

**EFFECT OF MOBILE BANKING ON CUSTOMER RETENTION:
CASE OF COMMERCIAL BANK OF ETHIOPIA IN ADDIS ABABA**



ST.MARRY'S UNIVERSITY

SCHOOL OF POST GRADUATE STUDIES

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DECLARATION

I, Mekonnen Addis, the undersigned person declare that the thesis entitled “Effect of Mobile Banking on Customer Retention: Case Commercial Bank of Ethiopia in Addis Ababa” is my original and submitted for the award of Master of Art Degree in Marketing Management from St. Mary University at Addis Ababa and it hasn’t been presented for the award of any other degree. Under this study, fellowship of other similar titles of any other university or institution of all sources of material used for the study has been appropriately acknowledged and notice.

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CERTIFICATION

This is to certify that Mr Mekonnen Addis has properly completed his research work entitled “Effect of Mobile Banking on Customer Retention: Case Commercial Bank of Ethiopia in Addis Ababa” with our guidance through the time. In my recommendation, his task is appropriate to be submitted as a partial fulfillment requirement for the Master of art Degree in Marketing Management.

Research Advisor

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Signature and Date

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ABBREVIATIONS/ACRONYM

CBE – Commercial Bank of Ethiopia

ICT - Information and Communication Technology

IS – Information System

IT - Information Technology

TAM - Technology Acceptance Model

TPB - Theory of Planned Behaviour

TRA - Theory of Reasoned Action

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ABSTRACT

This study aimed to examine the effect of mobile banking on customer retention in mobile banking of Commercial Bank of Ethiopia in Addis Ababa. Using explanatory and descriptive research design, the study revealed that there is a positive and significant relationship between security and privacy, relative advantage / benefits, information quality, system quality and customer satisfaction and consumer retention using correlation test results and analysis. In addition, customer satisfaction makes the strongest unique contribution to explaining the customer retention and followed by information, then relative advantage and finally system quality and security besides there is a positive and significant effect of security and privacy, relative advantage / benefits, information quality, system quality and customer satisfaction on consumer retention. In the banking sector, customer retention becomes a crucial phenomenon since this sector has perceived substantial growing and competition both globally and locally. Customer retention provides a clear picture of customers' relationship with their favourite bank. The bank may understand that the importance of the banking operators will have been through a wave of critically rapid changes in its structure, competition, strategies, techniques, and technological environment. These changes came as a result of marketing concepts (customer satisfaction) and technological developments and adaption (information and system quality and security) which are the primary factors affecting economies in general and the banking industry in particular. As a result, the study suggests.

Key Words: Customer Retention, Customer Satisfaction, Adaptive Technology

CHAPTER ONE

INTRODUCTION

This part of the study offers the introductory part of the study that contains background of the study and the selected organization, statement of the problem, main and specific objectives of the study and research questions, operational definitions and terms, significance of the study and scope of the study.

1.1 Background of the Study

The world banking and financial system is in the throes of a transformation caused by increasing globalization and deregulation. Financial innovations such as those available in ATMs, phone banking, Internet banking, debit cards, credit cards, agency banking and smartcard applications are taking place at an overwhelmingly fast pace in the global banking industry (James K. and James M., 2014). The rapidly growing information and communication technology (ICT) is knocking the front door of every organization in the world. Technological innovations play a crucial role in banking industry by creating value for banks and customers, that it enables customers to perform banking transactions without visiting a brick and mortar banking system. As result, electronic payment (E-payment) systems are vigorously and swiftly stretched across the globe (Ovidiu, Seyed and Alina, 2015).

The primary reason for the growth in Internet banking services is that they reduce costs and enhance profits for banks, while enriching customer convenience through the ease and rapidity with which transactions are executed. Internet banking helps banks reduce operating costs while diminishing the need for a wide territorial network. Providing this type of service has become a strategic component of any banking institution seeking to improve quality of services (Ovidiu, Seyed and Alina, 2015). Nevertheless, questions remain within the implementation of e-banking and associated internet banking services such as ATM, money transfer and others to what extent contribute to customer retention as compare to regularly given bank services to enhancement the overall performance and efficiency of banking firms. As Giese and Cote (2002) clarify customer satisfaction is one of the key factor which leads to customer retention and customer loyalty or brand loyalty. Consequently, it is vital that companies make sure their customers are satisfied with the products/services they offer. This has led to an increase in the popularity of measuring

customer satisfaction in recent years. In our dynamic business competitive world, customer retention is seen as much vital to compete in the market. It has its own contribution for banks as they are highly market oriented institution and they deals very closely to their customers, find, and fulfil their needs. In view of that, it is prudent to assess the relation and outcome of bank technological advancement particularly e banking on customer retention to have a competitive advantage in satisfying their customer. In this context, this study is envisioned to investigate the effect of e banking systems on customer retention in case of Mobile banking practices in Addis Ababa.

