ST. MARY'S UNIVERSITY

SCHOOL OF GRADUATE STUDIES MBA PROGRAM

EFFECTS OF MULTI-CHANNEL SERVCIE QUALITY ON MOBILE CUSTOMERS SATISFACTION IN ADDIS ABABA: THE CASE OF ETHIO TELECOM

BY

SOLOMON ABEBE

ADVISOR

MESFIN WORKNEH (Ph.D.)

JUNE 2018

ADDIS ABABA, ETHIOPIA

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SOLOMON ABEBE (ID: SGS/0185/2009A)

A THESIS SUBMITTED TO ST. MARY'S UNIVERSITY, SCHOOL OF GRADUATE STUDIES IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF BUSINESS ADMINISTRATION (GENERAL)

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APPROVED BY BOARD OF EXAMINERS

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Letter of Certification

This is to certify that **Solomon Abebe** carried out his project on the topic entitled **"The effect of Multi-Channel Service Quality on Mobile Customers Satisfaction: The case of Ethio Telecom".** This work is original in nature and done by self-effort and is found to be suitable for submission for the award of Master of Art Degree in Business Administration. (General)

_____

Dr. Mesfin Workneh

(The Research Advisor)

Declaration

I hereby declare that the work which is being presented in this thesis **"The effect of Multi-Channel Service Quality on Mobile Customers Satisfaction: The case of Ethio Telecom"** is the outcome of my own effort and all sources of materials used for the study have been duly acknowledged.

This study has not been submitted for any degree in this university or any other university. It is offered for the partial fulfillment of the requirements for the degree of Master of Art Degree in Business Administration (General).

Solomon Abebe (SGS/0185/2009A) Date
(Candidate)

This is to certify that the above declaration made by the candidate is correct to the best of my knowledge.

Mesfin Workenh (PhD). Date
(The Research Advisor)

ENDORSEMENT

This thesis has been submitted to St. Mary's University, School of Graduate Studies for examination with my approval as a university advisor.

Mesfin Workenh (PhD

Advisor

Signature

St. Mary's University, Addis Ababa **June 2018**

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List of Abbreviations and Acronyms

2G -The Second-Generation GSM Technology

3G- The Third-Generation GSM Technology

4G-The Fourth-Generation GSM Technology

AAUSC -Addis Ababa University Scholl of Commerce

ADSL- Asymmetric Digital Subscriber Line

ANOVA -Analysis of Variance

ATM-Automatic Teller Machine

CDMA-Code-Division Multiple Access

CUG-Closed User Group

E-Customer Expectation

EFA-Exploratory factor analysis

e-SERVQUAL -Electronic Service Quality Scale/Model

ETC-Ethiopian Telecommunications Corporations

ETOP UP-Electronic Top up

EV-DO- Evolution-Data Optimized)

GAP-Service Quality Model

GSM-lobal System for Mobile communication

ICT- Information Communications Technology

LTE - Long Term Evolution

P-Customers Perception

SERVPERF -Service Performance Scale/Model

SERVQUAL -Service Quality Scale/Model

SIM-Subscriber Identity Module

SMS-Short Message Service

SPSS -Statistical Package for Social Scientists

SQ-Service Quality

VC-Voucher Cards

VPN-Virtual Private Network

Abstract

The objective of this study is to identify the effect of multi-channel service quality on Mobile Customers Satisfaction in the case of ethio telecom, Addis Ababa Ethiopia. Despite the growing literature on customer's satisfaction, efforts to investigate the causal links between multi-channel service quality and customer satisfaction on telecom operators around the world and multiple service quality effect on mobile customer's satisfaction are limited and even not found in Ethiopian telecom context. Responding to this gap, this research examines the effects of multiple-channel service quality on mobile customer's satisfaction in the case of state owned telecom operator provider, Ethio Telecom. Drawing on responses from 370 mobile customers considered in a questionnaire survey, and 304 (83%) of response rate has been generated. This study developed a research model and formulated 3 main hypotheses, linking 5 sets of physical service quality variables (i.e., Reliability, Responsiveness, Empathy, Tangibles and Assurance), virtual service quality variables (i.e., Information quality, ease of use and security) and Multi-channel integrated service quality to one dependent variable (i.e., customer satisfaction). The formulated model was tested using multiple regression analysis, controlling for the effects of physical service and virtual quality dimensions. The research findings indicate that both physical and virtual channel quality dimensions as well as multi-channel integrated service quality has a positive influence on customers satisfaction. Further, it shows us virtual service quality dimensions are more dominant than physical and about 78% of customers satisfaction determined by this model and the remaining 22% may be determined by other variables other than service quality like price, product quality etc.

***Keywords**: Multi-Channel, Service Quality, Customer Satisfaction, ethio telecom,*

CHAPTER ONE
INTRODUCTION

This chapter presents an overview of the entire thesis. It covers the Background of the Study, Statement of the Problem, Research Questions, Aim and Objectives, Significance, Scope, Limitations and Plan of the study.

1.1. Background of the Study

Multi-channel service is the use of alternative modes of contact by customers to interact with and obtain service from an organization. For instance, customer contact with an airline may be face-to-face through frontline employees who use technology to assist the customer (e.g. an airline representative at the check-in counter); it may also be remote either through back-office representatives (e.g. the airlines' call center) or without the presence of a human representative (e.g. Web sites and self-service kiosks Cassab & Maclachlan (2009).

Improving service quality and customer satisfaction has been the major concern of organizations in any industry for many years. In the period of globalization and continues technological advancements, maintaining customer satisfaction is not an option, it is a must to survive the strong competition. An organization that consistently satisfies its customers, enjoy higher retention levels and greater profitability due to increase in customer loyalty Wicks & Roethlein (2009). The payoff resulted from satisfying customers with improving service quality and other marketing activities is also extensively studied and proven to be true through different marketing researches.

Cassab & Maclachlan (2009) citing the work of Fitzsimmons (2004), describes that many organizations have become multi-channel service providers by increasing the number of service channels available to their customers to improve the efficiency, cost-effectiveness, and consistency of their frontline operations.

Montoya-Weiss, Voss, & Grewal (2003) and Payne & Frow (2002), describes that the various channels are the means of contact allowing service providers to forge stronger links with their customers to offer better satisfaction and thus to promote their retention. In this multi-channel interaction context, they are witnessing a change in customer behavior caused by the combined use of the channels offered by a single service provider.

Sousa and Voss (2006) describes that multi-channel setting introduces a set of complexities that call for a broader conceptualization of service quality, recognizing that customer experience is formed across all moments of contact with the firm through several channels.

Although many scholars and researchers' attempt to explain and measure customer satisfaction, there still does not appear to be a consensus regarding its definition Giese & Cote (2000). Customer satisfaction is an experience-based assessment made by the customer of how far his/her own expectations about the individual characteristics or the overall functionality of the services obtained from the provider have been fulfilled Bruhn (2003). According to Gyasi and Azumah (2009) satisfaction is the process of customer overall subjective evaluation of the product/service quality against his/her expectation or desires over a time. Customer satisfaction can also be defined as a customer's overall evaluation of the performance of an offering to date. This overall satisfaction has a strong positive effect on customer loyalty intentions across a wide range of product and service categories Gustafsson, Johns, & Roos (2005).

There are many factors which determine customer satisfaction level of a specific organization. Service quality in addition to other elements such as product quality, price and others, determine customer satisfaction Wilson et al. (2008). Many other literatures and studies also supports that service quality influences the level of customer satisfaction. Rust and Oliver (1994) stated that quality is one dimension on which satisfaction is based. According to Shemwell, Yavas and Bilgin (1998), in today's world of intense competition, the key to sustainable competitive advantage lies in delivering high quality service that will in turn result in satisfied customers. When considering the service sector, service quality has been proven to be the best determinant of customer satisfaction. There is also much evidence in the literature to the fact that customer satisfaction is principally driven by service quality of a firm from the perspective of its customers Bitner, Boom and Mohr (1994) and Anderson, Fornell and Lehmann (1994) also point out that the relationship between customer satisfaction and service quality by stating that improved service quality will result in a satisfied customer.

Service quality is the delivery of excellent or superior service relative to customer expectations Zeithaml and Bitner (1996). Service quality is recognized as a multi-dimensional construct. Many researchers try to identify different dimensions that construct quality of service. Among those the SERVQUAL model constructed by Parasuraman et al. (1988) is most popular. It features five dimensions: tangibles, reliability, responsiveness, empathy and assurance. The

tangibles dimension is related to the physical environment aspect of the service provider, the reliability dimension relates to the service outcome aspect and the remaining responsiveness, empathy and assurance represents aspects of interaction quality between the service provider and the customer.

Increasingly, studies are showing in a multi-channel context, customer experience is formed through all moments of contact Sousa & Voss (2006). By using at least two channels in their service relationships with the service firm, multi-channel customers may base their service quality perceptions and their satisfaction not only on one channel but on all of them as well Sousa & Voss (2006), Montoya-Weiss, Voss, & Grewal, 2003, Van Birgelen et al. (2006). Sousa and Voss (2006) defined multi-channel service quality as 'the quality of the overall service experienced by a customer, encompassing all the existing physical and virtual components'. Van Birgelen et al. (2006) showed that an online channel has a complementary effect on the traditional physical channel (face-to-face interaction with contact personnel).

Scullion and Nicholas (2001) describes e-services as "Web based services or e-services offer customers a panoply of benefits such as enhanced control, ease of use, and reduced transaction charges and Unsal and Movassaghi, (2001) and Zeithaml (2002) also states that online services have grown rapidly and have emerged as the leading edge of the service industry.

Cassab & Maclachlan (2009) suggest that the design of the multi-channel service interface needs to be part of a customer-focused strategy. Customer evaluations of the service interface help to explain changes in relational variables (e.g. trust) that are crucial to drive affective commitment and enhance customer loyalty. But most importantly, the impact of the service interface is not restricted to customers who may be considered loyal by virtue of a service agreement or membership in a loyalty program. They have shown that the impact of multi-channel service is strong for both members and non-members of an airline frequent flyer program as well as for wireless customers with or without a fixed-term service agreement.

The study conducted by Cassab & Maclachlan (2009) also indicates that multi-channel service strategies are relevant to other organizations that have deployed different modes of contact with their customers. Their study also suggests that a single channel view of service may not be sufficient to ensure a flowing conversation with customers. For example, most modern channels such as online, mobile, and kiosks empower customers to serve themselves. With less face-to-

face interaction, customer feedback may be more difficult to obtain and inconsistencies may remain un noticed. This can be alleviated through a progressive introduction of services in new channels and the provision of more information to consumers through touch points that help clarify the consumer's role in the service delivery process.

The study conducted by Yang and Fang (2004) on online service quality suggest that listening to customer voices is the initial step in planning service quality improvement endeavors. In turn, identifying customer perceived service quality dimensions and their roles in customer satisfaction and dissatisfaction provides a frame of reference for online service providers to assess their service performance.

In a series of focus group interviews, Zeithaml et al. (2002) have identified eleven dimensions of online service quality: access, ease of navigation, efficiency, flexibility, reliability, personalization, security/privacy, responsiveness, assurance/trust, site aesthetics, and price knowledge. The further comparison of e-service quality and traditional service quality indicates that consumers use some common dimensions such as reliability, responsiveness, access, and assurance to evaluate both traditional service quality and e-service quality.

1.2. Statement of the Problem

Ethio Telecom is a state-owned monopoly operator in Ethiopia and engaged in selling of different product and services portfolios like, SIM cards like 2G, 3G, 4G or LTE and VC cards, CUG Service, Fixed line, ADSL, VPN Services, SMS and Data Roaming. To reach its customers, the company applies different types of distribution channels like direct and indirect. Direct channel comprises of 235 own out lets of ethio shops and indirect channel composed of 81 external distributors, more than 65,000 retailers and 10 franchise shops all over the country.

Many past studies have focused on management issues raised by multi-channel distribution Moriarty & Moran, 1990; Payne & Flow, 2004; Rosenbloom (2007): firm's decision in multichannel distribution strategies, complementarities or conflicts between channels, opportunities, risks and key factors of success of the multi-channel strategies, etc. In a service marketing field, service quality and customer satisfaction have been widely studied and most of these researches have adopted a single-channel mindset (Sousa & Voss, 2006), focusing almost exclusively on the relationship between service quality and customer satisfaction in a physical

channel or an online channel for example: Barnes & Vidgen (2002), Parasuraman, Zeithaml, & Malhotra, (2005), Wolfinbarger & Gilly (2003) and Yoo & Donthu (2001). Few studies Montoya-Weiss et al. (2003) and Sousa & Voss (2006) have examined service quality and customer satisfaction in a multi-channel context considering all channels used by the customers. Furthermore, these studies conducted in competitive market environment where customers are the ultimate beneficiaries of the competition. However, this is not the case in the monopoly market environment like Ethiopian telecom sector.

Moreover, these researches have been conducted on selected sectors like banks and insurance companies found in European, USA and few African countries perspective. However, to the best knowledge of the researcher, there is no comprehensive study conducted to measure customer satisfaction in mobile service identifying multi-channel service gaps and modeling satisfaction through quality dimensions both physical and virtual in Ethiopian telecom sector. One justification could be, ethio telecom has been conducting annual customer's satisfaction survey in collaboration with Addis Ababa University School of Commerce (AAUSC) for about 8 times now only focusing on the physical service channel quality dimensions AAUSC Research Team from (December 2013 to June 2017).

For service companies, providing services through Internet-based channels, in addition to their traditional channels, has become a standard. This has led the customers to increasingly adopt a multi-channel behavior Marianne and Philippe (2013). In a multi-channel context, service providers may reach customers using a mix of channels: offices, retail outlets, telephone, call centers, ATMs, website, etc. considered as a means of communication through which a service is delivered to the customer, these channels can be grouped on a continuum from the most physical interface to the most virtual interface Payne & Flow (2004) and Sousa & Voss (2006).

Thus, achieving and maintaining service quality is regarded as essential strategy for the successful provision of overall customer satisfaction and customer retention. Therefore, measuring service quality is the fundamental in developing a customer-oriented strategy that ensures the long-term survival of the firm. Keeping in mind the financial and other constraints, it is essential that expectations are properly understood and measured from the customer's perspective to identify any gap(s) in service quality. In previous studies, customer satisfaction appeared to be influenced by the quality of all the channels used by the customers. In this

context, there is a need for a better understanding of the multi-channel customers in terms of perceived service quality and evaluation of satisfaction in Ethiopian telecom industry.

Therefore, the current study will focus on examining customer satisfaction of existing mobile users in a multi-channel context considering all channels used by the customers of ethio telecom in Addis Ababa Ethiopia.

1.3. Research Questions

1.3.1. Main Research Question

Based on the statement of problem above, the main research question is stated as follows:

- Does multi-channel (i.e. physical and virtual) service quality affect customer's satisfaction?

1.3.2. Sub-research Questions

The research questions answered after data analysis are: -

I. How does the Physical service qualities influence overall ethio telecom mobile service customer satisfaction?

II. How does the Virtual service qualities influence overall ethio telecom mobile service customer satisfaction?

III. What are the factors of Multi-channel integration quality that effect the overall ethio telecom mobile service customer satisfaction?

1.4. Objectives of the Study

1.4.1 General objective of the study

The general objective of this study is to identify the effect of multi-channel service quality on Mobile Customers Satisfaction in the case of ethio telecom, Addis Ababa Ethiopia.

1.4.2 Specific Objectives of the study-

I. To examine the influence of Physical service qualities in overall ethio telecom's mobile service customer satisfaction.

II. To examine the influence of Virtual service qualities in overall ethio telecom's mobile service customer satisfaction.

III. To identify the factors of Multi-channel integration quality that effect the overall ethio telecom mobile service customer satisfaction.

1.5. Significance of the Study

Today's service giving organizations are applying multi-channel service counter to deliver better service to their customers. Because, this approach brings greater performance implications and developing the image of the company. Studying the multi-channel service quality effect on customer's satisfaction delivers the below listed significant:

First, to identify and understand customers' requirements in relation to mobile services of ethio telecom. Next, Ethio telecom could be benefited from the findings of the study as it provides a clue to aware of customer dissatisfaction drivers in its service provisions. Third, it is important for business policy makers in Ethiopia as it give them an insight how to improve the telecom services. And finally, it contributes on the already existing knowledge on the field of multi-channel service delivery with a theoretical significance for further researchers, academician, and marketing researchers as an input to test a theory and as an initial to see multi-channel service delivery on the cases of Ethiopia using these and other new dimensions.

1.6 Scope of the Study

Conceptual Scope

The constructs, physical service quality, virtual service quality, and satisfaction, has measured using an existing scale. For multi-channel integration quality, the researcher used to construct measurement scale by following the recommendations of Churchill (1979), Gerbing and Anderson (1988), Yang and Fang (2004) and Marianne and Jean (2013). The measurement of physical service quality using three dimensions (reliability or core service, relational dimension, and tangibles). This scale, applied to telecom sector, incorporates the main dimensions and items of the SERVQUAL scale. The second part is concerned the measurement of virtual service quality using 3 dimensions adopted from Marianne and Jean (2013): ease of use, information

quality, site design, and security. The measurement of multi-channel integration quality has a scale based on the literature Sousa & Voss, (2006) and Marianne and Jean (2013) due to the absence of studies developing a measurement of this construct (independent variables) that affect mobile customer satisfaction of ethio telecom's company measured through four items, three of these items were adopted from Marianne and Jean (2013) scale (Dependent variable).

Target Scope

Currently ethio telecom has operated with all over Ethiopia as a monopoly operator with twelve regional and six zonal office boundaries as well as structured on seventeen divisions. Having more than 64 million mobile subscribers and the study was focused on active mobile customers on the main capital city of Addis Ababa, Ethiopia only. The study has excluded active mobile customers out of Addis as well as other product and service customers around all over the country.

