of customer satisfaction. Adjusted R-square measures the proportion of the total variation in dependent variable explained by the regression model. As shown on table 7, the adjusted R-square value of 0.355 implies that the independent variables in this study explain about 35.5% of the variation in the level of customer satisfaction. This indicates that the remaining 64.5% of variation in affecting customer satisfaction is explained by other variables which are not included in the model.

4.3.5. ANOVA Test

From the ANOVA test table 8 bellow, the significant value 0.01 is greater than the calculated significant value 0.000. It reflects that there was a statistically significant correlation between dependent variable and independent variables at 1% significant level. The F statistics (25.125) which used to measure the overall test of significance of the model is presented (>5) and P-value 0.000 is sufficiently low (significant < 0.05). This implies that the independent variables (product

Performance, feature, reliability, conformance, durability, aesthetics, serviceability, and perceived quality) have contribution to customer satisfaction enhancement and the model is well fitted at 1 percent level of significance.

Table 8: ANOVA Table

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	28.362	8	3.545	25.125	.000 ^b
	Residual	48.257	342	.141		
	Total	76.618	350			

a. Dependent Variable: Customer satisfaction

b. Predictors: (Constant), perceived quality, Performance, Serviceability, Durability, Reliability, Feature, Aesthetics, Conformance

Source: Survey data (2019)

4.3.6. Hypothesis Testing

Regression Coefficient Analysis of the Model, Coefficient Estimation and P-value.

The regression result described on table 9 shows the effect of of the independent variables on the customer satisfaction of ethio telecom. Out of the eight product quality dimensions, product aesthetics has the most significant influence on customer satisfaction with $\beta = 0.184$, $T = 4.856$ and $P = .000$. This implies that if things remain constant, for a one unit increase in product aesthetic results in 0.184 unit increase of customer satisfaction at 1 percent level of significance. The second most influencing independent variable is product durability with $\beta = 0.166$, $T = 4.929$ and $P = .000$. This implies that other if things remain constant, for a one unit increase in product durability results in 0.166 unit increase of customer satisfaction at 1 percent level of significance. Product durability T value is the highest one from the rest independent variables implying it have the strongest effect on customer satisfaction than the other seven. The other independent variable effect the dependent variable is the product perceived quality which has the significant effect on customer satisfaction

with $\beta = 0.082$, $T = 2.866$ and $P = .004$. This implies that other if things remain constant, for a one unit increase in product quality from perceived quality results in 0.082 unit increase of customer satisfaction at 1 percent level of significance.

This means from the customer's point of view, product aesthetic, durability and perceived quality are the most important dimension of eight independent variables (product quality dimensions) in the context of customer satisfaction.

The output results from the table 9 of 351 samples show that hypotheses 1,2,3, 4 and 7 are not supported as the calculated p-values are more than 0.05 (H1 'p' value of product performance on the customer satisfaction is 0.067, H2 'p' value product features customer satisfaction is 0.083, H3 'p' value of product reliability on customer satisfaction is 0.511, H4 'p' value of product conformance on customer satisfaction is 0.051, and H7 'p' value of product serviceability on customer satisfaction is 0.380).

Table9 Regression coefficient analysis of the model

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.941	.141		13.759	.000
	Performance	.050	.027	.089	1.840	.067
	Feature	-.057	.033	-.098	-1.738	.083
	Reliability	-.022	.034	-.038	-.658	.511
	Conformance	.069	.035	.119	1.956	.051
	Durability	.166	.034	.282	4.929	.000
	Aesthetics	.184	.038	.283	4.856	.000
	Serviceability	.026	.030	.043	.880	.380
	Perceived quality	.082	.029	.142	2.866	.004

a. Dependent Variable: Customer satisfaction

Source: Survey data (2019)

Except the output of serviceability the study result shows the same result with previous research done by Shaheen Mansori (2018) on the effect of product quality on customer satisfaction and loyalty from Malaysia. Besides America journal of international business (Juwita. S, Sukaria. S, and Khaira. F. 2019) the study on the effect of product quality on customer satisfaction and loyalty shows that Performance, Durability, perceived quality has positive significant impact on customer satisfaction. While feature, serviceability and conformance has insignificant effect on customer satisfaction. Significant positive relationship between reliability and empathy dimension of service quality with customer satisfaction in telecom sector of Pakistan. (Muhammad. A, Maria. I, Rashid. Z, 2014)