1.2 Background of the Organization

The history of the Commercial Bank of Ethiopia (CBE) dates back to the establishment of the State Bank of Ethiopia in 1942. CBE was legally established as a share company in 1963. In 1974, CBE merged with the privately owned Addis Ababa Bank. Since then, it has been playing significant roles in the development of the country. Pioneer to introduce modern banking to the country. It has more than 1456 branches stretched across the country. The leading African bank with assets of 711.96 billion Birr as on June 30, 2019. It plays a catalytic role in the economic progress & development of the country. It is the first bank in Ethiopia to introduce ATM service for local users. Currently CBE has more than 22 million account holders and the number of Mobile and Internet Banking users also reached more than 2.5 million as of June 30th 2019. Active ATM card holders reached more than 8 million. As of June 30, 2019, 2,513 ATM machine and 9,539 POS machines were available. It has strong correspondent relationship with more than 50 renowned foreign banks like Commerz Bank A.G., Royal Bank of Canada, City Bank, HSBC Bank and it has a SWIFT bilateral arrangement with more than 700 others banks across the world. CBE combines a wide capital base with more than 37,894 talented and committed permanent employees and more than 22,000 outsourced jobs as of June 30, 2019. Pioneer to introduce Western Union Money Transfer Services in Ethiopia early 1990s and currently working with other 20 money transfer agents like Money Gram, Atlantic International (Bole), Xpress Money and CBE has opened four branches in South Sudan and has been in the business since June 2009. CBE has reliable and long-standing relationships with many internationally acclaimed banks throughout the world. It has a vision to become a world-class commercial bank by the year 2025. It is committed to realize stakeholder's values through

enhanced financial intermediation by deploying the best professionals and technology (Source: CBE).

1.3 Statement of the Problem

There are various and multiple studies on different imaginative studies on E-banking literature some of the problems related with adoption of e banking, the effect of e banking on financial performance; studies on level of internet penetration and developed telecommunication infrastructure; internet infrastructure only in their major cities along with lack of suitable legal and regulatory framework for E-commerce and e-payment by Jensen (2003) in South Africa, Gardachew (2010) in Ethiopia, James and James, 2014 in Kenya and Ghazi and Khalid (2012) in empirical study of SME in Jordan. Most of the studies focused on the adoption of new technology in banking industry and the effect and impact of internet banking on the performance of banks performance.

However, despite the importance of these adoptions and performance measure studies, very limited studies are currently available associated with customer retention in developing countries, especially in Ethiopia. As a result, more studies are still required to understand the result of E-banking on customer retention in developing economy like Ethiopia to identify areas. This is due to the fact that all stages need a specific plan to ensure customers get the right level of engagement at the right time to maximize customer value. A growing need for customer retention is evident with the increasing number of customers defecting from different financial institutions. Effective client retention begins with the principal contact between the financial organizations and the customers (Ovidiuet al., 2015).

Commercial Bank of Ethiopia (CBE) has officially launched its mobile money services dubbed Mobile banking after successfully testing its functionality for six months in 2018. This is to contribute a lot to build up saving culture of the public and streamline financial transaction and payment system of the country. To date, the bank has more than 225,980 mobile banking customers (CBE, 2019). It shows CBE is working with tough competition in the industry and has applied information technology concepts, techniques and strategies. Thus, to address the current gap in the literature incorporating customer retention on e-banking implementation, this study is designed to identify the e-banking effects on ultimate customer satisfaction in the country's huge bank CBE. Particular the study focused on Mobile banking that is a mobile based banking

whereby the bank selects trains and authorizes agents to provide banking services on behalf of the bank through a mobile phone. Thus study investigate how mobile banking is to contribute to build up saving culture of the public and streamline financial transaction and payment system of the country. This paper is interested in looking at the effect of mobile banking on customer retention in commercial banks in Addis Ababa.