Methodological Scope

According to Adams et al. (2007), the three types of research design that are employed by researches are descriptive, explanatory and predictive researches. Adams et al. (2007), further explained "Researchers usually handle numerous problems and apply research methods to get the best guess answers to their questions. They may use a single study or a combination of two designs. Accordingly, the study has used a casual research design. since causal studies helps the researcher to seek to discover the effect that a variable(s) has on another (or others) or why certain outcomes are obtained. Furthermore, the concept of causality is grounded in the logic of hypothesis testing. Broadly speaking, there are two main domains of research approach frequently observed in the literature, and these include Quantitative and Qualitative research approach. Accordingly, the researcher used quantitative research approach and interpretation has been done qualitatively.

1.7 Limitations of the Study

The limitations of the study include:

- The first limitation of this study is the inadequacy of relevant studies on the subject matter especially in Ethiopian telecommunication sector.

- The other possible limitation of the research is questionnaire response bias inherent in the methodology and inability to incorporate mobile users from other area of the country.
- Lastly, other limitation of this study is customer satisfaction is affected with so many factors like price, product quality and others, but in this research, the researcher focused only on service quality dimensions both physical and virtual.

1.8 Organization of the Study

The research paper report incorporated with five chapters. Below are the main important points that are included in each chapter.

Chapter one explained the research background, statement of the problem, research questions, objectives, significance, scope, limitations and organizations of the study. Chapter two includes the related theoretical and empirical literatures of other researchers specifically on multi-channel service quality, conceptual framework and definition of terms.

Chapter three incorporates design of the research, data types and sources, population of the study, sample size and determination, sampling technique, data gathering instruments, data analysis technique and ethical consideration as well as validity and reliability.

Chapter four addresses the discuss and results of the study, and chapter five includes conclusion, recommendations and implication for future research.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

INTRODUCTION

Focusing on the extent to which the multi-channel service quality on customer's satisfaction could contribute to performance and competitive advantage to companies, this chapter reviews theoretical and empirical literature related to multi-channel service quality and customer's satisfaction. It is divided into eleven sections. It will first review literature related to multi-channel service quality and customer satisfaction. Second, literature on customer evaluation of multi-channel service. Third, service quality and the factors that affect the quality of services. Fourth, physical service quality dimensions have discussed with special focus on SERVQUAL dimensions. Fifth, e-service quality dimensions have discussed in short. Sixth, customers care support have also discussed. Seventh, different service quality models have presented in detail. Eight, customer's satisfaction defined based on different scholars. Ninth, definition of terms has included. Tenth, the review continued to focus on empirical review. Finally, research hypothesis and conceptual framework developed.

2.1 Theoretical Review

Cassab & Maclachlan (2009) define "multi-channel service as the use of alternative modes of contact by customers to interact with and obtain service from an organization". For instance, customer contact with an airline may be face-to-face through frontline employees who use technology to assist the customer (e.g. an airline representative at the check-in counter); it may also be remote either through back-office representatives (e.g. the airlines' call center) or without the presence of a human representative (e.g. Web sites and self-service kiosks).

Marianne and Philippe (2013) stated that "Multi-channel distribution context is a characteristic of many service industries, including financial services. Physical distribution channels (such as a branch or retail outlet), telephone, automatic teller machines (ATMs), internet, today, enable service firms and their customers to interact.

Cassab & Maclachlan (2009) in their articles by citing the work of Fitzsimmons (2004), also reported that "Driven to generate value-in-use, many organizations have become multi-channel service providers by increasing the number of service channels available to their customers to improve the efficiency, cost-effectiveness, and consistency of their frontline operations.

Montoya-Weiss, Voss, & Grewal (2003) and Payne & Frow (2002), describes that the various channels are the means of contact allowing service providers to forge stronger links with their customers to offer better satisfaction and thus to promote their retention. In this multi-channel interaction context, they are witnessing a change in customer behavior caused by the combined use of the channels offered by a single service provider.

Sousa and Voss (2006) underlined as multi-channel setting introduces a set of complexities that call for a broader conceptualization of service quality, recognizing that customer experience is formed across all moments of contact with the firm through several channels.

Marianne and Philippe (2013) further clarified that in a service marketing field, service quality and customer satisfaction have been widely studied. Most of these researches have adopted a single-channel mindset Sousa & Voss (2006), focusing almost exclusively on the relationship between service quality and customer satisfaction in a physical channel or an online channel (for example: Parasuraman, Zeithaml, & Malhotra (2005), Wolfinbarger & Gilly (2003), Yoo & Donthu (2001). Few studies see Montoya-Weiss et al. (2003), Sousa & Voss (2006) and Van Birgelen, De Jong and De Ruyter (2006) have examined service quality and customer satisfaction in a multi-channel context considering all channels used by the customers. In these studies, customer satisfaction appeared to be influenced by the quality of all the channels used by the customers. In this context, there is a need for a better understanding of the multi-channel customers in terms of perceived service quality and evaluation of satisfaction.

Scullion and Nicholas (2001) describes e-services as "Web based services or e-services offer customers a panoply of benefits such as enhanced control, ease of use, and reduced transaction charges and Unsal and Movassaghi (2001) and Zeithaml (2002) also states that online services have grown rapidly and emerged as the leading edge of the service industry.

Sousa & Voss (2012), in their article by citing the work of different authors describes multi-channel e-service as "in traditional bricks-and-mortar services primarily provided by people, service quality has been validated as a lever that managers can employ to drive positive behavioral intentions and, ultimately, profitability Zeithaml (2000). Most of the examined behaviors have been closely related to loyalty behaviors, and many studies have established a positive relationship between service quality and customer loyalty e.g. Boulding, Kalra, Staelin, & Zeithaml (1993) and Zeithaml, Berry & Parasuraman (1996).

2.1.1. Multi-channel service quality and customer satisfaction

Marianne and Philippe (2013) stated in their article by citing the work of different authors that, perceived service quality and overall customer satisfaction are two concepts which have been the subject of many studies in service marketing. Several definitions that can be selected depending on the level of analysis or the level of customer assessment emerge from the literature. In a transactional perspective, satisfaction is an immediate post purchases evaluative judgment or an effective reaction to the most recent transactional experience with the firm Garbarino & Johnson (1999). Transactional quality is the current customer perception of a good or a service Ngobo, (1997). In a global or relational perspective, satisfaction is an overall evaluation based on the total purchase and consumption experience with a good or service over time Anderson, Fornell, & Lehmann (1994) or a cumulative sum of experiences Garbarino & Johnson (1999). As for overall service quality, it is a customer global impression of the superiority/inferiority of the company and its services Ngobo (1997).

Marianne and Philippe (2013) in their article also describes that many studies have shown that perceived service quality is an antecedent of satisfaction see Cronin & Taylor (1992) and therefore the positive influence of perceived service quality on global satisfaction Anderson, Eugene, & Sullivan (1993), Churchill & Surprenant (1982), Cronin & Taylor (1992), Llosa (1996), Oliver (1993) and Rust & Oliver (1994). However, most researchers have investigated service quality and its link with customer satisfaction in both environments taking them separately: traditional physical environment and virtual environment.

Increasingly, studies are showing in a multi-channel context, customer experience is formed through all moments of contact Sousa & Voss (2006). By using at least two channels in their service relationships with the service firm, multi-channel customers may base their service quality perceptions and their satisfaction not only on one channel but on all of them as well Sousa & Voss (2006), Montoya-Weiss, Voss, & Grewal (2003) and Van Birgelen et al. (2006). Sousa and Voss (2006) also defined multi-channel service quality as, the quality of the overall service experienced by a customer, encompassing all the existing physical and virtual components. Van Birgelen et al. (2006) showed that an online channel has a complementary effect on the traditional physical channel (face-to-face interaction with contact personnel).

2.1.2. Customer evaluations of multi-channel service

Peppard (2000) describes that, customer relationship management studies suggest that integrating the customer data collected systematically by different areas of the organization will result in a more complete view of the customer and therefore a better customer experience. Thus, it appears that data integration is important for multi-channel service.

Cassab & Maclachlan (2009) also clarifies that the preliminary insights into operational measures of multi-channel service come from the service marketing literature, particularly the broad concept of service quality that has been studied extensively in the last two decades since the publication of the seminal work of Gronroos (1984) and the first development of the SERVQUAL instrument of Parasuraman et al. (1988). Gronroos (1984) conceptualized two service quality dimensions: functional and technical. Functional quality represents how the service is delivered (i.e. customer perceptions of the interactions that take place during the service encounter), and technical quality reflects the outcome of the service (i.e. what the customer receives in the service encounter). Recently, marketing researchers have explored the role of technology in the functional quality dimension of service by studying interactions with customers through web sites and other forms of technology-based self-service.

For instance, Zeithaml et al. (2002) found that routine issues for service delivered through web sites include privacy/security, web site design, efficiency, and ease of use. These studies suggest that customer evaluations of the multi-channel service interface should focus on the functional quality dimension of service, include integration as an underlying factor, and align in meaning with the SERVQUAL dimensions. Thus, a useful approach to measurement is that of Brady and Cronin's (2001) hierarchical model of three primary dimensions of service quality (i.e. interaction, environment, and outcome), each with three sub dimensions, where the original SERVQUAL factors are repositioned as modifiers of all nine sub dimensions in the model. Particularly relevant to the current study is the interaction quality dimension in (Brady and Cronin 2001), built on the functional quality dimension proposed by Gronroos (1984), although it does not include elements related to the automated service encounter as suggested by Meuter et al. (2000) and Zeithaml et al. (2002). Given that multi-channel service involves different modes of customer contact in relation to technology Froehle and Roth (2004), customers are expected to evaluate the functional quality of service provider and technologies, as well as the integration between service provider and technology across channels. Such integration is likely to be

determined by the accuracy of information exchanged with the customer through different channels. This could be reflected, for instance, in a consistent response to a query posed through different channels, or an interaction through one channel that considers past interactions through other channels.

2.1.3. Service Quality

Service quality is a concept that has aroused considerable interest and debate in the research literature because of the difficulties in both defining it and measuring it with no consensus emerging on either Wisniewski (2001). Service quality has been increasingly recognized as a critical factor in the success of any business Parasuraman, Zeithaml & Berry (1988). Ladhari (2009) also supported the role of service quality and stated that it is considered as an important tool for a firm's struggle to differentiate itself from its competitors Ladhari (2009).

Service quality is defined by many researchers through time. Parasuraman, Zeithaml & Berry (1985) defined service quality as "a function of the differences between expectation and performance along the quality dimensions". Roest and Pieters (1997) also provide the same definition that service quality is a relativistic and cognitive discrepancy between experience-based norms and performances concerning service benefits.

Another definition of service quality is by Bitner, Booms and Mohr (1994), they stated service quality as the consumer's overall impression of the relative inferiority/superiority of the organization and its services. Cronin and Taylor (1994) viewed service quality as a form of attitude representing a long-run overall evaluation.

To conceptualize service quality (by taking in to account all the aspects of customer perceived service quality, including those already addressed in the existing instruments and those that are left out in the empirical service quality literature), Sureshchander et al. (2002) cited in Dehghan, (2006) identified five factors of service quality as critical from the customers" point of view. These factors are:

1. Core service or service product;

2. Human element of service delivery;

3. Systematization of service delivery: non-human element;

4. Tangibles of service – services capers;

5. Social responsibility.

2.1.4. Traditional/physical Service Quality Dimensions

Yang and Fang (2004), both researchers are discussed and elaborated the concept of traditional service quality dimensions as online customers still demand many services available through traditional channels even if they choose pure internet-based suppliers with basic customer services. Numerous studies have also sought to uncover the global attributes of services that contribute most significantly to relevant quality assessments in the traditional service environment e.g. Hedvall and Paltschik (1989), Kettinger and Lee (1997), Parasuraman et al. (1985, 1988), Paulin and Perrien, (1996), Pitt et al. (1999) and Sasser et al. (1978). Among them, two exploratory studies are regarded as the most appropriate frameworks for the current research. Parasuraman et al.'s (1985) reveals ten detailed dimensions through focus group studies: tangibles, reliability, responsiveness, communication, credibility, security, competence, courtesy, understanding the customer, and access. Later, these ten dimensions were further purified and distilled to five: tangibles, reliability, responsibility, assurance, and empathy, which constitute the base of a global measurement for service quality, SERVQUAL Parasuraman et al. (1988). Another useful study conducted by Johnston (1995) provides 18 service dimensions and their definitions: access, aesthetics, attentiveness, availability, care, cleanliness/tidiness, comfort, commitment, communication, competence, courtesy, flexibility, friendliness, functionality, integrity, reliability, responsiveness, and security. These two studies offer particularly robust service quality dimensions for measuring traditional services and could serve as a good starting point for the current exploratory research.

2.1.5. Virtual Service Quality Dimensions

Yang and Fang (2004), also deeply studied the online service quality aspects by reviewing the work of different researchers. They categorize the extant research on online service quality into studies focusing on: online retailing services e.g. Wolfinbarger and Gilly (2002). For more comprehensive review, see Zeithaml et al. (2002) and Yang and Jun (2002). Web site design quality and narrowly defined online services other than retailing (e.g. portal services, online travel services). These studies reflect various aspects of online service quality, which facilitate the development of the coding scheme in their study. Drawing upon the traditional SERVQUAL

scale, Zeithaml et al. (2001, 2002) have developed e-SERVQUAL for measuring e-service quality. In a series of focus group interviews, Zeithaml et al. (2001) have identified eleven dimensions of online service quality: access, ease of navigation, efficiency flexibility, reliability, personalization, security/privacy, responsiveness, assurance/trust, site aesthetics, and price knowledge. The further comparison of e-service quality and traditional service quality indicates that consumers use some common dimensions such as reliability, responsiveness, access, and assurance to evaluate both traditional service quality and e-service quality.

2.1.6. Customer Care Support

Christan and Emmanuel (2016), describes the concept of customer care support as "Customer care support can be defined in terms of management of customer complaints or how queries about a company service are treated." Albrecht and Zemke (1985) stated that between 54 and 70 percent of customer who make complaints regarding a company service offering will no doubt repeat the purchase of its product/service if their complaint was resolved. That the percentage will increase to 95% if the customer feels that the complaints were timely resolved. Customers whose complaints were satisfactory resolve will tell an average of five people about the treatment they received.

Hart, Hasket and Sasser (1990) indicate that when a service provider has agreed to assume responsibility to customer's complaints and resolve same, the customer's tendency to hold fast to that company's service would be very high. McNeal (1994) reveals that about 5 percent of a company's customers who were dissatisfied with the management of their complaints easily tell their friends and associates about their experience vis-a-vis their services. Thus, service provider ought to have knowledge or at a regular interval determine how well their customers are treated. Ovenden (1995) argued that companies need to know how well their customers are treated. That customer hardly complains, but when they do, it might be too late to retain such customers. In a related development, Levesque and McDougall (1996) stated that if customer complaint is not satisfactory handled, it influences the customer's attitude towards the service providers, even though the study did not lend credence to the hypothesis that good customer complain management leads to increase customer's satisfaction. That satisfactory problem recovery leads to an equal level of customer satisfaction as if a problem had not occurred.

2.1.7. Service Quality Models

I. Nordic Service Quality Model

Early conceptualization of service quality was formed by Gronroos (1984), he defined service quality by technical or outcome (what consumer receive) and functional or process related (how consumer receive the service) dimensions Gronroos (1984). Image build up by technical and functional quality and effect of some other factors (marketing communication, word of mouth, tradition, ideology, customer needs and pricing). Nordic model is based on disconfirmation paradigm by comparing perceived performance and expected service. This was the first attempt to measure quality of service. Gronroos model was general and without offering any technique on measuring technical and functional quality. Rust & Oliver (1994) tried to refine the Nordic model by the three-component model. They suggest three components: service product (i.e., technical quality), service delivery (i.e., functional quality), and service environment but they did not test their model and just a few supports have been found.

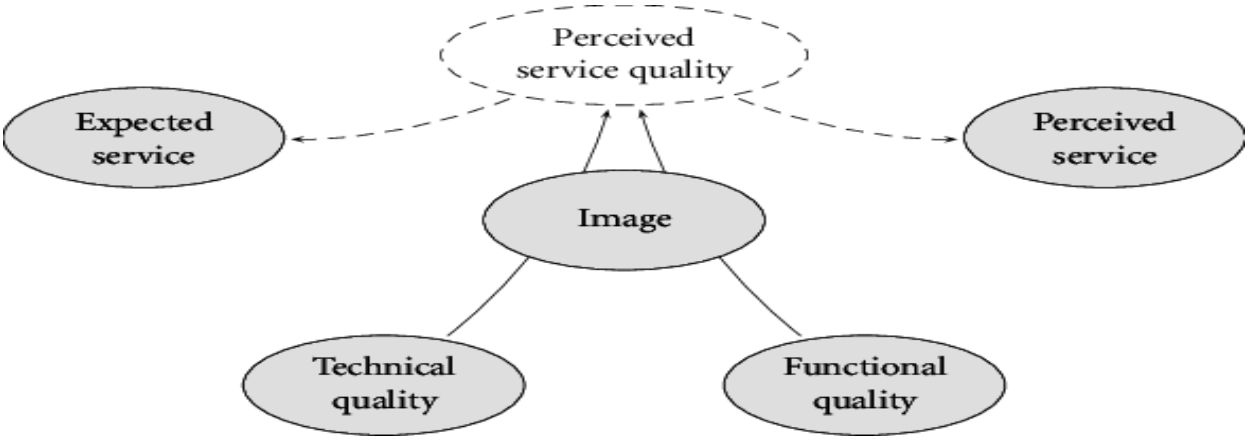

Figure 2.1 The Nordic Service Quality Model by Gronroos, (1984)

II. GAP Service Quality Model

This model developed by Parasuraman, Zeithalm and Berry in (1985) identifies five different gaps. According to Parasuraman, Zeithalm and Berry, a gap is the difference, imbalance or disparity which is determined to exist between customer's perception of the firm performance and their prior expectation. Service Quality (SQ) perceived by customers is therefore because of a comparison of Customers Expectation (E) of services that the organization should offer versus their perception of the performance (P) delivered by the service organization. Service Quality

(SQ)= Customer's perception (P) –Customer's Expectations (E) Management of service quality largely focuses on managing the gaps between expectations and perceptions of customer.