4.3.7. Hypothesis Test Result Summary

Table 10: Hypothesis Test Result Summary

Hypothesis		Result
	Performance	Not supported
H2	Feature	Not supported
H3	Reliability	Not supported
H4	Conformance	Not supported
H5	Durability	Supported
H6	Aesthetic	Supported
H7	Serviceability	Not supported
H8	Perceived quality	Supported

Source: Survey data (2019)

Therefore, based on the research output of p value result, the three hypothesis (H5, H6, and H8) are supported. However the remaining 5 hypothesis are not supported (H1, H2, H3, H4, and H7). A possible reason for this could be due to the difference in emphasis of the focus on cost as their main priority. This is in line with the findings of Saleki and Sayedsaleki (2012). To improve Customer Satisfaction, the following issues have been highlighted by the customers as the area of importance, namely a network quality, diversified products, responsiveness to service maintenance that enhance product and service quality in terms of serviceability, perceived quality, and conformance. Customer's representatives highlighted ethio telecom shall invest on innovative and attractive products.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATION

Introduction

This chapter will give summary of the findings, conclusion of the research, recommendation and future area of research regarding product quality and customer satisfaction.

5.1. Summary of the Findings

In this section, based on the finding of the study summary and conclusions are drawn and possible recommendations are forwarded. As stated in chapter one the purpose of this study was to investigate the effect of product quality on customer satisfaction, and specifically to give answer for the eight quality dimension research questions. In attempt to answer the research questions, the researcher targeted customers of ethio telecom focus area in Addis Ababa, and gathered 351 useable filled out survey collected through personal data collectors.

Accordingly, the respondents gender percentage composition were almost fairly distributed that both genders were involved highly in the study. The age ranges of the respondents were comprised of heterogeneous group (with 43.3% of them aged 23 to 28 years, followed by the age between 29 to 39 years) which in turn enabled the researcher to get varied response across the sample unit. From the respondent 54.4% are single marital status. 35.3% of the respondents are first degree holder. The occupation status showed 67.2% of the respondents are employed. Respondent's monthly income showed 34.1% of them have a monthly income between 5000 to 10000. From their income 50.4% of the respondents spent monthly from 100 to 250 birr for telecom service.

From the respondent 70.94% were using all offers i.e. voice call, Internet, buy device from ethio telecom and value added services together. 66.10% of the respondents use 3G network mode for their voice and data connectivity. Among the respondents 64.1% were using smart phone mobile device. This indicates the respondents have the access to use all offers of ethio telecom from their mobile devices.

The regression summary model indicates adjusted R square value of 0.355 signifying that independent variables of the study explain about 35.5% of the variation in the level of dependent variable and the rest 64.5% variation is explained by other variables which is not included in the model.

Results indicate that Durability, Aesthetic and Perceived quality has the highest impact on customer satisfaction. The results also indicate that Performance, Features, Reliability, Conformance and Serviceability have influence on satisfaction but this relationship is not significant. A possible explanation for this could be due to the customer's attention towards the cost of products. This is lined with the finding of Shaheen Mansori (2018), and with the findings of Saleki and Sayedsaleki (2012) that price influences purchasing behavior.

The strongest effect on customer satisfaction comes from Aesthetics, followed by durability of product and services.

5.2. Conclusion

The study aims to answer the effect of product quality on customer satisfaction using the eight product quality dimensions.

Based on the results of the research and discussion, conclusions are drawn. Product performance variables have insignificant effect on customer satisfaction. Feature variables have no significant effect on customer satisfaction and have no direct effect on customer satisfaction. Product reliability variables have no significant effect on customer satisfaction and have no direct effect on customer satisfaction. Product conformity variables have no direct effect on customer satisfaction and have no significant effect on customer satisfaction. Product durability variables have a positive and significant effect on customer satisfaction and durability effectiveness of 0.282 to customer satisfaction. Aesthetic variables have a positive and significant effect on customer satisfaction and direct effectiveness of 0.283 to customer satisfaction. Serviceability variables have no significant effect on customer satisfaction. Perceived quality variables have a positive and significant effect on customer satisfaction, and perceived the quality direct effectiveness of 0.142 to customer satisfaction. The highest variables of influence on customer satisfaction are product durability and aesthetics variables followed by perceived quality variable.