1.4 Research Questions

1.4.1 Main Research Question

- Is Mobile banking affects customer retention in Commercial Bank of Ethiopian in Addis Ababa?

1.4.2 Sub Research Questions

- What is the effect of security and privacy on customer retention in mobile banking of Commercial Bank of Ethiopia in Addis Ababa?
- What is the effect of relative advantage on customer retention in mobile banking of Commercial Bank of Ethiopia in Addis Ababa?
- What is the effect of information quality on customer retention in mobile banking of Commercial Bank of Ethiopia in Addis Ababa?
- What is the effect of system quality on customer retention in mobile banking of Commercial Bank of Ethiopia in Addis Ababa?
- What is the effect of customer satisfaction on customer retention in mobile banking of Commercial Bank of Ethiopia in Addis Ababa?

1.5 Objective of the Study

1.5.1 General Objective

The general objective of the study is to examine the effect of mobile banking on customer retention in mobile banking of Commercial Bank of Ethiopia in Addis Ababa.

1.5.2 Specific Objectives

- To examine the effect of security and privacy on customer retention in mobile banking of Commercial Bank of Ethiopia in Addis Ababa

- To test the effect of relative advantage influence customer retention in mobile banking of Commercial Bank of Ethiopia in Addis Ababa
- To analyse the effect of information quality on customer retention in mobile banking of Commercial Bank of Ethiopia in Addis Ababa
- To examine the effect of system quality influence customer retention in mobile banking of Commercial Bank of Ethiopia in Addis Ababa
- To examine the effect of customer satisfaction influence customer retention in mobile banking of Commercial Bank of Ethiopia in Addis Ababa

1.6 Hypothesis

- H₀-Security and privacy does not have a positive and significant effect on customer retention in banking industry
- H₀-Relative advantage does not have a positive and significant effect on customer retention in banking industry
- H₀-Information quality does not have a positive and significant effect on customer retention in Mobile banking in banking industry
- H₀-System quality does not has a positive and significant effect on customer retention in Mobile banking in banking industry
- H₀-Customer Satisfaction does not have a positive and significant effect on customer retention in Mobile banking in banking industry

1.7 Significant of the Study

This study has a significant benefit for CBE's customers mostly on service demand fulfilment with the most cost and service effective way to deliver such banking service support. In addition, the study fundamentally focuses on customer retention and satisfaction; so it is at the core of human experience and reflecting banking and financials business activities. Furthermore, it offers the level of customer satisfaction (with pleasurable experiences) that is strong predictors of customer retention, customer loyalty, and product repurchased.

The study helps CBE to create effective banking and customer based business activities. As it focuses on creating and reinforcing pleasurable experiences so that bankers and marketers might retain existing customers and add new customers. Besides, this study provides the insights that

are the foundation to creating and reinforcing pleasurable customer experiences. Likewise, this study will help to understand the various roles they play and the effect of playing those roles on organizational variables, such as customer value, customer satisfaction, and customer retention.

This study will be a clue for bank managers, employees, board members and bank administrators as it raises ideas or strategies that enable them to deliver quality customer service, new product development, to adapt marketing strategies, and branch expansion and awareness creation on bank services. This study helps to revolutionize the important functions of banking operating and overall businesses of the bank. This study helps to expand banking operations by operating the successful functioning of commercial banks depends on the extent of customer satisfaction. Policy makers will also be benefited from this study as it presents the body of knowledge and to additional information in the banking industry.

Finally, academicians, scholars, researchers and students will be beneficiaries of this study. It will be used as a reference material for other researchers who have interest on the subject matter. This is due to the fact that it adds in the existing literature to offer additional evidence for banking technology advancement and influencing the bank profitability in developing countries experience. This study is one of very few studies which have investigated empirically and statistically the financial system for the emerging economy of Ethiopia as well as Africa.

1.8 Scope and Limitations of the Study

1.7.1 Scope of the Study

This study creates current value for customers that of helping marketers understand, anticipate, and respond to important shifts in customers' desires. For that reason, this study is delimited in three main categories such as geographical, conceptual and methodological scope.

1.7.1.1 Geographical Scope

The study was conducted in Addis Ababa with in Mobile banking users. The study was conducted from February to May, 2020.