Gap 1: Gap between consumer expectation and management perception: This gap arises when the management or service provider does not correctly perceive what the customer wants or needs. i.e. Difference between consumers' expectation and managements' perceptions of those expectations.

Gap 2: Gap between management's perceptions of consumer's expectation and service quality specification: This is when the management or service provider might correctly perceive what the customer wants but may not set a performance standard. i.e. improper service-quality standards.

Gap 3: Gap between service quality specifications and service actually delivered. i.e. the service performance gap. This gap may arise in situations pertaining to the service personnel.

Gap 4: Gap between service delivery and external communication: Consumer expectations are highly influenced by statements made by company representatives and advertisements. The gap arises when these assumed expectations are not fulfilled at the time of delivery of the service.

Gap 5: Gap between expected service and experienced service: This gap arises when the consumer misinterprets the service quality. This gap depends on size and direction of the four gaps associated with the delivery of service quality on the marketer's side.

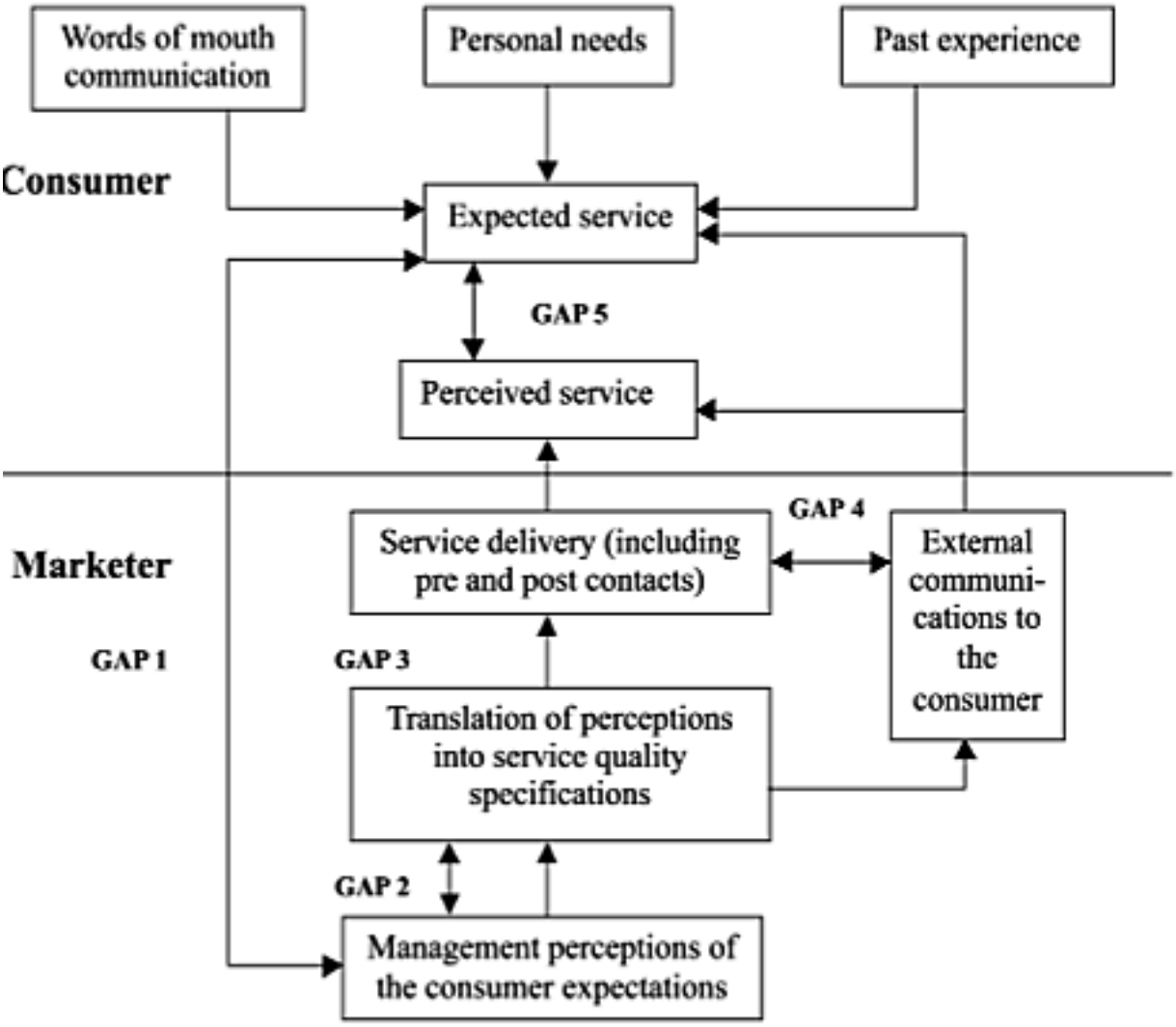

Figure 2.2 The GAP Service Quality Model by Parasuraman et.al (1985)

III. SERVQUAL Model

The concept was conceptualized and proposed by Parasuraman, Zeithaml and Berry (1985) and then further developed for the next eight years by the same researchers. Many other researchers have used the SERVQUAL dimensions as the basis for their research, and consequently SERVQUAL has undoubtedly had a major impact on the business and academic communities.

SERVQUAL comprises 22 items (Likert-type) with five dimensions namely- tangibles, reliability, responsiveness, assurance and empathy. Each item in SERVQUAL instrument is of two types. One to measure expectations about firms in general within an industry and the other measures perceptions regarding the company whose service is being assessed. The quality gap

(Q) is calculated by subtracting the expectation (E) from the perception (P) value i.e. P-E= Q. Summation of all the Q values provides an overall quality rating which is an indicator of relative importance of the service quality dimensions that influence customers‟ overall quality perceptions. Parasuraman, Zeithaml and Berry (1988) suggested that SERVQUAL may be used to: track service quality trends over time; compare branches of the organization; compare an organization with its competitors; and categorize customers into perceived quality segments based on their individual SERVQUAL scores.

The original SERVQUAL instrument, proposed by Parasuraman, Zeithaml and Berry (1985), identified ten components of service quality. Later, in a further study, those ten components were merged into five dissimilar dimensions viz. reliability (5 items) which is the ability to perform the service in an accurate and in dependable manner; tangibles (4 items) which refers to the appearance of physical factors such as equipment, facilities and personnel; empathy (5 items) which involves providing individual attention and care to customers; responsiveness (4 items) is the willingness to provide help and prompt service to customers; and finally assurance (4 items) refers to the knowledge and courtesy of employees and their ability to convey trust and confidence.

Dimensions	**Definition**	**Item in scale**
Reliability	The ability to perform the promised service dependably and accurately	5
Assurance	The knowledge and courtesy of employees and their ability to convey trust and confidence	4
Tangibles	The appearance of physical facilities, equipment, personnel and communication materials	4
Empathy	The provision of caring, individualized attention to customers	5
Responsiveness	The willingness to help customers and to provide prompt service	4

Table 2.1. SERVQUAL Dimensions and Items in Scale by Parasuramam et al. (1985)

IV. SERVPERF Service Quality Model

Cronin and Taylor (1992) investigated the conceptualization and measurement of service quality and its relationship with consumer satisfaction and purchase intentions. The SERVPERF model was carved out of SERVQUAL model, which was originally developed by Parasuraman, Zeithaml and Berry in (1985). It measures service quality by using the perceptions of customers. Cronin and Taylor (1992) compared computed difference scores with perception to conclude that perceptions only are better predictor of service quality and therefore expectations should not be included as suggested by SERVQUAL.

They argued on the framework of Parasuraman et al. (1985), with respect to conceptualization and measurement of service quality and developed performance only measurement of service quality called SERVPERF by illustrating that service quality is a form of consumer attitude and the performance only measure of service quality is an enhanced means of measuring service quality. They argued that SERVQUAL confounds satisfaction and attitude. They stated that service quality can be conceptualized as "similar to an attitude" and can be operationalized by the adequacy-importance model. They maintained that Performance instead of "Performance-Expectation" determines service quality.

The SERVPERF scale is found to be superior not only as the efficient scale but also more efficient in reducing the number of items to be measured by 50% Hartline & Ferrell (1996), Babakus and Boller (1992), Bolton and Drew (1991) cited in Mesay (2012). According to Cronin and Taylor (1992), their performance based SERVPERF scale is a better method of measuring service quality. They claim that this scale's reliability ranges between 0.884 and 0.964, depending on the industry type, and exhibits both convergent and discriminant validity Mesay (2012).

2.1.8. Customer Satisfaction

Customer satisfaction has been a subject of great interest for organizations and numbers of marketing researches, because customers are key stakeholders in organizations and their satisfaction is a priority for sustainable growth. Kotler (1997) stated that, in an increasingly competitive environment companies must be customer oriented and the underpinning of the marketing concept is that identification and satisfaction of customer needs leads to improved customer retention Day (1994).

There is no globally accepted single definition for customer satisfaction. As Giese and Cote (2000) stated, despite extensive research in the years since Cardozo's (1965) classic article, researchers have yet to develop a consensual definition of consumer satisfaction. Oliver (1997) cited in Giese & Cote (2002) addresses this definitional issue by paraphrasing the emotion literature, noting that "everyone knows what satisfaction is until asked to give a definition. Then it seems, nobody knows". Different authors and researchers of marketing and other disciplines tried to define customer satisfaction on their own way through time.

Oliver (1997) stated that customer satisfaction is the consumer's fulfillment response. It is a judgment that a product or service feature, or the product or service itself, provided (or is providing) a pleasurable level of consumption-related fulfillment, including levels of under- or over fulfillment. On other definition from Oliver (1997) is that customer satisfaction is as an overall emotional response to an entire service experience for a specific service encounter after purchasing consumption. Halstead, Hartman, and Schmidt (1994) defined customer satisfaction as a transaction-specific affective response resulting from the customer's comparison of product performance to some pre-purchase standard. Satisfaction can also be a person's feelings of pleasure or disappointment that results from comparing a product's perceived performance or outcome with their expectations Kotler & Keller (2009).

Customer satisfaction is defined by one author as "the consumer's response to the evaluation of the perceived discrepancy between prior expectations and the actual performance of the product or service as perceived after its consumption" Tse & Wilton (1988) hence considering satisfaction as an overall post-purchase evaluation by the consumer". Fornell (1992). (Gustafson 2005) also defines customer satisfaction as a customer's overall evaluation of the performance of an offering to date. This overall satisfaction has a strong positive effect on customer loyalty intentions across a wide range of product and service categories.

Gibson (2005) put forward that satisfied customers are likely to become loyal customers and that means that they are also likely to spread positive word of mouth. Duodu and Amankwah (2011) stated that, according to research, a very satisfied customer is nearly six times more likely to be loyal and to re-purchase and recommend a product/service to family and friends than a customer who is just satisfied. It is again believed that satisfied customers tell five other people about their good treatment, and that five-percent increase in loyalty can increase profits by 25% - 85%. Conversely, the average customer with a problem eventually tells eight (8) to ten (10) other

people, Duodu & Amankwah (2011). Other studies also share this concept, a satisfied customer is six times more likely to repurchase a product and share his/her experience with five or six other people Grönroos (2000) and Zairi (2000) further unsatisfied customer can banish more business from the organization than ten highly satisfied customers do Mohsan (2011). Once again, it's possible to conclude that customer satisfaction is a key to sustainable growth and survival in competitive market environment.

2.2. Empirical Review

Several studies related to service quality and customer satisfaction with ethio telecom and the previous Ethiopian Telecommunications Corporation (ETC) services were conducted by different researchers. Potluri and Mangnale (2010) conducted an empirical study to find out the satisfaction level of ETC customers using the following parameters: service interaction, service delivery process, customer compliant handling procedure and its outcome and the overall customer satisfaction level. The findings of their analysis showed that 41% customers of ETC were dissatisfied with employees‟ interaction skills. Furthermore, another 47% of the customers were also disappointed with customer service delivery system and 70% customers were not pleased with the Complaint Handling Procedure and its outcome. And 57% of the customers expressed overall dissatisfaction on the services provided by ETC.

Another study was conducted by Rakshit Negi (2009) with the purpose of exploring the causal relationship between service quality dimensions and overall service quality, and identifying service quality gaps as experienced by the subscribers of the mobile services of ETC. The result of the study indicated overall service quality of mobile communications was perceived to be as below average by over half (52.7 percent) of the respondents, followed by less than one-third (28 percent) who mentioned it as average, and about one-fifth (19.3 percent) as above average.

Further, AAUSC Researchers Team from (2013 to 2017), conducted customer satisfaction survey for 8th round and this study result was 7.67 out of 10. As per the result, value for money and network quality are the major factors that affect negatively, the overall customer satisfaction and Top up process are among the major drivers for favorable satisfaction result.

Cassab & Maclachlan (2009) suggest that the design of the multi-channel service interface needs to be part of a customer-focused strategy. Customer evaluations of the service interface help to explain changes in relational variables (e.g. trust) that are crucial to drive affective commitment

and enhance customer loyalty. But most importantly, the impact of the service interface is not restricted to customers who may be considered loyal by a service agreement or membership in a loyalty program. They have shown that the impact of multi-channel service is strong for both members and non-members of an airline frequent flyer program as well as for wireless customers with or without a fixed-term service agreement.

The study conducted by Cassab & Maclachlan (2009) also indicates that multi-channel service strategies are relevant to other organizations that have deployed different modes of contact with their customers. Their study also suggests that a single channel view of service may not be sufficient to ensure a flowing conversation with customers. For example, most modern channels such as online, mobile, and kiosks empower customers to serve themselves. With less face-to-face interaction, customer feedback may be more difficult to obtain and inconsistencies may remain un noticed. This can be alleviated through a progressive introduction of services in new channels and the provision of more information to consumers through touch points that help clarify the consumer's role in the service delivery process.

Another study conducted by Marianne and Philippe (2013) has several managerial implications. First, their findings emphasize the need for service companies to identify quality factors that create value for multi-channel customers to better satisfy them. Second, it highlights the need for managers to have an integrated view of all channels. Through channel integration, service firms can increase customers' perception of the service value. Indeed, customers can easily move from one channel to another and have a continuous experience across the different channels. This continuous and seamless multi-channel experience is likely to lead to a higher level of customer satisfaction Rosenbloom (2007) and Sousa & Voss (2006) promoting a long-term relationship Payne & Flow (2004) based on trust. The customers can thus benefit more from the complementarities and the existing synergies between the traditional channels and the virtual channels.

The study conducted by Yang and Fang (2004) on line service quality, they suggest that listening to customer voices is the initial step in planning service quality improvement endeavors. In turn, identifying customer perceived service quality dimensions and their roles in customer satisfaction and dissatisfaction provides a frame of reference for online service providers to assess their service performance.

Yang and Fang (2004) also indicate that, to provide responsive and reliable services, well-trained and technically competent representatives are desirable. It is also critical to maintaining high levels of system reliability and system responsiveness, including execution and Web page download speed, service availability, accurate execution, accurate account records, and real-time trade confirmations. To increase efficiency, the transaction process, from logging onto the Web site, getting a quote, and taking every step to make a trade, to getting order confirmation, should go through smoothly and quickly.

Further, Yang and Fang (2004) are focusing on key information systems-related factors and their results suggest that customers are concerned with three key factors closely related to information systems quality, i.e. ease of use, timeliness of information, and security. Ease of use is the prominent determinant of customer adoption of the Internet-enabled service channel. Well-organized user interfaces allow customers to locate their desired information easily. Therefore, the organization and structure of online content should be logical and easy to follow. The number of graphics and animated features on Web pages needs to be minimized because they are extremely time-consuming to download and are often the cause of computer slow-down. Additionally, adequate navigation functions such as site search engines and clear menus are critical factors in enhancing the usability of a Web site.

Investigation conducted by Sousa & Voss (2012) on their article of e-service and multi-channel service finds that many e-services are multi-channel combining the Internet with other channels of service delivery, such as the phone and physical facilities. As a result, online customers frequently engage in multi-channel behavior. According to their study finding, two basic groups of online customers in terms of channel behavior were found–internet-focused and multi-channel–with the latter exhibiting a balanced use of channels and being more loyal, older, less educated and less experienced with the e-service. Data analyses revealed that e-service quality had a strong impact on e-loyalty intentions; but did not have an impact on customer channel behavior. E-service quality does not seem to be an effective lever for influencing customer channel behavior; however, it is a key driver of e-loyalty intentions. The results raise the possibility that migration of customer interactions to the Internet channel may reduce e-loyalty intentions.

Research conducted by AlnaserIn, A. et al. (2014), revealed that, in today's highly changeable business environment, the evaluation of customer satisfaction and service quality is the primary

goal for service firms that would like to survive in an increasingly competitive marketplace and provides long term benefits. According to the findings, there are five key dimensions of e-service quality, including ease of use, reliability, system availability and responsiveness from the perspective of online companies, and trust from the perspective of customers. And found out that much of the studies in e-service quality take a combination of traditional service quality dimensions and web interface quality dimensions as the starting point. And the performance of customer relationships depends highly on the characteristics of the e-service.

2.3. Research Hypothesis

Based on the independent and dependent variables under study, following hypothesis were formulated:

I. Research Hypothesis 1 (H1): Physical service quality dimensions (Assurance, Reliability, Tangibility, Empathy and Responsiveness) has a positive influence on customer's satisfaction in telecom sector.

II. Research Hypothesis 2 (H2): Virtual service quality (ease of use, information quality and security) has a positive influence on customer's satisfaction in telecom sector.

III. Research Hypothesis 3 (H3): Multi-channel service quality (physical and virtual) dimensions has a positive influence on customer's satisfaction in telecom sector.