5.3. Recommendation

As discussed in chapter one and two, while operating in a fast moving, evolving and dynamic telecom industry, as the flow of information and communication gets more real time from their fingertip and have a great impact on the users, satisfying customers will provide ways to sustain

ethio telecom. Based on the findings established during the course of this study, the researcher recommended to the issues identified during the discussion.

The recommendations may apply to ethio telecom depending on management's approach to the problems.

The descriptive statistics of the study shows that, 70.94% of the company's customers are using all offers of ethio telecom (voice call, Internet, buy devices and value added services) which 66.10% of them use 3G Network mode connectivity, and 64.10% use Smart phone device. This shows that ethio telecom has a huge opportunity to offer more products and services to its customers hence majority off them use all offers, use 3G network mode and smart phone device. Thus the researcher recommends the company to devote more time and resource to fully understand the behavior and demand of product and services to find their interest and create value for the customers.

Also 50.4% of the customers have a monthly expenditure from 100 to 250birr for telecom services. The researcher recommends that the company has to figure out the best way to improve customer's consumption by providing offers to the customers.

Companies should strive for to develop products based on the concepts of innovation in order to create value for the customers by improving on the aspects of the product quality that have been identified by the study and move beyond connectivity to digitalization by providing IOT (internet of things) and M2M (Machine to Machine) technology offers. The product development may require research and development for the products that meet the demand of the customers and on the future needs of the market. Beyond this the company should work on internal success factors for new product development to enhance the product quality.

Based on the study findings, the predictor variables studied explains only 35.5% of the variance in the dependent variable, Aesthetics, reliability and perceived quality are found to be the significant determinant factors on effectiveness of customer satisfaction. In order to enhance this, the researcher recommends that, ethio telecom has to understand preferences are different for product quality from customer to customer therefore ethio telecom shall focus on individual market rather than mass market. Plus, ethio telecom should provide a platform for its customers to speak their demand to use for product development.

Recommendation for future research

A judgmental sampling was undertaken to gather the customer's feedback. It may be challenging to expect a higher response rate as respondents may not entirely understand the value of the research, thus limiting their efforts participation. Recommendation for future research can be made to address the problems. Predicting variables that are explaining 64.5% of variance in effect of customer satisfaction are not discussed in this study. Thus the researcher recommends future researchers to consider these variable on their study. Furthermore, the study was conducted only from customer perspective who are living in Addis Ababa. Therefore, the researcher recommends future researchers to include from the organization perspective and take the sample at nationwide level.

Performance, feature, reliability, conformance and serviceability resulted insignificant effect on customer satisfaction, therefore, the researcher recommends future researcher to explore more insights and justify the results using qualitative approach.

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APPENDIXES

Appendix 1

QUESTIONNAIRE

Addis Ababa University, School of Commerce

Thank you for your willingness to participate in this study related to ethio telecom product and service quality and customer satisfaction. The purpose of this questionnaire is to enable me to carry out a research for the partial fulfillment of master's degree in marketing management.

Unfortunately, I have a very tight schedule. So, I kindly request your swift response to enable me to complete this research within my tight schedule.

Your cooperation and prompt response is highly appreciated.

General Instructions

There is no need of writing your name

Product refers voice call, SMS, Internet, device, Value added service like CRBT, airtime credit, conference call, call me back etc.

Part One: General Information

1. Gender

Male Female

2. Age

14-22 23-28 29-39 40 -49 over 50

3. Marital Status

Single Married Divorced Widowed

4. Educational Background

Not educated 1-8 9-12 Level

BA/BSC MA/MSC/MBA PHD

5. Your monthly income in birr <1000 1000-2500 2500- 3500 3500-5000

5000- 10000 10000-30000 >30000

6. Your monthly expenditure in birr for telecom service. <30 30 – 50 50-100
 100-250 250-1000 1000 -5000 >5000
7. Your occupation: Employed self-employed student other
8. What telecom service you used?
 Fixed telephone or mobile voice Internet Value added services (CRBT, conference call, airtime creditor, call me back, other) Device both voice call & internet
 all offers
9. Which network connectivity mode you are using for your mobile service? 2G 3G 4G
10. What type of mobile phone you are using? Feature smart tablet Other

Part two: Research questions

Mark ‘√’ in the extent of your agreement or disagreement with the following statements in relation to Product and service quality, and customer satisfaction.