1.7.1.2 Conceptual Scope

The study is restricted mainly on continuous response to changing customer needs and long-term customer retention. It focuses on tele-banking (telephone banking) that can be reflected as a form

of remote or virtual banking, which is essentially the delivery of branch financial services via telecommunication devices. It focus on the bank customers that can perform retail banking transactions by dialling a touch-tone telephone or mobile communication unit, which is connected to an automated system of the bank by utilizing Automated Voice Response (AVR) technology. It focused on mobile banking contribution, relative advantage, information quality and system quality with the reference their effect on customer retention in Mobile banking in Addis Ababa.

1.7.1.3 Methodological Scope

This study is more focused on mixed research approach with explanatory and descriptive research design. It uses a systematic research method for collecting data from a representative sample of individuals using two instruments; first, using a well-designed five point likert scale questionnaire that includes closed ended and/or open-ended questions and the second one is in depth interview. With regard to data sources, the study uses various publications, books, and journals articles that are related to the subject matter.

1.7.2 The limitation of the Study

This study is not fully and widely covered all commercial banks operating in Ethiopia to come up with more reliable result and valid conclusion. The study is bordered to include only some branches of CBE bank in Addis Ababa. In addition, this study is circumstanced on examining the deposit growth on profitability of private commercial banks. Moreover, this study did not try to examine other factors like political, economic and social that have an impact on customer decision making practices. It does not focuses on examining CBE's marketing strategy, branch networking, technology advancement and staff trainings that have direct relationship with the activity of resource mobilizations.

1.9 Definitions of Terms

1.9.1 Conceptual Definitions

- **E-banking** can be defined as continued usage of internet banking services by adopters, where a continuance decision follows an initial acceptance decision (Nyangosi,2006)

- **Satisfaction** is a person's feelings of pleasure or disappointment resulting from comparing a product's perceived performance (or outcome) in relation to his or her expectation Kotler (2003).

1.9.2 Operational Definitions

- **Consumer Retention** is the future propensity of the consumer to stay to their service provider (Kassim&Souiden, 2007).
- **Customer Satisfaction** is a collective outcome of perception, evaluation and psychological reactions to the consumption experience with a product/service (Alin, 2010).
- **Information Quality** - refers to the desirable characteristics of the IS outputs (Basheer, Amran, Rosman and Amena, 2015)
- **Mobile banking** means that any enquiry or transaction can be processed online without going to branch concerned (Kassim&Souiden, 2007).
- **Relative Advantage / benefits** - is identified as net benefits in information system (IS) (Basheeret *al.*, (2015)
- **System Quality** - is conceptualized as desirable characteristics such as perceived ease of, user-friendliness and portability usefulness (Basheeret *al.*,2015)

1.10 Organization of Study

In this study, the first chapter will present introduction part of the study that includes statement of the problem along with objective, significance, limitation, scope of the study and definitions of terms. Second, chapter two will present theoretical and empirical studies focused on effects of e-banking and consumer retentions. The third chapter will include methods of the study and it comprise from study approach and design including sampling methods, population, analysis method and ethical responsibilities. Chapter four will focus on analysis part of the study that includes empirical testing and discussion of the study. Lastly, recommendation, summary and conclusion of this study will be followed.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

This part presents review of related literature which includes theoretical related literature with ground theories, mobile banking concepts and relationship of variables with empirical related literature review with research gap and conceptual framework.

2.1 Theoretical Framework of the Study

This section provides an overview of information system adoption, factors determining customers' acceptance of e-banking and introduces the concept of customer retention.

2.1.1 E-Banking Adoption Models

In banking practice, customers accessed banking products and services through daily physical contact with bank tellers. This approach to delivering banking services created a mismatch between customer demands and bank capabilities because customers could only access financial services at specific locations and during a bank's working hours. With the advent of technological innovations, banks can now deliver their products and services to clients from anywhere and at any time through diverse communication media like the internet and mobile networks (Kamrul, 2009).

Banking has, for a long time, relied on information technology (IT) to acquire, process, and deliver its services to all relevant users. It is not only critical in the processing of information, it also provides away for the banks to differentiate their products and services, as well as provide convenient, reliable, and expedient services (Bultum, 2014). Banks have tended to invest more in technology and information to achieve maximum return by efficiently attracting and serving a large number of clients. The concept of e-banking and the various forms it takes continue to evolve with technological innovations (Kamrul, 2009). In the early stages, e-banking took the form of only ATMs. E-banking also can be categorized on the basis of the instruments used: telephone connection, personal computers, means of payment like bank cards and self-service zones (Alagheb, 2006).