2.4. Conceptual Framework

The conceptual framework explains the underlying process, which is applied to guide this study. As discussed above. The SERVIQUAL model is suitable for measuring service quality and customer satisfaction in telecom services using the service quality dimensions. The researcher has used the same dimensions to measure both service quality and customer satisfaction because we assume both are related Parasuraman et al. (1988).

The service quality dimensions i.e. Reliability the ability to perform service dependably and accurately in a constant manner. This dimension of service quality evaluates the promise of service and its execution from customers' point of View.

AlnaserIn A. et al. (2014) citied Bekhet and Al-alak (2011) that numerous studies have been conducted in the field of e-service quality. The advent of the internet in spread of information and communication technology (ICT) have encouraged researchers to investigate the impact of

ICT on the delivery of e-service in such a way as to create satisfaction among customers who favor such services.

Much of the studies in e-service quality take a combination of traditional service quality dimensions and web interface quality dimensions as the starting point. Dabholkar (1996) conducts a research work on the dimensions of e-service quality focusing on website design, and he argues that 7 dimensions of e-service quality can be illustrated as the basic parameters in the judgement of e-service quality, including website design, reliability, delivery, ease of use, enjoyment and control Dabholkar (1996).

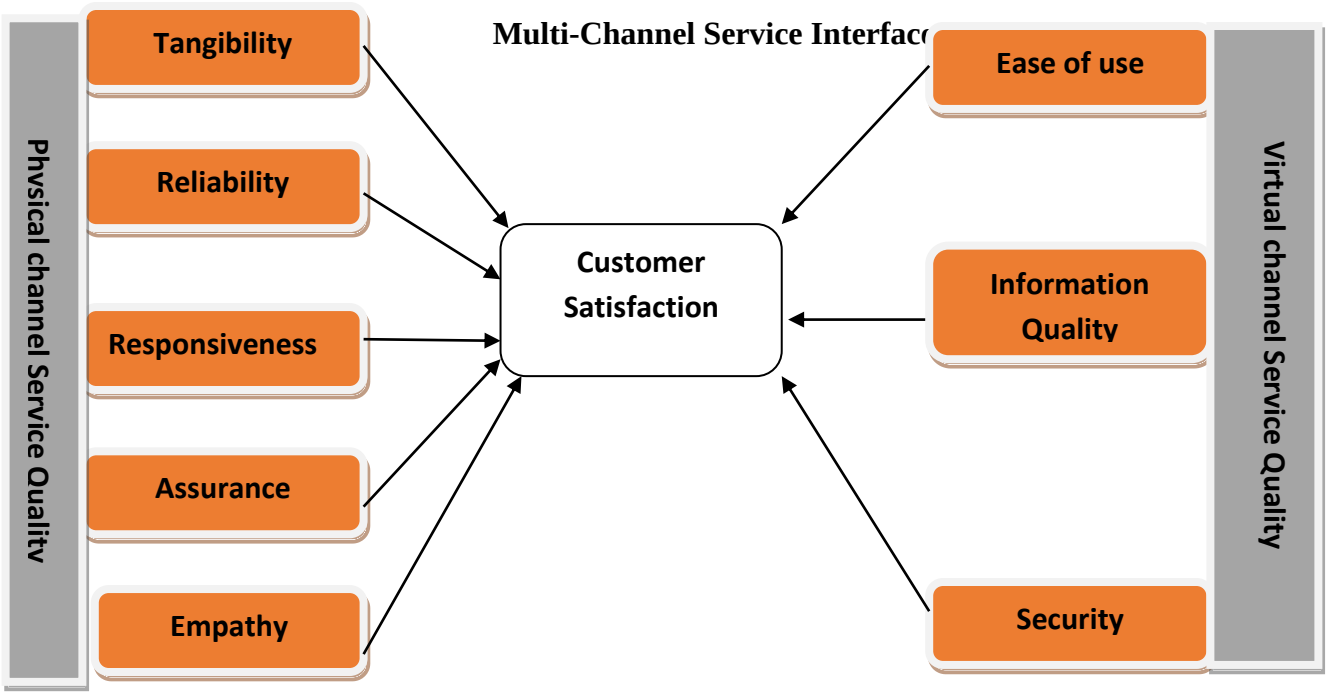

Figure. 2.3. A Conceptual Framework of the study, adapted from Churchill (1979), Gerbing and Anderson (1988), Yang, Z. and Fang, X. (2004), Parasuramam et al. (1988) and modified by the researcher.

2.5 Definition of Terms

2.5.1 Conceptual Definition of Terms

Assurance: The knowledge and courtesy of employees and their ability to convey trust and confidence Parasuramam et al. (1985).

Customer Satisfaction: Can be defined as a person's feelings of pleasure or disappointment that

results from comparing a product's perceived performance or outcome with their expectations Kotler & Keller (2009).

Direct Channel: Refers for the distribution of products, information and promotional benefits without an intermediary Jobber and Lancaster (2003).

Ease of use: Is the most talked about and least-understood aspect of software design (https://www.pcmag.com)

Empathy: The provision of caring, individualized attention to customers Parasuramam et al. (1985).

External Distributor: Shall mean legal entity or a natural person trader authorized to sell and distribute ethio telecom products through its distribution chain ethio telecom product and service distribution agreement (2016).

Indirect Channel: It is a kind of a distribution network of independent intermediaries, such as; brokers, agents, wholesalers, retailers to sell their products effectively to other channel members and/or ultimately to the end users Stern and El-Ansary (1977).

Information Quality: Is the quality of the content of information systems. (https://en.wikipedia.org.)

Multi-channel Service: It is a distribution strategy using two or more marketing channels to reach customer segments in one market area Kotler and Keller (2016).

Reliability: The ability to perform the promised service dependably and accurately Parasuramam et al. (1985).

Responsiveness: The willingness to help customers and to provide prompt service Parasuramam et al. (1985).

Security: The state of being free from danger or threat, a thing deposited or pledged as a guarantee of the fulfilment of an undertaking. (https://en.oxforddictionary.com).

Service Quality: defined as "a function of the differences between expectation and performance

along the quality dimensions". Parasuraman, Zeithaml & Berry (1985).

Tangibles: The appearance of physical facilities, equipment, personnel and communication materials Parasuramam et al. (1985).

2.5.2 Operational Definition of Terms

Products and Services: shall mean any goods and services of ethio telecom including SIM Cards (GSM,1X, 2G,3G, & 4G), voucher Cards (scratch card or Electronic Air time/E-top up/ Yimulu service) and EV-DO, Cell phone, Fixed Line Apparatus GSM / CDMA Mobile handsets, EVDO which are made available for sale through the Distributor and own outlets.

Scratch (Voucher) Cards: Shall mean the cards carrying a concealed code and containing certain amount of prepayment denominated in Ethiopian birr. The concealed code becomes visible by scratching off ethio telecom product and service distribution agreement as well as company documents (2016).

SIM Card: Shall mean the microchip card which, if inserted in a handset, ensures access to Services and allows identification of the network user for GSM, CDMA and WCDMA networks (ethio telecom product and service distribution agreement as well as company documents, 2016).

Yimulu service (E-Top-Up): shall mean an electronic top up system that provides real time top up of prepaid mobile air time at the point of sale. ethio telecom product and service distribution agreement, (2016).

CHAPTER THREE
RESEARCH METHODOLOGY

INTRODUCTION

This chapter explores research design and methodology to examine the research model and hypotheses developed. It covers design of the study, research approach, data types and sources, population of the study, sampling size determination, data gathering instruments, data analysis techniques, ethical considerations as finally, validity and reliability.

3.1 Research Design

Research design as per Burns & Bush (2002), can be used for three purposes. These are descriptive, exploratory, and explanatory. Causal research primarily explains why events occur by defining the cause-and-effect relationships amongst variables and suitable when the research problem is already well documented Zikmund (2003). Descriptive research "paint a picture" using words or numbers and present a profile, a classification of types, or an outline of steps to answer questions such as who, when, where and how Neuman 2006). While exploratory studies are common in the initial stages to gain a better understanding of the problem with in-depth investigation by breaking down a broad problem into smaller and well-defined sub-problems. Wong (1999).

Accordingly, the study has been used a casual research design since causal studies helps the researcher to seek to discover the effect that a variable(s) has on another (or others) or why certain outcomes are obtained. Furthermore, the concept of causality is grounded in the logic of hypothesis testing, which, in turn, produces inductive conclusions though such conclusions are probabilistic and thus can never be demonstrated with certainty Cooper (2014).

3.2 Research Approach

Researchers applied two types of approaches, namely qualitative and quantitative approach Saunders et.al (2007). Most researchers argued that the best method to use for a study depends on the purpose of the research, researcher data and the accompanying research questions. This study used a quantitative research approach and data has analyzed qualitatively.

3.3. Data Types and Data Sources

There are two types of data, namely primary and secondary data. Researcher might use either both or one of the types of data depends on the research type and data collect by researcher Saunders et.al (2007). For this study purpose, primary data collected through standardize questionnaire. Primary data are originated by a researcher for the specific purpose of addressing the problem at hand Malhotra and Birks (2006). Since the researcher used quantitative research approach, primary data of this research is quantitative data type. Quantitative approach develops techniques that can produce quantitative data (i.e., data in the form of numbers) Neuman (2007). The researcher used quantitative data for assessing the effect of multi-channel service quality on mobile customer's satisfaction by doing statistical analysis.

According to Malhotra and Birks (2006) analysis of available secondary data is an essential step in the problem definition process and understands the background of the research topic. Researcher has used secondary data from journals, company publication and other publicized documents. According to Adams et al. (2007) secondary data is data collected by someone else and there is a great deal available to researcher from books, libraries and on the web. The secondary data used as reference and guide the focus of clarify research question.

The researcher collects primary data through questionnaire from Ethio-Telecom's, mobiles customers around Addis Ababa. The questionnaire developed by previous researchers on the subject modified and used considering the appropriateness from the actual situation of the study area in a way to enhance validity after an extensive review of the literature. The questions have targeted on soliciting responses related to many of the most pressing issues has been identified in the literature to develop theoretical constructs concerning multi-channel service quality and customer's satisfaction.

3.4. Population of the Study

The target population in this study are Addis Ababa active mobile customers both Residential and Enterprise who visited ethio telecom shops (own out lets) and use other channels (994 contact center, web sites, self-service platform etc.) for after sales services.

3.5. Sample Size Determination

The sample size determination is a scientific task that should be performed with proper care.

Currently, ethio telecom has more than 64 million mobile customers and around 29 million are active customers who currently uses the service. Among 29 million, around 3.7 million customers are found in Addis Ababa. As Bartlet J. et al. (2011) states about sample size determination, there are different kinds of sample size determination considering the type of data be it is categorical or continuous. Accordingly, this research is used categorical data and the population is more than 10,000. Then, the appropriate same size will be 370. Accordingly, Respondents of the study were contacted personally by the researcher and collaborators and were asked to identify the service quality expected from the best cellular service provider based on the modified item list, delivered by ethio telecom.

3.6. Data Gathering Instruments

Regardless of data collection procedure, both data sources (i.e., Primary and Secondary) were utilized to get valuable information regarding the multi-channel service quality and actual satisfaction of customers.

3.7. Data Analysis Technique

As the data collection method is quantitative and interpreted qualitatively, the data has been analyzed through it. The data analysis has processed by IBM SPSS statistics (statistical Package for social scientists) software version 23 which is purposefully prepared for helping the finding using statistical analysis.

A reliability checks for internal consistency of variables also performed using Cronbach alpha statistics. After validity test and data collection, the collected data were analyzed, and the final report has produced through frequency, percentage, comparison of mean, mode, standard deviation, ANOVA, correlation and multiple stepwise regression method, using the software is called statistical package for social sciences (SPSS). In addition to SPSS, graphs, tabular explanations, charts and pie has been used to present the result. Finally, interpretation of results has been made, and the conclusions has written, and further recommendations also forwarded.

3.8 Ethical Considerations

To keep the confidentiality of the data given by respondents, the respondents could not require

writing their names and assured that their responses has treated in strict confidentiality. The purpose of the study and a reasonably expected possible benefit to the respondents and ethio telecom will be disclosed in the introductory part of the questionnaire. Furthermore, the researcher tried to avoid misleading or deceptive statements to be incorporated in the study. Lastly, the questionnaires have been distributed only to voluntary participants.

3.9 Validity and Reliability

The reliabilities of multi-channel service quality on mobile customer's satisfaction will assess with Cronbach's Alpha (α), it is the most common measure of scale reliability Field (2006). According to Neuman (2007), Cronbach's Alpha used to assess uni-dimensionality. Alpha ranges from a maximum of 1.0 for a perfect score to minimum of zero, good measure of the alpha should be 0.70 or higher.

Use of multiple indicators of a variable is used to increasing reliability, two or more of indicators of the same construct are better than one Neuman (2007). The researcher used 8 well design and theoretically constructed indicators at each of dependent and independent variables.

Statistical validity also used to measure the validity of the research through use of correct statistical procedure and instruments Neuman (2007). To insure the validity of the study, the researcher has collected quantitative data using survey questionnaire and analysis the data using correct statistical instruments like descriptive statistics, inferential statistics, correlation and regression analysis to see the relationship of the variable and reach concrete conclusion.

According to Adams et al. (2007) internal validity is used to assure the research validity. To threat the internal validity of this research, questioners has been distributed within same period and collected within short reasonable period, and reasonable sample has been taken from the population and questionnaires randomly distribute to participant.

In addition to this, the researcher has received comment from the advisor and other expertise on the questionnaire and overall research methodology. Furthermore, pilot taste has been made by distributing small questionnaire on the selected sample customers. The major objective of the pilot taste is to get feedback on the questionnaire way of preparation, wording, coherence and any other valuable comment so that researcher to incorporate any important comments and finalize the questionnaire.

CHAPTER FOUR
RESULTS & DISCUSSION

INTRODUCTION

This chapter presents results and a discussion of these results. A demographic profile of the participants is provided. The chapter focuses on participants' ratings of satisfaction in relation to physical and virtual channel factors and correlations between the two variables relationships. In addition, the relationship between Physical channel service quality (Assurance, Reliability, Tangibility, Empathy and Responsiveness) and Virtual channel service quality (ease of use, information quality and security) on ethio telecom customer satisfaction are presented. Quantitative data supporting the findings are provided. three research hypotheses were tested, and results are discussed.

4.1 Description of Sample

Dillman, Smyth, and Christian (2009) recommended using multiple methods of contact (e.g., human interaction and mail) to improve response rates. Of the 370 questionnaires distributed to ethio telecom mobile service customers from six zonal offices and 304 were returned (83 % response rate) and of the 66 questionnaires, 32 were found to be incomplete for further analysis and 34 were unreturned. As presented in Table 4.1, response rates for hand-delivered questionnaires were higher than for those sent via priority e-mail.

Table 4.1 Questionnaire Distribution and Response Rates

Method	Distributed (%)	Returned (%)	Response Rate (%)
Hand Delivered	370	304	83%

Source: researcher's own compilation of Survey data 2018

As presented in Table 4.1, response rates for hand-delivered questionnaires were higher 83%. The primary researcher's personal relationships and ongoing network efforts with ethio direct channel employees and management representatives may have contributed to the high response rate received when using the hand delivery method.

4.2. Background characteristics of the respondents.

The researches have classified its respondents in to four characteristics: Gender, Age, Academic qualification and number of years of ethio telecom customer. Accordingly, the below table depicts that the character tics of respondents, number of respondents and percentage.

Table 4.2 Demographic profile of the respondents

Respondent characteristics	Number of respondents *n* = 304	Percentage %
Gender		
Male	132	43.4%
Female	172	56.6%
Age		
Under 25	16	5.3%
26-35	112	36.8%
36-45	131	43.1%
46-55	32	10.5%
Above 55	13	4.3%
Academic qualification		
High school complete	14	4.6%
Diploma	33	10.9%
BA Degree	180	59.2%
Master's Degree	68	22.4%
Doctorate Degree	9	3.0%
Years of customer of ethio telecom		
Less than 1 year	5	1.6%
1-5 years	73	24.0%
6-10years	68	22.4%
More than 10 years	158	52.0%

Source: researcher's own compilation of Survey data 2018

Table 4.2 above shows that the survey includes a slightly higher percentage of female

participants (56.6%) than male participants (43.4%). Most of the respondents are in the age bracket from 36 to 45 years old (43.1%), followed by those of 26 to 35years of age (36.8%). This means that more than two-thirds (81.9%) of the sample group are under 50 years old.

The highest level of education completed was: high school (4.6%), Diploma (10.9%), BA/BSC degree (59.2%) master's degree (22.4%) and doctorate degree (3.0%). The majority of participants had obtained a college degree. Customers years' experience aim to know about the number of years that the respondents has been a customer of ethio telecom. The results show that majority of the respondents were more than 10 years of customer experience (52.0%) and then 6-10 years of customer experience were (22.4%), 1-5 years of customer experience were (24.0%) and less than 1 year's customer experience were (1.6%).

4.3 Empirical analysis: Reliability and Validity

4.3.1 Reliability Analysis

The literature review led to believe that SERVQUAL model there are five dimensions and 24 items of Physical service quality dimension and e-SERVQUAL model has three dimensions and 9 items of Virtual service quality dimensions. First, exploratory factor analyses and measures of internal consistency (Cronbach's alpha) are used for each a priori dimension. Next an exploratory factor analysis is used to verify that the dimensions as measured by the items selected in the first step are truly convergent and uni-dimensional to avoid the possibility that ethio telecom's customers may not perceive all these sub-dimensions in this study since the researcher examine uni-dimensional, convergent validity, discriminator validity, and the internal consistency of each dimension.