The scale refers to the following: 1 =Strongly Disagree, 2=Disagree; 3=Do not agree or disagree; 4=Agree; and, 5=Strongly Agree

	Product quality					
	Performance	1	2	3	4	5
1	Product and service performance is important to me					
2	Product and service performance always meets my expectations					
	Product and service performance meets the technology standard					
	Features					
3	Product and service features is what I need for my operation					
4	Product and service features are desirable & useful					
	Product and service features are innovative and simple					
	Reliability					
5	Product and service reliability can meet my needs					
6	Product and service is always reliable					
	Promised product and service dependably and accurately reliable					
	Conformance					
7	Product conformance can meet my needs					
8	Product always conforms to needs					

	Product and service is always meets the promised standards					
	Durability					
9	Product durability is important to me					
10	Product is always durable					
	Product and service is always meets the promised durability					
	Aesthetics					
11	Product aesthetics is important to me					
12	Product is aesthetic					
	Product and service aesthetics is innovative and simple for use					
	Serviceability					
13	Product and service serviceability speed is important to me					
14	Product and service has high level of serviceability easiness					
	Product and service has cost effective serviceability					
	Perceived Quality					
15	Product and service quality can meet my standards					
16	Product and service has high quality					
	Product and service has technology standard quality					
	Satisfaction					
17	Ethio telecom has a strong focus on its customers					
18	Product design differentiates it to meet customer requirement					
19	Employees are motivated to serve its customers					
20	Top managements are committed to customer satisfaction					
21	Engages in continual monitoring of its customer satisfaction activities					
22	Engages in a continuous improvement cycle					
23	Engages in activities to add value to its customers					

Thank you!

Appendix 2

መጠይቅ

አዲስ አበባ ዩኒቨርሲቲ፣ ንግድ ስራ ኮሌጅ

በእንደአጋጣሚ በኢትዮ ቴሌኮም ምርት እና አገልግሎቶች ጥራት እና የድንበኞች እርካታ ጥናት ላይ ለመሳተፍ ፍቃደኛ በመሆንዎ እጅግ አድርጌ አመሰግናለሁ። የጥናቱ ዋና አላማ በማረኬቲንግ ማኔጅመንት የሁለተኛ ዲግሪ ማሟያ የመመረቂያ ጽሁፍ ለማዘጋጀት ነው።

ሆኖ ያለኝ ጊዜ አጭር ነው። በመሆኑም ጥናቱን በአጭር ጊዜ አጠናቅቅ ዘንድ የእርስዎን ፈጣን ምላሽ እጠብቃለሁ። ለመልካት ትብብርዎ እና ፈጣን ምላሽዎ እጅግ አድርጌ አመሰግናለሁ!

አጠቃላይ መመሪያ

- ስምዎንን መጻፍ አይጠበቅብዎትም
- ምርት እና አገልግሎት ማለት፣ የመደወል አገልግሎት፣ የጽሁፍ መልእክት አገልግሎት፣ ኢንተርኔት፣ ተጨማሪ አገልግሎቶች እንደ ጥሪ ማሳመሪያ፣ የካርድ ብድር፣ ኮንፍረንስ ደወል፣ መልሰው ይደውሉልኝ እና ሌሎች ።