Consequently, banks have tended to invest more in technology and information to achieve maximum return by efficiently attracting and serving a large number of clients. There are various

and several theories and models to explain and predict technology adoption but the prominent models include the Theory of Reasoned Action (TRA), Theory of Planned Behaviour (TPB) and the Technology Acceptance Model (TAM). Thus, banks need technological innovations that are essential for their commitment to deliver their products and services to clients from anywhere and at any time through diverse communication. This is because banks promise to deliver banking services, eager to match customer demands and exert their bank capabilities.

2.1.1.1 Technology Acceptance Theory

Gefenet *al.*, (2003) explained TAT as users' intention or acceptance degree towards information system or new technology. TAT is constructed on the foundations of perceived usefulness and perceived ease of use. Perceived usefulness refers to individual belief to improve the degree of job performance through using particular new technology and information system. The model places more emphasis on how perceived ease of use would positively affect perceived usefulness. Consequently, TAT is based on both important perceptive factors as perceived usefulness and perceived ease of use. TAT is widely applied on the research of information technology (Bultum, 2014).

2.1.1.2 Theory of Planned Behaviour

TPB is founded on the three factors as perceived behavioural control, attitude, and subjective norms. Behavioural intention is influenced by perceived behavioural control, attitude, and subjective norms. Actual behaviour is, in turn, determined by behavioural intention. Among all, perceived behavioural control refers to individual's perceived ease or difficulty of performing the particular behaviours. Huanget al. (2006) finds that TPB indeed can explain the people's behavioural intention of on-line tax filing. To sum up, the empirical results of the abovementioned literatures prove that TPB could be applied to explain the behavioural process of human being engaged in or accepted information technology (Kamrul, 2009).

2.1.1.3 The Theory of Reasoned Action

The Theory of Reasoned Action (TRA) has been applied to explain the behaviour beyond the acceptance of technology and includes four general concepts: behavioural attitudes, subjective norms, intention to use and actual use. It argues that individuals evaluate the consequences of a particular behaviour and create intentions to act that are consistent with their evaluations. More

specifically, TRA states that individuals 'behaviour can be predicted from their intentions, which can be predicted from their attitudes and subjective norms (Bultum, 2014). Following the chain of prediction further back, attitudes can be predicted from an individual's beliefs about the consequences of the behaviour. Subjective norms can be predicted by knowing how significant other individuals think the behaviour should or should not be done (Kamrul, 2009).

Hence, TRA is quite appropriate in the context of predicting the behaviour of using multimedia technology. Although TRA, is a very general theory and as such does not specify what specific beliefs would be pertinent in particular situations. Nevertheless, the inclusion of subjective norm represents an important variable, which is not even included in more popular models (Gefen et al., 2003).

2.1.2 Summary on Theoretical Framework of the Study

Mobile banking (M-banking) is a newly introduced banking service for providing different monetary services via information and communication technologies and mobile devices, which facilitates the use of mobile banking in less-developed countries. Accordingly, this study is focused on M-banking that implies usage of mobile terminals such as smart phones to access banking networks via the wireless application protocol. This is because M-banking can serve the society via offering the services to people living in remote locations. Similar to other innovation diffusion contexts in which the technology adoption phenomenon is gifted, this study applied technology adoption model as an individual forms the attitude toward M-banking and further decides whether to adopt it or not and an individual who has already adopted M-banking forms the attitudes toward continuing using it or not. As we understood from the above literatures, M-banking users are retained and persuaded to use this service continuously is yet very limited. Since M-banking by means of bank applications and mobile communication networks is a relatively new technological innovation, majority of previous studies has addressed the initial adoption stage in which non-users of M-banking decide to whether adopt this new banking service. The existing evidence within marketing literature suggests that similar to other service industries, lack of understating on determinants of customer retention can be costly to banks which have made considerable amount of investments to provide M-banking services. Thus, the study focused on the effect of mobile banking on customer retention accordingly. Consistently, it is important to study applications of M-banking services to devise effective strategies and retain

existing users of their M-banking services to be able to enjoy the long term benefits of having loyal customers.

2.2 Theoretical Literature Review

2.2.1 Concepts and Definitions of E-banking

The term of E-banking is precisely defined by Furst&Nolle (2002) as online banking and/or internet banking which is the use of the internet as a remote delivery channel for banking services. With the help of the internet, banking is no longer bound to time or geography. Consumers all over the world have relatively easy access to their accounts 24 hours per day, seven days a week. E-banking has a variety of definitions all refer to the same meaning; the following section shows some of these definitions (Alagheb, 2006).