The table 4.3 below shows the key dimensions Cronbach's Alpha estimates. Reliability analysis measures the internal consistency of a group of items. This analysis is frequently used in questionnaire construction where more than one scale are used. Reliability analysis examines the homogeneity or cohesion of the items that comprise each scale. Cronbach's alpha coefficient (α) is the most frequently used index of reliability, although other indices are also used (e.g., split-half reliability). Alpha coefficients reflect the average correlation among the items that constitute a scale. Specifically, Neuman (2007), suggested that scales with 0.7 Alpha coefficients and above are considered acceptable. Low alphas indicate poor internal consistency

of a scale, because the items that make up the scale are poorly related to each other. (SPSS version 23 manual)

Based on this, reliability analysis was performed to make sure that weather questionnaires used measure the internal consistency of Physical channel service quality (Assurance, Reliability, Tangibility, Empathy and Responsiveness) and Virtual channel service quality (ease of use, information quality and security) on ethio telecom' customer satisfaction in a useful way.

To ensure internal consistency among the items included in each of the scales, Cronbach's coefficient alpha is estimated. Higher Alpha coefficients indicate higher scale reliability. Reliability analysis allows studying the properties of measurement scales and the items that make them up. The Reliability analysis procedure calculates the number of commonly used measures of scale reliability and provides information about the relationships between individual items in the scale. Intra-class correlation coefficients can be used to compute inter-rater reliability estimates. Based on this, reliability analysis was performed to make sure that weather questionnaires used to measure customer satisfaction of existing mobile users in a multi-channel context considering all channels used by the customers of ethio telecom in Addis Ababa.

Table 4.3 Reliability of the Physical and Virtual Service Quality (Cronbach's Alpha)

Dimension measurements	Cronbach's Alpha	Over all Cronbach's Alpha
Reliability	.898	
Responsive	.896	
Assurance	.895	
Empathy	.895	
Tangibles	.897	
Security	.892	
Ease of use	.896	
Information	.891	
Satisfaction	.898	
Over all Cronbach's Alpha (7 items)		.906

Source: researcher's own compilation of Survey data 2018

The Cronbach alpha values range from 0 to 1 with values above 0.7 generally considered a

good indicator of an internally consistent (reliable) scale Nunnally (1978). The results presented in **Table 4.3** above indicate that the Cronbach alpha values calculated for the data in the study range from .898 to .891. Thus, it was established that the scales used in this study are highly reliable.

4.3.2 Validly Analysis

Primarily, (Keiser-Meyer-Olkin) and Bartlett's test of sphericity can be used to examine assumptions relating to the appropriateness of the factor analysis. Accordingly, the KM is used in the study to measure the sampling adequacy and examines the degree of correlation among the questionnaire items. Values above .60 are considered acceptable. Therefore, the result 0.866 tells us that the factor analysis is useful in this study data.

Table 4.4 KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		**.866**
Bartlett's Test of Sphericity	**Approx. Chi-Square**	**5843.440**
	df	**528**
	Sig.	**.000**

Source: researcher's own compilation of Survey data 2018

Bartlett's test of sphericity tests the hypothesis that the correlation matrix is an identity matrix, which would indicate that the study variables are unrelated and therefore unsuitable for structure detection. Small values (less than 0.05) of the significance level indicate that a factor analysis may be useful with in the study data this tells us that for this study factor analysis is very important since the significance is less than 0.05 (i.e.0.000) In addition, factor analysis depends on Eigenvalue in determining the number of factors. Only factors with Eigenvalue greater than 1 are kept in the model. Eigenvalue represents the varying element explained by factors SPSS (version 23 manual).

4.3.3 Exploratory factor analysis

After assessing the reliability of measurements by Cronbach Alpha coefficient and removing unreliable variables, exploratory factor analysis is used to reduce and summarize the data. This method is very useful in determining the variable set necessary for the research as well as in

finding the relationship between variables. The Application of factor analysis under this study involves the following two stages:

I. Determining the number of common factors needed to adequately describe the correlations between the observed variables, and estimating how each factor is related to each observed variable (i.e., estimating the factor loadings);
II. Trying to simplify the initial solution by the process known as factor rotation SPSS (version 23 manual).

The results presented here are based on prudent sets of variables guided by conceptual and practical considerations: the acceptance of factor loadings of 0.50 and above are considered and cross loadings of above 0.20 since normally this level is considered practically significant by most researchers'. Hair et al. (1995). The Varimax factor rotation was employed for all the analysis because it represents the clustering of variables more accurately Hair et al. (1995) and because the factors are conceptually linked, plus since the study initially hypothesized that the factors are correlated, this technique of rotation is found to be more suitable for this study.

One significant part of the factor analysis result table is the component matrix or rotated component matrix. This component matrix contains coefficients representing standardized variables by factors (each variable is a polynomial of factors). Factor loading coefficients show the link between variables and factors. Those coefficients reveal how close the relationship between variables and factors is. As the research uses factor extraction principal component method, factor loading coefficients must have weights greater than 0.5 SPSS (version 23 manual). Originally the research Model proposes Eight factors relationship (containing 33 items), representing independent Variable.

Comprising eight main components with 33 observed variables. All 33 variables have passed the reliability test by Cronbach alpha coefficient. Exploratory factor analysis (EFA) is utilized to reassess the convergence of observed variables around the main components. Applying the extraction method: principal components analysis and varimax rotation method at every level of Eigenvalues greater than 1 and, analyzing variables which has been extracted 8 observed variables from 33 items used with cumulative variance is 66.84% indicating that the original study seven variables predicted were found to be expected eight variables can explain customer satisfaction which is greater than 50% satisfied the criteria.

Table 4.5 Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	11.318	34.295	34.295	11.318	34.295	34.295	4.802	14.552	14.552
2	2.177	6.596	40.892	2.177	6.596	40.892	3.172	9.613	24.165
3	1.899	5.754	46.646	1.899	5.754	46.646	2.961	8.972	33.138
4	1.497	4.536	51.182	1.497	4.536	51.182	2.875	8.712	41.849
5	1.455	4.409	55.591	1.455	4.409	55.591	2.706	8.200	50.049
6	1.406	4.261	59.852	1.406	4.261	59.852	2.520	7.638	57.687
7	1.186	3.593	63.445	1.186	3.593	63.445	1.647	4.992	62.679
8	1.121	3.397	66.843	1.121	3.397	66.843	1.374	4.163	66.843

Source: researcher's own compilation of Survey data 2018

The proportion of variance accounted for by any one factor is its eigenvalue divided by the sum of the eigenvalues, which is multiplied by 100 to convert it to a percentage. Thus, for example, the proportion of variance due to the first factor is about 11.318/33.002 or 0.34295 which multiplied by 100 equals 34.295. (Refer Annex III)

4.3.4 Relationship between independent variables and Dependent Variable

4.3.4.1 Correlation Analysis

The correlation coefficient depicts the basic relationship across two variables: "Do two variables have a tendency to increase together (Co-together) or to change in opposite directions and, if so, by how much? The two most commonly used statistical techniques to analyze relationships between continuous variables are the Pearson correlation and linear regression. the term correlation is correct, but correlation also refers to a specific statistical technique. Since the study have parametric data, Pearson correlations are used to study the relationship between two continuous variables and the theoretical correlation coefficient is often expressed using the Greek letter rho (ρ).

The Pearson correlation coefficient is used to quantify the strength and direction of the

relationship between continuous variables. The Pearson correlation coefficient is a measure of the extent to which there is a linear (straight line) relationship between two variables. It has values between –1 and +1, so that the larger the value, the stronger the correlation. As an example, a correlation of +1 indicates that the data fall on a perfect straight line sloping upward (positive relationship), while a correlation of –1 would represent data forming a straight line sloping downward (negative relationship). A correlation of 0 indicates there is no straight-line relationship at all SPSS (version 23 manual). Correspondingly, the effect size for a correlation measures the strength of the relationship. For correlation, r serves as the numeric measure of the effect size whose strength can be interpreted according to criteria developed by Cohen (1988):

- When r is greater than 0.10 and less than 0.30, the effect size is "small."
- When r is greater than 0.30 and less than 0.50, the effect size is "medium."
- When r is greater than 0.50 the effect size is "large."

Effect sizes smaller than 0.10 would be considered trivial. These terms (small, medium, and large) associated with the size of the correlation are intended to provide users with a specific word that can be used to describe the strength of the correlation in a write-up (SPSS version 23 manual).

Table 4.6 Correlations

Variables	REL	RESP	ASSUR	EMPH	TANG	SECU	EASUS	NFOR	SATISF
REL	1.000								
RESP	.492**	1.000							
Sig. (2-tailed)	.000	.							
ASSUR	.649**	.532**	1.000						
Sig. (2-tailed)	.000	.000	.						
EMPH	.595**	.548**	.634**	1.000					
Sig. (2-tailed)	.000	.000	.000	.					
TANG	.569**	.408**	.543**	.558**	1.000				
Sig. (2-tailed)	.000	.000	.000	.000	.				
SECU	.452**	.527**	.472**	.587**	.509**	1.000			

Sig. (2-tailed)	**.000**	**.000**	**.000**	**.000**	**.000**	**.**			
EASUS	**.367****	**.429****	**.516****	**.467****	**.490****	**.624****	**1.000**		
Sig. (2-tailed)	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.**		
NFORM	**.359****	**.519****	**.509****	**.419****	**.506****	**.583****	**.729****	**1.000**	
Sig. (2-tailed)	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.**	
SATISF	**.483****	**.436****	**.459****	**.509****	**.503****	**.569****	**.512****	**.592****	**1.000**
Sig. (2-tailed)	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.**

***. Correlation is significant at the 0.01 level (2-tailed) Spearman's rho N=304*

REL=Reliability, **RESP**=Responsive, **RESP**=Assurance, **EMPH**=Empathy, **TANG**=Tangibles, **SECU**=Security, **EASUS**=Ease of use, **NFORM**= Information, **SATISF**=Satisfaction

Given the proposed framework under the study, it was expected that Physical channel service quality (Assurance, Reliability, Tangibility, Empathy and Responsiveness) and Virtual channel service quality (ease of use, information quality and security) would significantly have a positive correlation with customers' satisfaction. Correlations for the above Factors in Table 4.7 support the notion of significant positive relationships among the independent variables and dependent variable with high statistical significance ($p < .001$), however, the strength measures of the correlation relationship of each component varies.

Correlation coefficient is > 0 for all factors. This implies that the variables Physical channel service quality (Reliability, Responsiveness Assurance, Empathy and Tangibility,) and Virtual channel service quality (security, ease of use, and information quality) change in the same direction with customers' satisfaction. This result is expected. The two asterisks indicate that the estimate of .483** .436** .459** .509** .503** .569** .512** .592** statistically significant at the 0.01 level implicating a 99 degree of confidence.

4.3.5 Association between variables

Regression analysis is about predicting the future (the unknown) based on data collected from the past (the known). A *regression analysis* determines the mathematical equation to be used to figure out what will happen, within a certain range of probability. It analyzes one variable, the dependent variable, taking into consideration the effect on it by one or more factors, the

independent variables. The analysis determines that some independent variables have more effect than others, so their weights must be taken into account when they are the basis of a prediction. Regression analysis, therefore, is the process of looking for predictors and determining how well they predict.

When only one independent variable is taken into account, it's called a simple regression. But this study uses more than one independent variable, it's uses multiple regressions analysis that shows the influence of two or more variables on a designated dependent variable. Accordingly, the following fundamental criteria were fulfilled for creating a reliable model:

- The research was thoughtfully crafted and carefully designed by avoiding meaningless relationships or serious design flaws that may affect the arithmetic correctness of regression.
- The sample size should be large enough to create meaningful correlations. There are no hard rules concerning acceptable sample size, but as N drops below 50, the validity of the results become increasingly questionable, while the sample size in this study was 370 *(annex V).*
- Data should be examined carefully for outliers or other abnormalities *(See annex VI & VII).*
- The predictor variables should be approximately normally distributed, ideally with skewness and kurtosis values between ±1*(See annex VI &VII).*
- The issue of linear dependency between the predictor variables were considered i.e. The study never uses two variables when one is partially or entirely dependent upon the other and avoids using variables that are conceptually very similar that can be checked by high correlation of variables *(See annex IV),*

4.3.5.1 Stepwise Regression Analysis

Stepwise regression analysis was done for the proposed model to assess how independent variables are associated with the dependent variables. The result of this sequence is to produce a regression analysis that identifies which of Physical channel service quality (Assurance, Reliability, Tangibility, Empathy and Responsiveness) and Virtual channel service quality (ease of use, information quality and security) have the greatest influence on the dependent variable (customer satisfaction) at ethio telecom. The stepwise method of selection will first enter the independent variable with the highest bivariate correlation with help, then enter the variable that explains the greatest additional amount of variance, then enter a third variable and so forth until no other variables significantly (significance is specified as $p \leq .10$ for this analysis) influence

the amount of help given. If the influence of any variable increases above a significance of .20 after entry into the regression analysis, it will be dropped from the regression equation.

The results of stepwise regression analysis where the Forward entry method, a dependent variable and any number of predictor (independent) variables are designated are presented in the Table. The first statistic to look for in SPSS output when performing regression analyses is If Sig.-F is significant or not by seeing ("ANOVA") table. The table shows the goodness of fit of the model. The lower this number, the better the fit. Typically, if "Sig." is greater than 0.05, we conclude that our model could not fit the data (See annex E) If Sig. < .01, then the model is significant at 99%, if Sig. < .05, then the model is significant at 95%, and if Sig. <.1, the model is significant at 90%. Significance implies that we can accept the model. If Sig>.,1 then the model was not significant (a relationship could not be found) or "R-square is not significantly different from zero."

Table 4.7 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Sig. F Change
1	.495[a]	.245	.243	.843	.000
2	.563[b]	.317	.313	.803	.000
3	.586[c]	.343	.336	.789	.001

Predictors: (Constant), Tangibles$_a$
Predictors: (Constant), Tangibles, Responsive$_b$
Predictors: (Constant), Tangibles, Responsive, Empathy, Reliability
Dependent Variable: Satisfaction$_d$
Method: Forward (Criterion: Probability of F to enter <= .050)

Source: researcher's own compilation of Survey data 2018

Table 4.8 Relationship between Independent and Dependent variables

Variable	coefficients		
	Standardized Beta	**t-values**	**(p-value) Sig.**
(Constant)		-.873	.383
Tangibles	.285	5.008	.000
Responsive	.221	3.873	.000

Empathy	.208	3.435	.001
Reliability	.201	1.772	.077

Note: ***R^2 = 0.343 ; F= 51.192 ; Sig. F= 0.000^d***

Source: researcher's own compilation of Survey data 2018

4.3.5.2 Interpretation of regression results

keeping the above criteria, in this study multiple regression analysis was done for independent factors Physical channel service quality predictors (Assurance, Reliability, Tangibility, Empathy and Responsiveness) against the dependent variable (customer satisfaction) the model as a whole is significant (sig. P<0.001) indicating that for 99% confidence in the ability of the model to explain the dependent variable.

Table 4.9 Coefficients a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
3	(Constant)	-.227	.261		-.873	.383		
	Tangibles	.399	.080	.285	5.008	.000	.677	1.476
	Responsive	.303	.078	.221	3.873	.000	.673	1.487
	Empathy	.246	.071	.208	3.435	.001	.597	1.676
	Reliability	.222	.069	.201	1.772	.077	.507	1.971

a. *Dependent Variable: Satisfaction* *Source: researcher's own compilation of Survey data 2018*

Table 4.10 Excluded Variable a

Model	Beta In	t	Sig.	Partial Correlation	Collinearity Statistics		
					Tolerance	VIF	Minimum Tolerance
Assurance	.098[d]	1.460	.145	.084	.485	2.060	.485

d. Predictors in the Model: (Constant), Tangibles, Responsive, Empathy and Reliability

Source: researcher's own compilation of Survey data 2018

An initial look identifies key elements of the analysis: three models were tested (only the third is shown here), with the four variables that met the entry requirement included in the final equation (Tangibility, Responsiveness, Empathy and Reliability). One variables did not meet the entry requirement (Assurance). The multiple R shows a substantial correlation between the four

predictor variables and the dependent variable customer satisfaction (R = .586). The R-square value indicates that about 34.3 % of the variance in customer satisfaction is explained by the four predictor variables. The β values indicate the relative influence of the entered variables, that is, Tangibles has the greatest influence on customer satisfaction (β = .285), followed by Responsiveness (β = .221), Empathy (β = .208) and Reliability (β = .201). The direction of influence for the four variables was positive. Subsequently, seeing the individual contribution of the independent variable Assurance was found to be its contribution statistically insignificant (sig. 0.145) therefore the variable was removed from the model.

4.3.6 Association of Independent variable and Dependent variables

Table 4.11 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Sig. F Change
1	.611[a]	.373	.371	.769	.000
2	.661[b]	.437	.433	.730	.000

Predictors: (Constant), Information$_a$

Predictors: (Constant), Information, Security$_b$

Dependent Variable: Satisfaction$_c$

Method: Forward (Criterion: Probability of F to enter <= .050)

Source: researcher's own compilation of Survey data 2018

Table 4.12 Relationship between Independent and Dependent variables

Variable	coefficients		
	Standardized Beta	**t-values**	**(p-value) Sig.**
(Constant)		2.275	.024
Information	.419	7.732	.000
Security	.317	5.842	.000

Note: ***R^2 = 0.437 ; F= 116.67 ; Sig. F= 0.000^c***

Source: researcher's own compilation of Survey data 2018

4.3.5.3 Interpretation of regression results

keeping the above criteria, a multiple regression analysis was done for independent virtual channel service quality predictors (ease of use, information quality and security) against the

dependent variable (customer satisfaction) the model as a whole is significant (sig. P<0.001) indicating that for 99% confidence in the ability of the model to explain the dependent variable.