ክፍል አንድ: አጠቃላይ መረጃ

1. ጾታ

ወንድ ሴት

2. ዕድሜ

14-22 23-28 29-39 40-49 ከ50 በላይ

3. የትዳር ሁኔታ

ያላገባ/ች ያገባ/ች ከትዳር አጋርጋር የተለያዩ/ች የትዳር አጋር በህይወት የሌለ

4. የትምህር ደረጃ

ያልተማረ/ች ከ1-8 ከ9-12 ዲፕሎማ

የመጀመሪያ ዲግሪ ሁለተኛ ዲግሪ ዶክትሬት

5. ወርሃዊ ገቢዎ በብር <1000 1000-2500 2500- 3500 3500-5000 5000- 10000
10000-30000 >30000
6. ወርሃዊ የቴሌኮም አገልግሎት ወጪዎ በብር. <30 30 – 50 50-100 100-250
250-1000 1000 -5000 >5000
7. የሥራ ሁኔታዎ: ተቀጣሪ የግል ስራ ተማሪ ስራ ፈላጊ
8. የሚጠቀሙት የቴሌኮም አገልግሎት
በመደበኛ እና በሞባል መደወል ኢንተርኔት ተጨማሪ አገልግሎቶች (የጥሪ ማሳመሪያ,
ኮንፍረንስ ጥሪ, የአየር ሰዓት ብድር, መልሰው ይደውሉልኝ እና ሌሎች) ቀጽ መግዛት
መደወል እና ኢንተርኔት መጠቀም ሁሉንም አገልግሎቶች
9. የትኛውን ኔትዎርክ ይጠቀማሉ? 2ጂ 3ጂ 4ጂ
10. የሚጠቀሙት የሞባል ቀጽ፤ ስክሪን ተች ያልሆነ ስክሪን ተች ሞባይል ታብሌት/ፋብሌት
ሌላ

Part two: Research questions

ከምርቱ እና አገልግሎት ጥራት፣ እና ከደንበኞች እርካታ ጋር በተያያዘ ከዚህ በታች በተዘረዘሩት ዓረፍተ ነገሮች ላይ ስምምነትዎን ወይም አለመስማማትዎን ‘√’ ምልክት በማድረግ ይግለጹ።
የመለኪያ መጠኑም እንደሚከተለው ይሆናል

1 = በጣም አልስማማም፣ 2 = አልስማማም፣ 3 = ገለልተኛ ሃሳብ፣ 4 = እስማማለሁ እና 5 = በጣም እስማማለሁ

የምርት ጥራት						
	ብቃት	1	2	3	4	5
1	የምርት እና አገልግሎቶች ብቃት ለእኔ በጣም አስፈላጊ ነው					
2	የምርት እና አገልግሎቶች ብቃት ሁልጊዜ እኔ የምፈልገውን/የጠበኩትን ያሟላል					
	የምርት እና አገልግሎቶች ብቃት የቴክኖሎጂ ደረጃውን የጠበቀ ነው					
ይዘት						
3	የምርትና አገልግሎቶች ይዘት ለስራዬ በምፈልገው ልክ ነው					
4	የምርት እና አገልግሎቶች ይዘት ተፈላጊ እና ጠቃሚ ናቸው					
	የምርት እና አገልግሎቶች ይዘት ፈጠራ የታከለበት እና ቀላል ናቸው					

	አስተማማኝነት					
5	የምርት እና አገልግሎቶቹ አስተማማኝነት ፍላጎቱን ያሟላሉ					
6	ምርት እና አገልግሎቶቹ ሁልጊዜ አስተማማኝ ናቸው					
	ምርቱ ወይም አገልግሎቱ ሊሰጠው የሚገባውን አገልግሎት ያለማቋረጥ እና በትክክለኛነት ይሰጣል					
	ተስማሚነት /መጣጣም					
7	የምርቱ እና አገልግሎት ተስማሚነት ፍላጎቶቹን ያሟላል					
8	የምርት እና አገልግሎቱ ተስማሚነት ሁልጊዜ ፍላጎትን ያማከለ ነው					
	የምርት እና አገልግሎቶች ተስማሚነት ሁልጊዜ የሚጠበቅበትን መስፈርቶች ያሟላል					
	ጥንካሬ /የአገልግሎት ቆይታ ጊዜ					
9	የምርት ጥንካሬ ወይም የአገልግሎቶች ቆይታ ጊዜ ለእኔ ጠቃሚ ነው					
10	ምርቱ ሁልጊዜ የሚበረክት ወይም ጥሩ የአገልግሎት ቆይታ ጊዜ አለው					
	ምርት እና አገልግሎቶች ሁልጊዜ የሚጠበቅበትን ጥንካሬ ወይም የአገልግሎት ቆይታ ጊዜ ያሟላል					
	ውበት					
11	የምርት እና አገልግሎቶቹ ዲዛይን ውበት ለእኔ ጠቃሚ ነው					
12	የምርት እና አገልግሎቶቹ ዲዛይን ሳቢ ነው					
	የምርት እና አገልግሎቶቹ ዲዛይን ፈጠራ የታከለበት እና ለአጠቃቀም ቀላል ነው					
	ተበላሽቶ ቶሎ የመስተካከል					
13	የምርት እና የአገልግሎት ተበላሽቶ ቶሎ የመስተካከል ፍጥነት ለእኔ ጠቃሚ ነው					
14	ምርት እና አገልግሎቶች ተበላሽተው ቶሎ ይስተካከላሉ					
	ምርት እና አገልግሎቶች ተበላሽው ለመስተካከል ወጪ ቆጣቢ ናቸው					
	ያገኙት ጥራት					
15	የምርት እና አገልግሎት ጥራት የእኔን መመዘኛዎች ያመሟላል					
16	ምርት እና አገልግሎቶቹ ከፍተኛ ጥራት አላቸው					
	ምርት እና አገልግሎቶቹ የቴክኖሎጂ ደረጃ የጠበቁ ናቸው					
	እርካታ					

17	ኢትዮ ቴሌኮም ለደንበኞቹ ከፍተኛ ትኩረት ይሰጣል						
18	የደንበኞቹን ፍላጎት ለማሟላት የምርት እና አገልግሎቶቹን ዲዛይን የደንበኞችን በተለያዩ መልኩ ያቀርባል						
19	ሠራተኞቹ ደንበኞችን ለማገልገል ተነሳሽነት አላቸው						
20	ከፍተኛ ሀላፊዎች ለደንበኞች እርካታ ቁርጠኛ ናቸው						
21	ያለማቋረጥ የደንበኞች እርካታ የመከታተል እንቅስቃሴ ያደርጋሉ						
22	ምርት እና አገልግሎትን የማሻሻያ ኡድት ውስጥ በተከታታይ ይሳተፋል						
23	ለደንበኞቹ እሴት ለመጨመር ይተጋል						

አመሰግናለሁ!

Appendix 3

Frequency chart of agreement towards the issues

Variables	Agree in %	Disagree in %
Performance	41.3	22.87
Feature	42.87	19.37
Reliability	42.24	20.7
Conformance	43.19	25.17
Durability	43	19.56
Aesthetics	41.49	22.79
Serviceability	46.13	18.8
Perceived quality	44.82	18.42
Satisfaction	39.55	13.8

Source: survey data (2019)

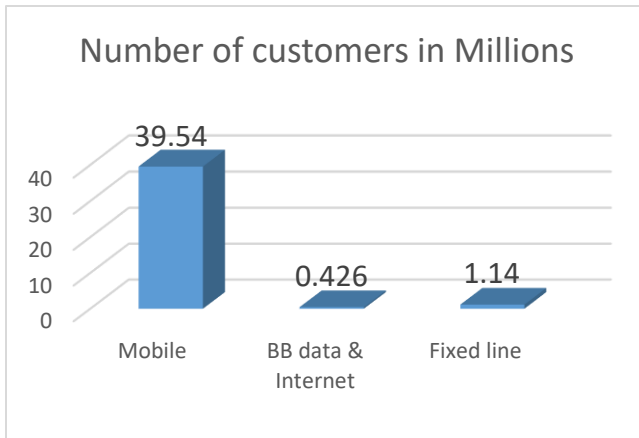


Fig 1 customer base growth

Source (ethio telecom business plan report)

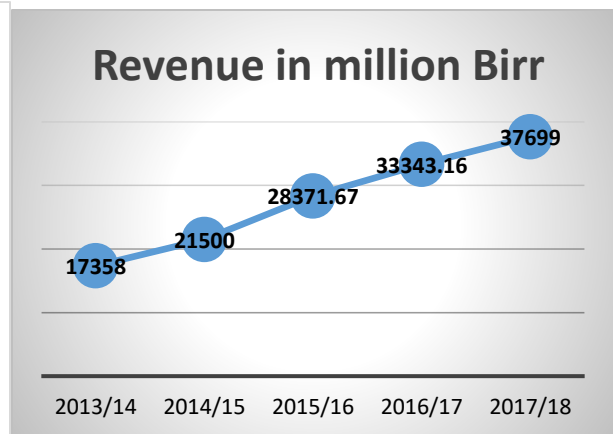


Fig 2 Revenue growth

Source (ethio telecom business report)