Table 4.13 Coefficients a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
2 (Constant)	.387	.170		2.275	.024		
Information	.429	.056	.419	7.732	.000	.636	1.572
Security	.324	.056	.317	5.842	.000	.636	1.572

a. Dependent Variable: Satisfaction Source: researcher's own compilation of Survey data 2018

Table 4.14 Excluded Variables a

Model	Beta In	t	Sig.	Partial Correlation	Collinearity Statistics		
					Tolerance	VIF	Minimum Tolerance
2 Ease of use	-.026[c]	-.392	.695	-.023	.434	2.306	.434

c. Predictors in the Model: (Constant), Information, Security

Source: researcher's own compilation of Survey data 2018

An initial look identifies key elements of the analysis: two models were tested (only the second is shown here), with the two variables that met the entry requirement included in the final equation (information quality and security). One variables did not meet the entry requirement (ease of use). The multiple R shows a substantial correlation between the three predictor variables and the dependent variable customers satisfaction (R = .661). The R-square value indicates that about 43.7 % of the variance in customer satisfaction is explained by the two predictor variables. The β values indicate the relative influence of the entered variables, that is, information quality has the greatest influence on customer satisfaction (β = .419), followed by Security and (β = .317). The direction of influence for the two variables was positive. Subsequently, seeing the individual contribution of the independent variables ease of use was found to be their contribution statistically insignificant (sig. 0.695) therefore the variable was removed from the model.

4.3.6 Hypothesis Testing

	Proposed Null Hypothesis	*B*	P	Result	Remark
H1	Physical service quality dimensions (Tangibility, Responsiveness Empathy Assurance, and Reliability) has a positive influence on customer's satisfaction in telecom sector.	.285 .221 .208. .201	0.000	Partially supported	Except Assurance
H2	Virtual service quality (information quality, security and ease of use,) has a positive influence on customer's satisfaction in telecom sector.	.419 .317	0.000	Partially supported	Except ease of use
H3	Multi-channel service quality (physical and virtual) dimensions has a positive influence on customer's satisfaction in telecom sector	.443 .275	0.000	Partially supported	

4.4 Discussion on the result

Once the reliability and validity of measurement model was established, the hypotheses were tested by analyzing the relationships between the latent constructs denoted in the model using a multiple regression analysis and correlation analysis on SPSS version 23.

With respect to the relationship between Physical channel service quality predictors (Reliability, Responsiveness Assurance, Empathy and Tangibility,) 483**.436**.459**.509**.503** at the 0.01 level (a 99 degree of confidence) were found to be having a positive and significant relationship with customers' satisfaction, where the predictors Tangibility and Responsiveness recorded a high level of relationship with mobile service customers' satisfaction than the other variables.

Similarly, Virtual channel service quality predictors (security, ease of use, and information quality) .569**.512**.592** at the 0.01 level (a 99 degree of confidence) were found to be having a positive and significant relationship with customers' satisfaction. where all the three predictors recorded a high level of relationship with mobile service customer's satisfaction.

With respect to the influence, the proposed model fit the data quite well and an examination of the estimated model parameters of multiple step regression result indicated that Physical service quality dimensions (Tangibility, Responsiveness, Empathy and Reliability) has a positive

significant influence on customer's satisfaction in telecom sector in Ethiopia where the hypothesized relationships. H1 and H2, which partially support that perceived service quality through each channel (virtual and physical) used by multi-channel ethio telecom mobile service customers have a positive influence on satisfaction, were found to be significant. Focusing on the recent researches (Sousa & Voss, 2006) multi-channel customers using the two service channels, physical channel and virtual service (Internet channel), the results show that three factors influence multi-channel customer satisfaction in a positive manner: the perceived service quality through the virtual channel, the perceived service quality through the traditional channel and the multi-channel integration quality.

Another recent research Cassab & Maclachlan (2009) finds also confirm that multi-channel service strategies are relevant to organizations that have deployed different modes of contact with their customers. Employing single channel view of service may not be sufficient to ensure a flowing conversation with customers. For example, most modern channels such as online, mobile, and kiosks empower customers to serve themselves. With less face-to-face interaction, customer feedback may be more difficult to obtain and inconsistencies may remain un noticed. This can be alleviated through a progressive introduction of services in new channels and the provision of more information to consumers through touch points that help clarify the consumer's role in the service delivery process. The finds of this study also confirm that majority of the respondents are in need of virtual service interactions in addition to physical one.

Furthermore, H3 was verified with a significant and positive value for the effect of virtual service quality and physical service quality ethio telecom mobile service customers unlike Rolland's (2003) study finding indicating that the stronger impact on branch perceived service quality confirms about the dominance of traditional physical channel as a benchmark of quality.

Finally, another study conducted by Marianne and Philippe (2013) also elucidate that service companies must try to identify quality factors that create value for multi-channel customers to better satisfy them. Second, it highlights the need for managers to have an integrated view of all channels. Through channel integration, service firms can increase customers' perception of the service value. The study result of this paper also confirms this that using the integrated (Physical and Virtual) service has a significant impact on customers satisfaction.

CHAPTER FIVE
CONCLUSION, RECOMMENDATION, LIMITATION AND IMPLICATIONS FOR FUTURE RESEARCH

INTRODUCTION

This chapter focuses on the conclusion of the study. It provides summary on major findings, conclusion and recommendation of the thesis, and limitations and implications for future research on related subject

5.1 Conclusion

For several years, ethio telecom, have been offering services through multiple channels. In particular, for mobile service customers it has become a standard to provide services through Internet-based channels, in addition to its traditional channels. This has led the customers to increasingly adopt a multi-channel behavior and through multi-channel distribution strategy, ethio telecom is in search of a greater profitability but also of a better customer satisfaction from time to time.

Therefore, understanding what factors influence multi-channel customer satisfaction is crucial when facing a competitive environment, even though not in the case of Ethiopia telecom sector but in the future in which it will becomes difficult to retain customers. The aim of this study was to propose and empirically test a model of the determinants of satisfaction in a context of multi-channel service distribution, in Ethiopian monopoly telecom industry. The study tried to understand to what extent the use of different service channels has an impact on mobile customers' overall service experience. So rather than adopting a single-channel view of service quality and customer satisfaction, this study tested the combined effect of perceived multi-channel service quality on mobile customers' satisfaction in monopoly telecom industry in Ethiopia.

The main hypothesis of this study is that in the context of multi-channel service quality, customer satisfaction depends on the perceived service quality in all channels used but also on the way those channels are integrated. The results show that three factors influence multi-channel customer satisfaction in a positive manner: the perceived service quality through the virtual

channel, the perceived service quality through the traditional channel and the multi-channel integration quality. Multi-channel integration has been defined as 'the ability to provide customers with a seamless service experience across multiple channels'. The study findings also reveal that virtual service quality is the most influential determinant of mobile customers' satisfaction in the case of ethio telecom. The stronger impact on virtual channel perceived service quality confirms the dominance of virtual channel as a benchmark of quality in the case of ethio telecom even though still the overall satisfaction can depend, in particular, on such non-routine services delivered through shops and branch office service employees.

Van Birgelen et al. (2006) noted, 'nonroutine service customers perceive a multi-channel system with a well-performing, satisfactory Internet channel, in combination with knowledgeable and friendly service employees to be more value-adding than just a mono-channel approach'. The study found that four Physical service quality dimensions (Tangibility, Responsiveness, Empathy and Reliability) have a strong impact on ethio telecom shop and physical channel service quality has a positive significant influence on mobile customer's satisfaction in telecom sector in Ethiopia. On a similar manner, the study also found that two Virtual service quality dimensions (Information Quality and Security) were found to be having a positive influence on mobile customer's satisfaction of ethio telecom.

5.2 Recommendations

The study has the following managerial implications, First, the study findings emphasizes that the need for ethio telecom to identify quality factors that create value for multi-channel mobile customers to better satisfy them. Second, this study highlights the need for ethio telecoms' Executive Management to have an integrated view of all channels. Through channel integration, ethio telecom can increase customers' perception of the service value. Undeniably, customers can easily move from one channel to another and have a continuous experience across the different channels and this continuous and seamless multi-channel experience is likely to lead to a higher level of customer satisfaction promoting a long-term relationship based on trust in the near future. Ethio telecom mobile customers can thus benefit more from the complementarities and the existing synergies between the traditional channels and the virtual channels.

Potentialities offered by technology channels by ethio telecom such as the Internet, web and

mobile self-help services ‘intensify the need of integration and coordination’ between the channels.

This study can shade some light to ethio telecom to set up a priority quality plan because the bricks-and-mortar service quality is still important for the overall satisfaction of consumers in a multi-channel context and face-to-face service encounter remains a central point for service quality in case of ethio telecom; while the virtual channel service quality is less important, although it has become an element of the service quality question at the moment.

As stated above from physical service quality variables, Empathy and Tangibility has a greater significant impact of customers’ satisfaction and similarly on Virtual channel variables such as Information Quality and Security has higher significance than physical service quality dimensions. Accordingly, the researcher would like to add additional recommendation which will be expected from ethio telecom:

I. Create a better fell and look on the minds of its customers by preparing attractive uniforms to its employees;

II. The needs and wants of the customers must be understand by launching many channels as possible;

III. Create awareness to its employees so that they give better attention to customers’ needs first;

IV. Ethio is required to deliver useful information to its customers;

V. Finally, ethio telecom should engage itself in bring better security systems so that customers data will be protected.

5.3 Limitations and Implications for Future Research

While the results and findings are valuable, the limitation of this study must also be considered. A potential limitation of this study is the possibility that the findings are not generalizable due to its scope restriction only to state owned telecom service provider, Ethio Telecom. Moreover, the scope restriction to in Addis Ababa may deny important information to be collected from region based mobile customers, probably can influence the findings. Because mobile customers out of Addis Ababa were excluded from the study, the researcher cannot say with confidence the

sample is representative of the whole population. The other limitation of this study is the inadequate literature on the subject especially from developing countries and Ethiopian context. Furthermore, the other limitation of this study is customer satisfaction is affected with so many factors like price, product quality and others, but in this research, the researcher focused only on service quality dimensions both physical and virtual.

Moreover, this study raises more questions than it attempts to answer, opening several horizons for further research into the multi-channel service quality.

The researcher suggests the following further research areas:

- Additional researches considering all factors affecting multi-channel service quality access, site aesthetics, efficiency, flexibility and personalization are highly needed.
- Moreover, it will be better if researchers in the area will consider other service sectors like Banks, Insurances, Hotels and Airlines etc. together to examine the effect of multi-channel service quality on customers' satisfaction.
- Furthermore, it will be better if region based mobile customers to be considered to study the effect of multi-channel service quality on customers' satisfaction.

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Appendix

ANNEX -I Sample size determination table

Table 1: Table for Determining Minimum Returned Sample Size for a Given Population Size for Continuous and Categorical Data

Population size	Sample size					
	Continuous data (margin of error=.03)			Categorical data (margin of error=.05)		
	alpha=.10 t=1.65	alpha=.05 t=1.96	alpha=.01 t=2.58	p=.50 t=1.65	p=.50 t=1.96	p=.50 t=2.58
100	46	55	68	74	80	87
200	59	75	102	116	132	154
300	65	85	123	143	169	207
400	69	92	137	162	196	250
500	72	96	147	176	218	286
600	73	100	155	187	235	316
700	75	102	161	196	249	341
800	76	104	166	203	260	363
900	76	105	170	209	270	382
1,000	77	106	173	213	278	399
1,500	79	110	183	230	306	461
2,000	83	112	189	239	323	499
4,000	83	119	198	254	351	570
6,000	83	119	209	259	362	598
8,000	83	119	209	262	367	613
10,000	83	119	209	264	370	623

NOTE: The margins of error used in the table were .03 for continuous data and .05 for categorical data. Researchers may use this table if the margin of error shown is appropriate for their study; however, the appropriate sample size must be calculated if these error rates are not appropriate. Table developed by Bartlett, Kotrlik, & Higgins.

Annex-II Reliability Statistics

Reliability Statistics

Cronbach's Alpha	N of Items
.944	36

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
The service provided in multi-channel gives you confidence	114.47	443.834	.603	.942
There are always adequate number of ethio telecom employees to respond to your needs	114.45	455.166	.399	.944
Ethio Telecom employees deliver services right the first time (error free service)	114.87	453.287	.441	.943
Ethio telecom provides multi-channel services that are always consistent	115.06	454.852	.388	.944
Employees in the point of sales tell you exactly when the services will be performed	114.40	452.776	.395	.944
Ethio Telecom employees provide multi-channel distribution services on time	114.30	446.943	.560	.942
Ethio Telecom employees pay attention to your personal needs	114.17	454.197	.470	.943
Ethio Telecom employees are always willing and never too busy to help	114.13	454.024	.437	.943
Ethio Telecom employees understand customers' needs	114.01	447.558	.599	.942
Ethio Telecom employees are professional and well trained	114.36	449.486	.538	.943
The behavior of ethio telecom employees on multi-channel services instils confidence in you	114.33	451.878	.515	.943
Ethio Telecom employees have the necessary knowledge to deal with customer inquiry and needs	114.34	445.802	.619	.942
Ethio Telecom employees are always polite	114.00	450.129	.531	.943
Ethio Telecom honors its commitment towards the promised multi-channel services experience.	114.30	459.080	.288	.945
You feel safe in your transactions with the point of sales	114.38	446.876	.569	.942
Ethio Telecom employees always give you individual attention	114.53	447.900	.525	.943
Ethio Telecom employees put channel users' needs first	114.40	446.993	.569	.942

Ethio Telecom employees understand specific user needs	114.52	445.788	.595	.942
Ethio telecom multi-channel service are supported by modern and technologically advanced systems	114.02	449.957	.556	.942
Ethio multi-channel service delivery are comfortable	114.26	448.716	.563	.942
Ethio telecom multi-channel service are up to date and entertaining	114.38	451.107	.474	.943
The services provided on ethio telecom multi-channel service meet customers' needs	114.60	454.169	.427	.943
The quality and number of ethio telecom multi-channel services are satisfactory	114.90	447.669	.558	.942
Ethio telecom employees are well dresses and neat	114.26	456.119	.363	.944
I feel confident about the security [self-service,website..etc]	114.53	438.178	.738	.941
I feel safe in my transactions using virtual channel [self-service,website..etc]	114.42	443.907	.650	.942
My private and financial data seem well protected	114.28	445.337	.621	.942
The virtual channel [self-servcie,website..etc] are simple to use	114.19	445.592	.591	.942
This virtual channel makes it easy to find the information I need	114.15	441.795	.667	.941
It is easy to use the virtual channels [self-servcie,website..etc]	114.03	449.045	.555	.942
The virtual channels provides useful information	114.13	436.594	.735	.941
This virtual channels meets my information needs	114.20	444.209	.668	.942
Information at the virtual channels are well updated	114.42	445.597	.640	.942
I am totally satisfied with quality of ET multi-channel services	114.86	443.884	.631	.942
I had a satisfying experience with ET multi-channel services	114.68	444.507	.608	.942
Overall, ethio telecom multi-channel services quality provides a very satisfying experience	114.72	443.859	.664	.942

ANNEX-III Total Variance Explained and Rotated component matrix

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	11.318	34.295	34.295	11.318	34.295	34.295	4.802	14.552	14.552
2	2.177	6.596	40.892	2.177	6.596	40.892	3.172	9.613	24.165
3	1.899	5.754	46.646	1.899	5.754	46.646	2.961	8.972	33.138

4	1.497	4.536	51.182	1.497	4.536	51.182	2.875	8.712	41.849
5	1.455	4.409	55.591	1.455	4.409	55.591	2.706	8.200	50.049
6	1.406	4.261	59.852	1.406	4.261	59.852	2.520	7.638	57.687
7	1.186	3.593	63.445	1.186	3.593	63.445	1.647	4.992	62.679
8	1.121	3.397	66.843	1.121	3.397	66.843	1.374	4.163	66.843
9	.959	2.907	69.749						
10	.903	2.738	72.487						
11	.860	2.605	75.092						
12	.808	2.447	77.539						
13	.728	2.207	79.746						
14	.674	2.042	81.788						
15	.603	1.826	83.615						
16	.554	1.679	85.293						
17	.530	1.606	86.899						
18	.461	1.397	88.296						
19	.414	1.256	89.552						
20	.395	1.196	90.747						
21	.374	1.133	91.881						
22	.326	.987	92.867						
23	.317	.961	93.828						
24	.302	.916	94.744						
25	.297	.901	95.645						
26	.261	.791	96.436						
27	.239	.723	97.159						
28	.208	.629	97.789						
29	.190	.576	98.365						
30	.170	.514	98.879						
31	.148	.447	99.326						
32	.130	.395	99.721						
33	.092	.279	100.000						

Extraction Method: Principal Component Analysis.

Rotated Component Matrix[a]

	Component							
	1	2	3	4	5	6	7	8
Easeofuse3								.803
Information2	.784							
Easeofuse1								.725
Information3	.711							
Easeofuse2								.710
Information1	.687							
Assurance4								
Security2		.696						

Security3		.647						
Security1		.645						
Empathy3		.548						
Reliability2							.601	
Tangibles4			.758					
Tangibles3			.717					
Tangibles5			.674					
Reliability3							.583	
Tangibles6								
Empathy4				.681				
Reliability4							.664	
Assurance3				.614				
Assurance2				.531				
Empathy2		.523		.524				
Responsive4					.799			
Responsive3					.739			
Responsive5					.595			
Responsive2					.564			
Tangibles1						.712		
Assurance1						.639		
Reliability1							.632	
Tangibles2				.841				
Assurance5								
Empathy1								
Responsive1					.682			

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
a. Rotation converged in 9 iterations.