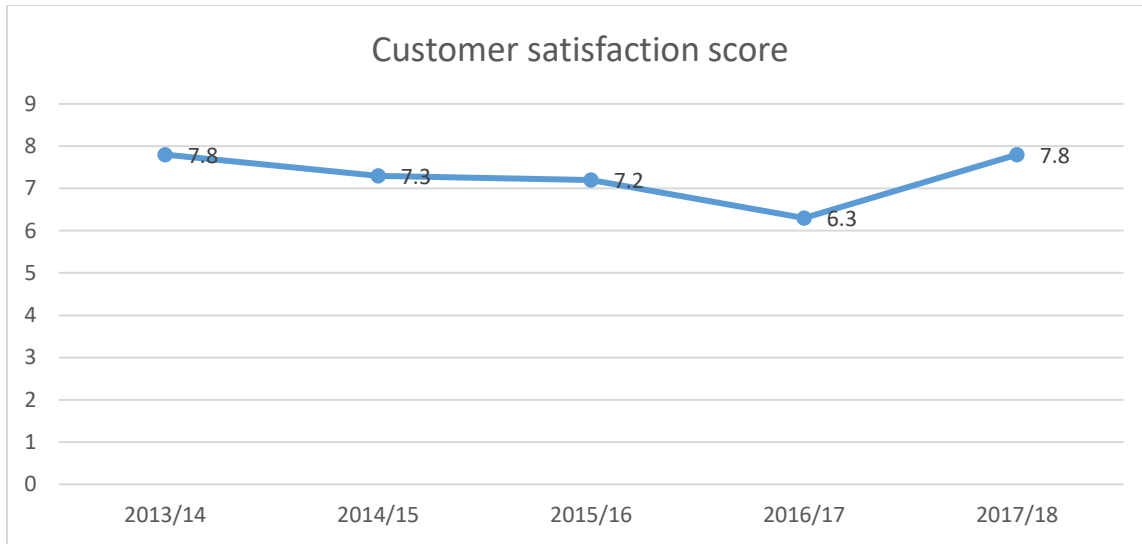


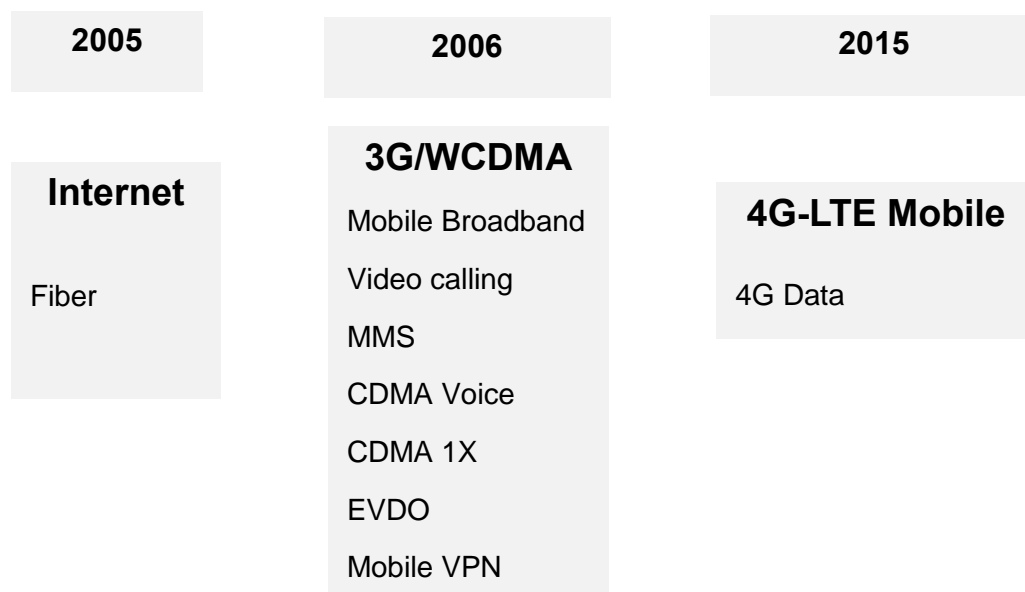
Fig 1 customer satisfaction score

Source (ethio telecom business report)