ANNEX-IV- Correlations

Correlations

			Reliability	Responsive	Assurance	Empathy	Tangibles	Security	Easeofuse	Information	Satisfaction
Spearman's rho	Reliability	Correlation Coefficient	1.000	.492**	.649**	.595**	.569**	.452**	.367**	.359**	.483**
		Sig. (2-tailed)	.	.000	.000	.000	.000	.000	.000	.000	.000
		N	304	304	304	304	304	304	304	304	304
	Responsive	Correlation Coefficient	.492**	1.000	.532**	.548**	.408**	.527**	.429**	.519**	.436**
		Sig. (2-tailed)	.000	.	.000	.000	.000	.000	.000	.000	.000
		N	304	304	304	304	304	304	304	304	304
	Assurance	Correlation Coefficient	.649**	.532**	1.000	.634**	.543**	.472**	.516**	.509**	.459**

		Sig. (2-tailed)	.000	.000	.	.000	.000	.000	.000	.000	.000
		N	304	304	304	304	304	304	304	304	304
	Empathy	Correlation Coefficient	.595**	.548**	.634**	1.000	.558**	.587**	.467**	.419**	.509**
		Sig. (2-tailed)	.000	.000	.000	.	.000	.000	.000	.000	.000
		N	304	304	304	304	304	304	304	304	304
	Tangibles	Correlation Coefficient	.569**	.408**	.543**	.558**	1.000	.509**	.490**	.506**	.503**
		Sig. (2-tailed)	.000	.000	.000	.000	.	.000	.000	.000	.000
		N	304	304	304	304	304	304	304	304	304
	Security	Correlation Coefficient	.452**	.527**	.472**	.587**	.509**	1.000	.624**	.583**	.569**
		Sig. (2-tailed)	.000	.000	.000	.000	.000	.	.000	.000	.000
		N	304	304	304	304	304	304	304	304	304
	Easeofuse	Correlation Coefficient	.367**	.429**	.516**	.467**	.490**	.624**	1.000	.729**	.512**
		Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.	.000	.000
		N	304	304	304	304	304	304	304	304	304
	Information	Correlation Coefficient	.359**	.519**	.509**	.419**	.506**	.583**	.729**	1.000	.592**
		Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.	.000
		N	304	304	304	304	304	304	304	304	304
	Satisfaction	Correlation Coefficient	.483**	.436**	.459**	.509**	.503**	.569**	.512**	.592**	1.000
		Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.
		N	304	304	304	304	304	304	304	304	304

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

ANNEX-V-Physical channel service quality Model summary

Model Summary[d]

					Change Statistics				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
1	.495[a]	.245	.243	.843	.245	98.081	1	302	.000

2	.563[b]	.317	.313	.803	.072	31.704	1	301	.000
3	.586[c]	.343	.336	.789	.026	11.802	1	300	.001

a. Predictors: (Constant), Tangibles

b. Predictors: (Constant), Tangibles, Responsive

c. Predictors: (Constant), Tangibles, Responsive, Empathy

d. Dependent Variable: Satisfaction

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	69.747	1	69.747	98.081	.000[b]
	Residual	214.756	302	.711		
	Total	284.503	303			
2	Regression	90.212	2	45.106	69.879	.000[c]
	Residual	194.291	301	.645		
	Total	284.503	303			
3	Regression	97.566	3	32.522	52.192	.000[d]
	Residual	186.937	300	.623		
	Total	284.503	303			

a. Dependent Variable: Satisfaction

b. Predictors: (Constant), Tangibles

c. Predictors: (Constant), Tangibles, Responsive

d. Predictors: (Constant), Tangibles, Responsive, Empathy

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.647	.233		2.775	.006		
	Tangibles	.693	.070	.495	9.904	.000	1.000	1.000
2	(Constant)	-.164	.265		-.620	.536		
	Tangibles	.506	.074	.362	6.798	.000	.802	1.248
	Responsive	.411	.073	.300	5.631	.000	.802	1.248
3	(Constant)	-.227	.261		-.873	.383		
	Tangibles	.399	.080	.285	5.008	.000	.677	1.476
	Responsive	.303	.078	.221	3.873	.000	.673	1.487
	Empathy	.246	.071	.208	3.435	.001	.597	1.676
	Reliability	.222	.069	.201	1.772	.077	.507	1.971

a. Dependent Variable: Satisfaction

Excluded Variables

Model	Beta In	t	Sig.	Partial	Collinearity Statistics

					Correlation	Tolerance	VIF	Minimum Tolerance
1	Reliability	.271[b]	4.557	.000	.254	.662	1.511	.662
	Responsive	.300[b]	5.631	.000	.309	.802	1.248	.802
	Assurance	.276[b]	4.915	.000	.273	.737	1.358	.737
	Empathy	.302[b]	5.322	.000	.293	.711	1.407	.711
2	Reliability	.175[c]	2.828	.005	.161	.576	1.736	.576
	Assurance	.167[c]	2.690	.008	.153	.578	1.730	.578
	Empathy	.208[c]	3.435	.001	.195	.597	1.676	.597
	Assurance	.098[d]	1.460	.145	.084	.485	2.060	.485

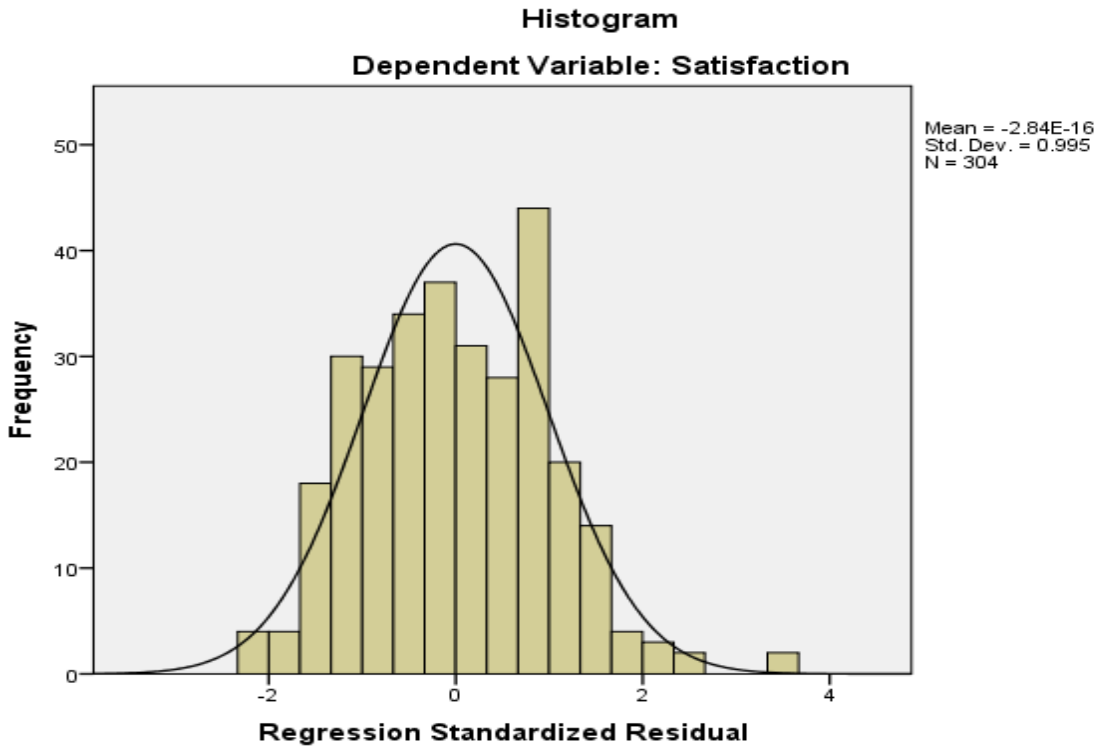
a. Dependent Variable: Satisfaction

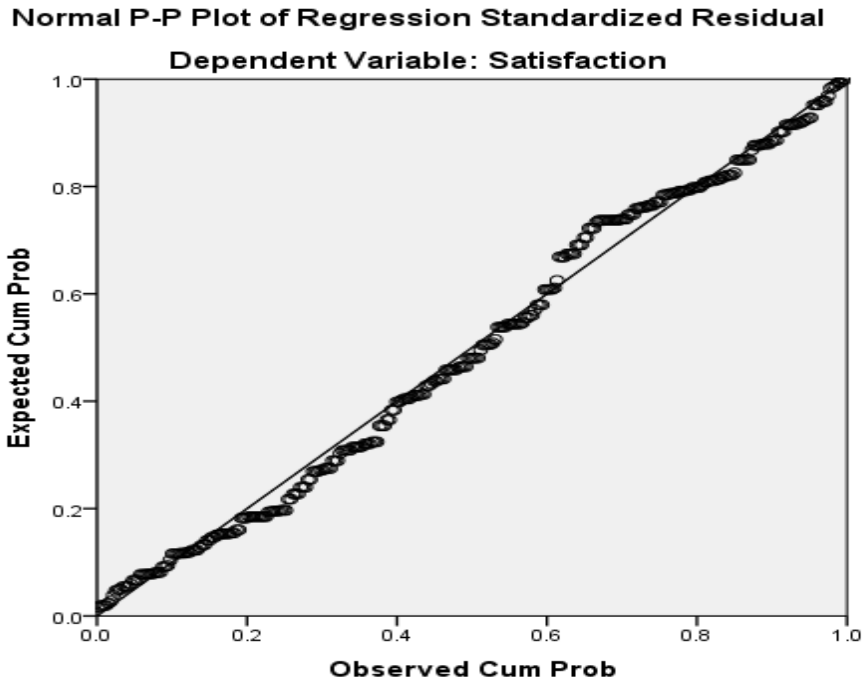
b. Predictors in the Model: (Constant), Tangibles

c. Predictors in the Model: (Constant), Tangibles, Responsive

d. Predictors in the Model: (Constant), Tangibles, Responsive, Empathy, Reliability

ANNEX-VI- Scatterplot and histogram of dependent variable





ANNEX-VII-Virtual channel service quality Model summary

Model Summary[c]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.611[a]	.373	.371	.769	.373	179.519	1	302	.000
2	.661[b]	.437	.433	.730	.064	34.129	1	301	.000

a. Predictors: (Constant), Information

b. Predictors: (Constant), Information, Security

c. Dependent Variable: Satisfaction

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	106.068	1	106.068	179.519	.000[b]
	Residual	178.435	302	.591		
	Total	284.503	303			
2	Regression	124.240	2	62.120	116.671	.000[c]
	Residual	160.263	301	.532		
	Total	284.503	303			

a. Dependent Variable: Satisfaction

b. Predictors: (Constant), Information

c. Predictors: (Constant), Information, Security

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.774	.165		4.693	.000		
	Information	.625	.047	.611	13.398	.000	1.000	1.000
2	(Constant)	.387	.170		2.275	.024		
	Information	.429	.056	.419	7.732	.000	.636	1.572
	Security	.324	.056	.317	5.842	.000	.636	1.572

a. Dependent Variable: Satisfaction

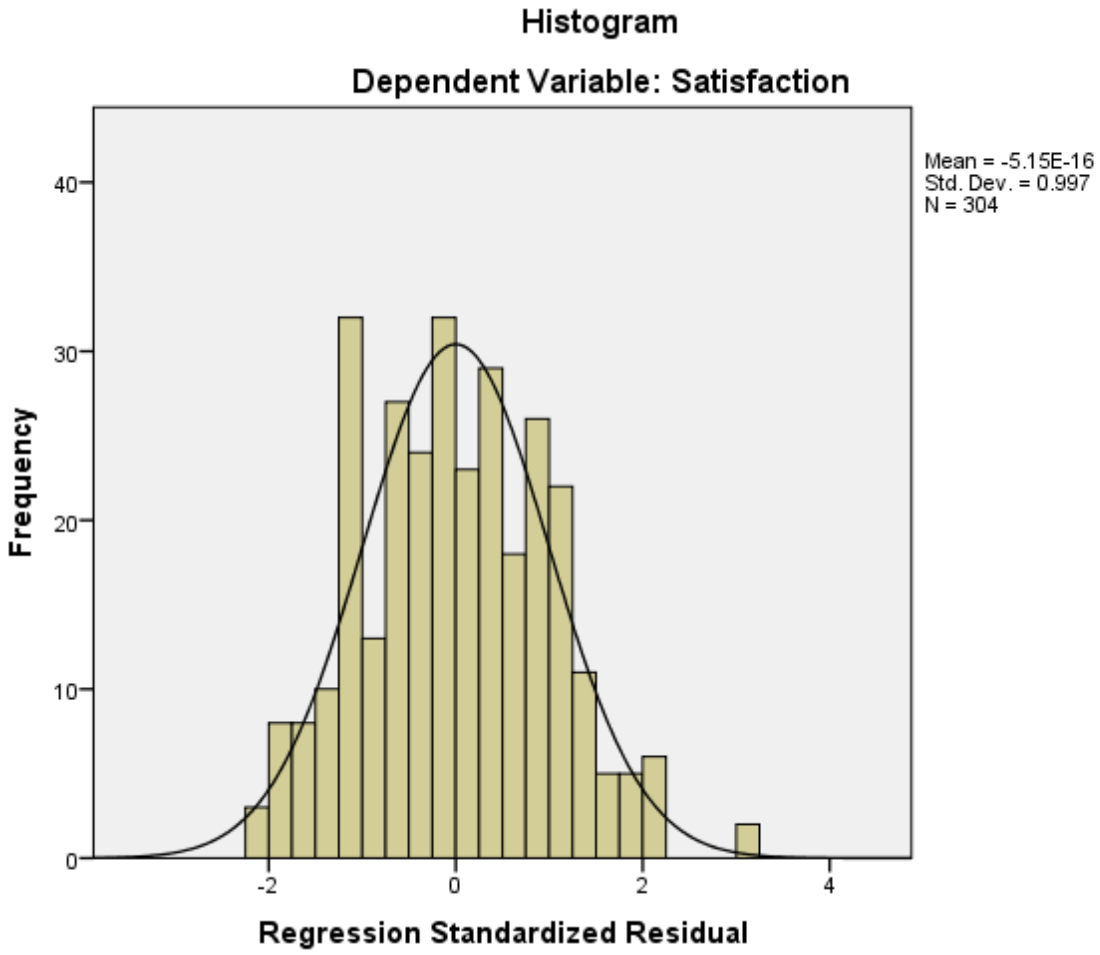
Excluded Variables[a]

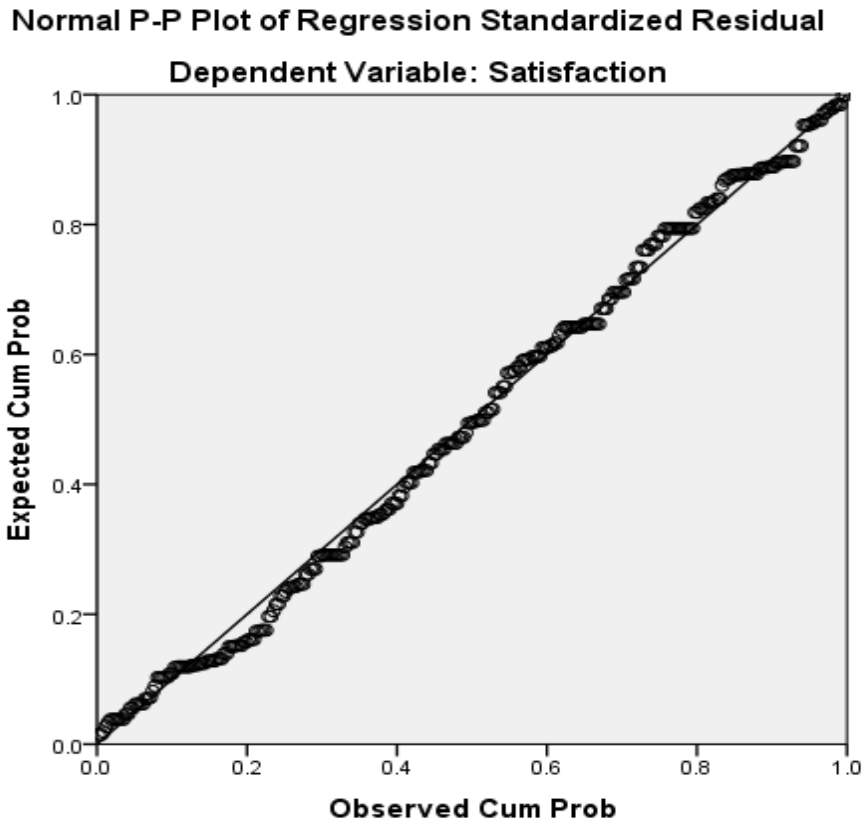
Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics		
						Tolerance	VIF	Minimum Tolerance
1	Security	.317[b]	5.842	.000	.319	.636	1.572	.636
	Easeofuse	.090[b]	1.365	.173	.078	.480	2.085	.480
2	Easeofuse	-.026[c]	-.392	.695	-.023	.434	2.306	.434

a. Dependent Variable: Satisfaction

b. Predictors in the Model: (Constant), Information

c. Predictors in the Model: (Constant), Information, Security


Histogram
Dependent Variable: Satisfaction
Mean = -5.15E-16
Std. Dev. = 0.997
N = 304
Frequency
40
30
20
10
0
-2
0
2
4
Regression Standardized Residual



ANNEX-VIII-Physical and Virtual channel service quality Model summary

Model Summary[c]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.636[a]	.405	.403	.749	.405	205.251	1	302	.000
2	.666[b]	.443	.439	.726	.038	20.713	1	301	.000

a. Predictors: (Constant), VirtualChanel

b. Predictors: (Constant), VirtualChanel, PhysicalChanel

c. Dependent Variable: Satisfaction

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	115.120	1	115.120	205.251	.000[b]
	Residual	169.383	302	.561		
	Total	284.503	303			
2	Regression	126.025	2	63.012	119.681	.000[c]
	Residual	158.478	301	.527		
	Total	284.503	303			

a. Dependent Variable: Satisfaction

b. Predictors: (Constant), VirtualChanel

c. Predictors: (Constant), VirtualChanel, PhysicalChanel

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.346	.184		1.884	.061		
	VirtualChanel	.753	.053	.636	14.327	.000	1.000	1.000
2	(Constant)	-.366	.237		-1.545	.123		
	VirtualChanel	.524	.072	.443	7.325	.000	.506	1.975
	PhysicalChanel	.458	.101	.275	4.551	.000	.506	1.975

a. Dependent Variable: Satisfaction

Excluded Variables[a]

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics		
						Tolerance	VIF	Minimum Tolerance
1	PhysicalChanel	.275[b]	4.551	.000	.254	.506	1.975	.506

a. Dependent Variable: Satisfaction

b. Predictors in the Model: (Constant), VirtualChanel

ANNEX-VIIII**:** **English Questionnaire Items**

ST. MARY'S UNIVERSTY

SCHOOL OF GRADUATE STUDIES

MBA PROGRAM

Dear Survey Participants';

First, I would like to thank you for your time. My name is Solomon Abebe and currently I am studying an MBA (Masters in Business Administration) program at St. Mary's University. I am conducting a research on *the effect of multi-channel service quality on mobile customer's satisfaction (The case of ethio telecom)*.