Appendix 4

Ethio telecom major product and services trend

Earlier	1997	1999	2001
Fixed line	Internet	Mobile	Broadband internet
PSTN: Voice	Dial up	Mobile Voice	DDN
FAX	Domain name	Mobile SMS	VSAT
Telegram	Web hosting	GPRS Internet	FBB
Call transfer			
Call center			



Source: ethio telecom product catalogue library

Appendix 5 ethio telecom B2C offers

VOICE & TEXT	Pre/Postpaid Mobile voice <ul style="list-style-type: none"> 2G/3G/4G/CDMA SIM starter packs	Hybrid SIM account <ul style="list-style-type: none"> 2G/3G/4G/CDMA Vanity number <ul style="list-style-type: none"> 4 different types 	Mobile voice packages <ul style="list-style-type: none"> 4 night packages 15 monthly packages 3 daily & 2 weekly 	Fixed telephone <ul style="list-style-type: none"> Wired & Wireless Prepaid/Postpaid Payphone <ul style="list-style-type: none"> Existing fixed tariff applies 	Fixed line voice packages <ul style="list-style-type: none"> Fixed to Fixed Fixed to Mobile 	SMS packages <ul style="list-style-type: none"> 7 daily, weekly & monthly packages SMS <ul style="list-style-type: none"> Local, Premium & International
DATA & INTERNET	Monthly data only packages <ul style="list-style-type: none"> With data devices (dongle, Wi-Fi router) EVDO internet <ul style="list-style-type: none"> Three monthly packages (1GB, 2GB & 4GB) 	MBB (3G/4G) <ul style="list-style-type: none"> Postpaid, prepaid & hybrid plan with PAYG rates 2G Internet/GPRS <ul style="list-style-type: none"> PAYG rates per MB 	Mobile internet packages <ul style="list-style-type: none"> Unlimited mobile internet 5 daily, 3 weekly and 9 monthly plans 3 Night and 3 Weekend packs 	CDMA 1X internet <ul style="list-style-type: none"> PAYG rates per MB 	Fixed BB internet (ADSL): postpaid <ul style="list-style-type: none"> Limited offers: volume based packages (1GB, 2GB & 8GB) Unlimited offers: 9 speed-based packages 	
VAS	CRBT <ul style="list-style-type: none"> Monthly rent + tone purchase Call management services <ul style="list-style-type: none"> Call divert, call waiting, call barring 	Conference call Credit transfer Keep my number	SMS based short code services <ul style="list-style-type: none"> Premium & Non-premium services Voice-based short code services <ul style="list-style-type: none"> Premium & Non-premium services 	<ul style="list-style-type: none"> MCN & RA Voicemail Call me back Air time Credit Virtual top up 	<ul style="list-style-type: none"> Credit Transfer Voice SMS Yimulu EVD 	Fixed line VAS <ul style="list-style-type: none"> Abbreviated dialing, call waiting, outgoing bar, do not disturb, wake up call barring, call conference, CLR, call diver, local call barring, call forwarding, incoming bar, call transfer
Bundles	Monthly voice + data bundles <ul style="list-style-type: none"> Voice + SMS + data Monthly Premium Plus (Local + International) Limited & Unlimited	Unlimited Premium Plans (Weekly, Bi-weekly & Monthly) <ul style="list-style-type: none"> Voice + SMS Data + SMS Voice + SMS + data 	Service + device <ul style="list-style-type: none"> Mobility services + mobile device Fixed services + Fixed device 	USSD menu <ul style="list-style-type: none"> Package purchase 	Recharge <ul style="list-style-type: none"> USSD & IVR Third party recharge 	SELF CARE
DEVICES	Data devices <ul style="list-style-type: none"> Dongles, Modems, Routers & FBB devices 	Mobile handsets <ul style="list-style-type: none"> Smartphone and Feature phones 	Fixed terminals <ul style="list-style-type: none"> PSTN and CDMA 	Loyalty program <ul style="list-style-type: none"> for postpaid customer 	RETENTION	
PROMOTIONS	Mobile upgrade <ul style="list-style-type: none"> Data bonus 300MB & 500MB 	Fixed line promotion <ul style="list-style-type: none"> Free sub fee & discounted terminals 	SIM promotion <ul style="list-style-type: none"> Discount promotional price 			

Source: ethio telecom Business report (2018)