The purpose of the study is to measure multi-channel service quality and the level of customer satisfaction in ethio telecom physical as well as virtual service delivery. Thank you for taking the time to fill in this survey, you will remain anonymous and the data will be used for statistical purpose only.

If you have any question, please contact me through email: solwish16@gmail.com and mobile number: +251930015200.

Thank you very much for participating in this survey.

General Instructions

- Please answer all questions.
- The questions are closed ended, so please put tick (✓) mark.

Part I Demographic Information

1. Sex: ☐ Male ☐ Female
2. Age: ☐ Below 25 ☐ 25-35 ☐ 36 – 45 ☐ 46 – 55 ☐ Above 55
3. Academic qualification: ☐ High school complete ☐ Diploma ☐ BA Degree

   ☐ Masters Degrees ☐ Doctorate Degree

4. How long have you been a customer of ethio telecom?

Less than 1 year ☐ 1 – 5 Years ☐ 10 Years ☐

More than 10 Years ☐

Part II Multi-Channel Service Quality Measurement

Please rate the items in the instrument based on a five (5) point scale (1=Strongly Disagree, 2=Disagree, 3=Not Sure, 4=Agree and 5=Strongly Agree).

NO	Measurement items of the constructs (Physical Service Quality)	Disagree	Disagree	Neutral	Agree	Strongly Agree
	Reliability Component					
1	The service provided in multi-channel gives you confidence					
2	There are always adequate number of ethio telecom employees to respond to your needs					
3	Ethio Telecom employees deliver services right the first time (error free service)					
4	Ethio telecom provides multi-channel services that are always consistent					
	Responsiveness Component					
1	Employees in the point of sales tell you exactly when the services will be performed					
2	Ethio Telecom employees provide multi-channel distribution services on time					
3	Ethio Telecom employees pay attention to your personal needs					
4	Ethio Telecom employees are always willing and never too busy to help					
5	Ethio Telecom employees understand customers' needs					

Assurance Component						
1	Ethio Telecom employees are professional and well trained					
2	The behavior of ethio telecom employees on multi-channel services instils confidence in you					
3	Ethio Telecom employees have the necessary knowledge to deal with customer inquiry and needs					
4	Ethio Telecom employees are always polite					
5	Ethio Telecom honors its commitment towards the promised multi-channel services experience.					
NO	**Measurement items of the constructs**	**Disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**
Empathy Component						
1	You feel safe in your transactions with the point of sales					
2	Ethio Telecom employees always give you individual attention					
3	Ethio Telecom employees put channel users' needs first					
4	Ethio Telecom employees understand specific user needs					
Tangibles Component						
1	Ethio telecom multi-channel service are supported by modern and technologically advanced systems					
2	Ethio multi-channel service delivery are comfortable					
3	Ethio telecom multi-channel service are up to date and entertaining					
4	The services provided on ethio telecom multi-channel service meet customers' needs					
5	The quality and number of ethio telecom multi-channel services are satisfactory					

6	Ethio telecom employees are well dresses and neat					
Security of virtual channel [self-*service, websites. Online supports chat rooms]*						
1	I feel confident about the security [self-service, website]					
2	I feel safe in my transactions using virtual channel [self-service, website.]					
3	My private and financial data seem well protected					
NO	**Measurement items of the constructs**	**Strongly Disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**
Ease of use virtual channel						
1	The virtual channel [self-service, website] are simple to use					
2	This virtual channel makes it easy to find the information I need					
3	It is easy to use the virtual channels [self-service, website.etc]					
Information Quality						
1	The virtual channels provide useful information					
2	This virtual channel meets my information needs					
3	Information at the virtual channels are well updated					
Customer Satisfaction						
1	I am totally satisfied with quality of ET multi-channel services					
2	I had a satisfying experience with ET multi-channel services					
3	Overall, ethio telecom multi-channel services quality provides a very satisfying experience					

Thank you for your time again!!

ANNEX X: Amharic Questionnaire Items

ቅድስት ማርያም ዩኒቨርሲቲ

የድህረ ምረቃ ትምህርት ቤት

ሁለተኛ ዲግሪ ፕሮግራም

ውድ የዚህ መጠይቅ ተሳታፊዎች፤

በቅድሚያ ጊዜችሁን ሰውታችሁ መጠይቁን ለመሙላት ፍላጎታችሁን ስላሳያችሁኝ በጣም አመሰግናለሁ፡ ፡ ስሜ ሰለሞን አበበ ሲሆን፤ በአሁን ሰዓት በቅድስት ማርየም ዩኒቨርሲቲ በቢዝነስ አድሚንስትሬሽን የማስተርስ መርሃ ግብር ተማሪ ነኝ፡፡ የጥናቴም ርዕስ ብዙሃን የአገልገሎት መስጫ አውታሮች ጥራት በሞባይል ደንበኞች ላይ የሚያመጣውን እርካታ ለማመለከት ታስቦ የተዘጋጀ ነው፡፡

የጥናቱም ዋና አላማ ኢትዮ ቴሌኮም የሚሰጠው ብዙሃን የአገልግሎት መስጫ አውታሮች ማለትም ደንበኞች በአካል የሽያጭ ማዕከላት ሄደው አገልግሎት ሲያገኙ፤ እና በተለያዩ መካነ ድሮች በመጠቀም የሽያጭ ሰራተኞችን ሳያገኙ በራሳቸው ሲገለገሉ የሚሰማቸውን እርካታ ለመለካት እና በተገኙ ጉድለቶች ላይ ማሻሻያዎች እንዲደረጉ ለተቋሙ ሰራተኞች ብሎም የስራ ሐላፊዎች ግብዓት ለማግኘት ነው፡፡

ስለሆነም፤ መረጃው በማንኛውም መንገድ ለሌላ ለምንም ዓይነት አገልግሎት እንደማይውል ላረጋግጥ እወዳለሁ፡፡ የሚሰጡኝ ትክክለኛ፣ታማኝ እና ጊዜውን የጠበቀ ፈጣን ምላሽ ጥናቱን በጥራት እና በስኬት ለማጠናቀቅ ከፍተኛ አስተዋጽኦ ይኖረዋል፡፡

ለሚደረግልኝ ትብብር በቅድሚያ አመሰግናለሁ!

ተጨማሪ መረጃዎች ካላችሁ፤

እባካችሁ በዚህ የኤሜል አድራሻ፡-solwish16@gmail.com እንዲሁም በሞባይል ቁጥር +251930015200 በመደወል መጠይቅ ትችላላችሁ፡፡

አጠቃላይ መረጃዎች፤

- እባካችሁ ሁሉንም ጥያቄዎች ለመመለስ ሞክሩ
- አማራጭ ምላሾች ለቀረቡላቸው ጥያቄዎች ለእርስዎ ተስማሚ በሆነው የምላሽ ቁጥር እና ቦታ ላይ (✓) **ምልክት ያድርጉበት**።

ክፍል 1፡ የሥነ ሕዝብ ዝርዝር ሁኔታ /በተሰጠው ክፍት ቦታ (✓) ምልክት ያድርጉ

3. ፆታ: ☐ ወንድ ☐ ሴት
4. እድሜ: ☐ ከ25 በታች ☐ ከ25-35 ☐ ከ36 — 45 ☐ ከ46 —55 ☐ ከ55 በላይ
3. የትምህርት ደረጃ: ☐ የሁለተኛ ደረጃ ☐ ዲፕሎማ ☐የመጀመሪያ ዲግሪ ☐ ሁለተኛ ዲግሪ ☐ ዶክተሬት ዲግሪ

4.የኢቴኮ የሞባይል አገልግሎት ተጠቃሚ የሆኑት መቼ ጀምሮ ነው?

☐ ከ1 ዓመት በታች ☐ ከ1 — 5 ዓመት ☐ ከ6 — 10 ዓመት ☐ ከ10 ዓመት በላይ

ክፍል 2፡ ብዙሃን የአገልግሎት መስጫ አውታሮች ጥራት መለኪያዎች

የኢትዮ ቴሌኮም ሞባይል አገለግሎት ደንበኛ እንደ መሆንዎ ያለዎትን ልምድ መሠረት በማድረግ በደንበኝነት ለመመዝገብ ደስተኛ የሚሆሁኑበት እጅግ በጣም ጥሩ የሆነ የአገለግሎት ጥራት ሊሰጥ የሚችል የሞባይል አገልግሎት ሰጪ ድርጅት ያስቡ፤ ከታች የተዘረዘሩትን መገለጫዎች መሠረት በማድረግ የሞባይል አገልግሎት ሰጪ በሚመለከት የእርስዎን ስሜት የሚያንፀባርቅ ቁጥር እንዲኖር ፍላጎት አለን። እርስዎ ከ1 እስከ 5 ደረጃ እንዲሰጡበት የምንጠይቅባቸው የመግለጫ ዝርዝር ከዚህ በታች አቅርበናል።

1 ማለት ሀተታውን በጥብቅ የሚቃመሙ፤ 5 ማለት ደግሞ በጣም የሚስማሙበት ማለት ሲሆን፤ የመረጡትን ቁጥር የእርስዎ መልስ እንደሆነ ያክብቡ።

(1=በጣም አልስማማም፣ 2=አልስማማም፣ 3=እርግጠኛ አይደለሁም፣ 4=እስማማለሁ እና 5=በጣም አስማማለሁ).

ተ.ቁ	የአገልግሎት ጥራት መግለጫዎች	በጣም አልስማማም	አልስማማም	አርግጠኛ አይደለሁም	እስማማለሁ	በጣም እስማማለሁ
	ተዓማኒነት፡					
1	በብዙሃን የአገልግሎት መስጫ አውታሮች በሚሰጠው አገልግሎት ሙሉ እምነት አለኝ					
2	የደንበኛውን ጥያቄ ለማስተናገድ ሁል ጊዜ በቂ ቁጥር ያላቸው ሰራተኞች በስራ ገበታቸው ላይ ይገኛሉ					
3	ኢትዮ ቴሌኮም አገልግሎቱን በመጀመሪያ ጊዜ ያለምንም ስህተት በቀጥታ ይፈጽማል					
4	የኢትዮ ቴሌኮም ብዙሃን የአገልግሎት መስጫ አውታሮች ምን ጊዜም ያለመቆራረጥ አግልግሎት ይሰጣሉ					
	ምላሽ ሰጭነት፡					
1	የኢትዮ ቴሌኮም ሰራተኞች አገልግሎት የሚሰጥበትን ጊዜ በትክክል ለደንበኞች ያሳዉቃሉ					
2	የኢትዮ ቴሌኮም ሰራተኞች ቀልጣፋ የሆነ አገልግሎት ይሳጣሉ					
3	የኢትዮ ቴሌኮም ሰራተኞች የእርስዎን ጥያቄ ለመመለስ ሁሌም ዝግጁ ናቸው					
4	የኢትዮ ቴሌኮም ሰራተኞች ሁል ጊዜም እርስዎን ለመርዳት ፍቃደኛ ናቸው					
5	የኢትዮ ቴሌኮም ሰራተኞች የደንበኞችን ፍላጎት በአግባቡ ይረዳሉ					
	ማረጋገጫ/ዋስትና					
1	የኢትዮ ቴሌኮም ሰራተኞች በቂ ስልጠና የወሰዱ ባሙያዎች ናቸው					
2	የኢትዮ ቴሌኮም ሰራተኞች ባህሪ በእርስዎ ውስጥ መተማመንን ያሳድራል					
3	የኢትዮ ቴሌኮም ሰራተኞች የደንበኞችን ጥያቄ ለመመለስ በቂ እውቀት አላቸው					

4	የኢትዮ ቴሌኮም ሰራተኞች በወጥነት በትህትና የተሞላ አቀራረብ አላቸው					
5	ኢትዮ ቴሌኮም ቃል የገባውን የብዙሃን የአገልግሎት መስጫ አውታሮች ተግባራዊ ለማድረግ ቁርጠኛ ነው					
ተ.ቁ	**የአገልግሎት ጥራት መግለጫዎች**	በጣም አልስማማም	አልስማማም	እርግጠኛ አይደለሁም	እስማማለሁ	በጣም እስማማለሁ
	የችግር ተካፋይነት/መረዳት					
1	ከኢትዮ ቴሌኮም ጋር በሚፈፅሙት ግንኙነት ደህንነት ይሰማዎታል					
2	የኢትዮ ቴሌኮም ሰራተኞች በግለሰብ ደረጃ ትኩረት ይሰጣሉ					
3	የኢትዮ ቴሌኮም ሰራተኞች ለደንበኞች ፍላጎት ቅድሚያ ይሰጣሉ					
4	የኢትዮ ቴሌኮም ሰራተኞች የእርስዎን ልዩ ልዩ ፍላጎቶች ይረዳሉ					
	ተጨባጭ ይዘቶች					
1	የኢትዮ ቴሌኮም ብዙሃን የአገልግሎት መስጫ አውታሮች በዘመናዊ የአሰራር ስርዓቶች ይታገዛሉ					
2	የኢትዮ ቴሌኮም ብዙሃን የአገልግሎት መስጫ አውታሮች አመቺ ናቸው					
3	የኢትዮ ቴሌኮም ብዙሃን የአገልግሎት መስጫ አውታሮች ለእይታ የሚስቡ ናቸው					
4	የኢትዮ ቴሌኮም ብዙሃን የአገልግሎት መስጫ አውታሮች የደንበኞችን ፍላጎት ያሟሉ ናቸው					
5	የኢትዮ ቴሌኮም ብዙሃን የአገልግሎት መስጫ አውታሮች ብዛት እና ጥራት ብቂ ናቸው					
6	የኢትዮ ቴሌኮም ሰራተኞች ጥሩ አለባበስ ያላቸው እና ንጹህ ሆነዉ የሚታዩ ናቸዉ					
የመረጃ መስመር ደህንነት [በራስ አገዝ- አገልግሎት፣ *ድረ-ገፆች፡፡ የመስመር የቻት ክፍሎች አገልግሎቶች]*						

1	ከሽያጭ ማዕከላት ውጪ የቴሌኮም አገልግሎት ሲሰጠኝ በሲስተሙ ደህንነት ሙሉ እምነት አለኝ (ለምሳሌ፡ የ994 የጥሪ ማዕከል፤ መካነድሮች፤ በራስ አገዝ አገልግሎት)					
2	ከላይ የተጠቀሱትን ሲስተሞች ስጠቀም ከተቋሙ ጋር ባለኝ ግንኙነት ደህንነት ይሰማኛል ((ለምሳሌ፡ የ994 የጥሪ ማዕከል፤ መካነድሮች፤ በራስ አገዝ አገልግሎት)					
3	በራስ አገዝ አገልግሎት ማግኛ ዘዴ ተጠቅሜ አገልግሎት ሳገኝ የግል መረጃዎቼ ተጠብቀዋል					
ተ.ቁ	**የአገልግሎት ጥራት መግለጫዎች**	**በጣም አልስማማም**	**አልስማማም**	**እርግጠኛ አይደለሁም**	**እስማማለሁ**	**በጣም እስማማለሁ**
	የቻናል ቀላል አጠቃቀም					
1	በኢትዮ ቴሌኮም ያሉ ሲስትሞች ማለትም (ለምሳሌ፡ የ994 የጥሪ ማዕከል፤ መካነድሮች፤ በራስ አገዝ አገልግሎት) ለመጠቀም ቀላል ናቸው					
2	በኢትዮ ቴሌኮም ሲስተሞች በመጠቀሜ የምፈልጋቸውን መረጃዎች በቀላሉ አገኛለሁ					
3	በኢትዮ ቴሌኮም ያሉ ሲስተሞች ማለትም (ለምሳሌ፡ የ994 የጥሪ ማዕከል፤ መካነድሮች፤ በራስ አገዝ አገልግሎት) በቀላሉ መጠቀም ይቻላል					
	የመረጃ ጥራት					
1	የኢትዮ ቴሌኮም ሲስተሞች (ለምሳሌ፡ የ994 የጥሪ ማዕከል፤ መካነድሮች፤ በራስ አገዝ አገልግሎት) ጠቃሚ መረጃዎችን ያስተላልፋሉ					

2	የኢትዮ ቴሌኮም ሲስተሞች (ለምሳሌ፡ የ994 የጥሪ ማዕከል፤ መካነድሮች፤ በራስ አገዝ አገልግሎት) የመረጃ ፍላጎቴን አሟልተውልኛል					
3	የኢትዮ ቴሌኮም ሲስተሞች (ለምሳሌ፡ የ994 የጥሪ ማዕከል፤ መካነድሮች፤ በራስ አገዝ አገልግሎት) በተገቢው ሁኔታ ተደራጅተው ቀርበዋል					
የደንበኛ እርካታ						
1	በኢትዮ ቴሌኮም ብዙሃን አገልግሎት አቀራረብ ሙሉ በሙሉ ረክቻለሁ					
2	በኢትዮ ቴሌኮም ብዙሃን አገልግሎት አቀራረብ ምቹ የሆነ የረዥም ጊዜ እርካታ አለኝ					
3	በአጠቃላይ፣ የኢትዮ ቴሌኮም ብዙሃን አገልግሎት አሰጣጥ በጣም የሚያረካ ሆኖ አግኝቸዋለው					

ጊዜዎን መሰዋዕት በማድረግዎ በድጋሚ እናመሰግናለን!!