Within the advancement of e-banking different forms of E-banking system were created s. Malak (2007) organized as Automated Teller Machines (ATM) which is an electronic terminal which gives consumers the opportunity to get banking service at almost any time; Point-of-Sale Transfer Terminals (POS) that allows consumers to pay for retail purchase with a check card, a new name for debit card. This card looks like a credit card but with a significant difference; internet / extranet banking which is an electronic home banking system using web technology in which bank customers are able to conduct their business transactions with the bank through personal computers and more importantly mobile banking(Alagheb, 2006).

Furst&Nolle (2002) put mobile banking as a service that enables customers to conduct some banking services such as account inquiry and funds transfer, by using of short text message (SMS).Banks provide internet banking in two main ways. An existing bank with physical offices can begin a web site and offer internet banking to its customers in addition to its old-style delivery channels. A second means is to establish virtual branchless or internet-only, bank almost without physical offices. Virtual banks may offer their customers the ability to make deposits and withdraw funds via ATMs or other remote delivery channels owned by other institutions. In the context of this study E-banking were not considered as only transferring of service by using internet connection rather it considered as multi-channel service provided through ATM, internet banking, mobile banking, point sale terminal and telephone banking (Malak, 2007).

Internet banking services is viewed as a distribution channel, allow banks to switch to a “click and mortar” approach so that clients can conveniently open accounts, create deposits, transfer funds across the accounts, and make payments entirely online, any time, at lower cost compared to the traditional banking, leading to a higher banking efficiency (Onay and Ozsoz, 2013). Atay (2008) stated as the usage of the internet banking services as a way to improve the efficiency and profitability of the bank.

Balachandher (2001) stated as Tele-banking (telephone banking) can be considered as a form of remote or virtual banking, which is essentially the delivery of branch financial services via telecommunication devices where the bank customers can perform retail banking transactions by dialling a touch-tone telephone or mobile communication unit, which is connected to an automated system of the bank by utilizing Automated Voice Response (AVR) technology. Furst&Nolle (2002) further stated tele-banking has numerous benefits for both customers and banks. It provides increased convenience, expanded access and significant time saving for customers. For banks’ perspective, the costs of delivering telephone-based services are substantially lower than those of branch based services. It has almost all the impact on productivity of ATMs, except that it lacks the productivity generated from cash dispensing by the ATMs. For, as a delivery conduit that provides retail banking services even after banking hours (24 hours a day) it accrues continual productivity for the bank(Kamrul, 2009). It offers retail banking services to customers at their offices/homes as an alternative to going to the bank branch/ATM. This saves customers’ time, and gives more convenience for higher productivity.

2.2.2 Definition and Concepts of Customer Satisfaction

Kotler (2003) noticeably defined that satisfaction is a person’s feelings of pleasure or disappointment resulting from comparing a product’s perceived performance (or outcome) in relation to his or her expectation. This is clearly indicated that customer satisfaction is a collective outcome of perception, evaluation and psychological reactions to the consumption experience with a product/service. Briefly, customer satisfaction is defined as a result of customer’s evaluation to the consumption experience with the services. However, the customers have different levels of satisfaction as they have different attitudes and perceived performance from the product/service (Alin, 2010).

Customer satisfaction has been defined as the difference between expectation and performance of organization is offering, but there are differences between quality and satisfaction. Satisfaction determined after experience that quality is the same or not. Customer satisfaction as the extent to which a product's perceived performance matches a buyer's expectations. If the product performance falls short of expectations, the buyer is dissatisfied. If performance matches or exceeds expectations, the buyer is satisfied or delighted (Kotler *et al.* 2005). Customer satisfaction is a measure of how products and services supplied by a company meet or surpass customer expectation. Customer satisfaction is also defined as the number of customers, or percentage of total customers, whose reported experience with a firm, its products or its services (ratings) exceeds specified satisfaction goals (Farris *et al.*, 2010).

2.2.3 Definition and Concepts of Consumer Retention

Different marketing authors and researchers defined consumer retention in their own way. It meant no single definition can be resulting generally. Consumer Retention means long-term healthy relationship between the firm and consumer". For example, Kassim&Souiden (2007) is that consumer retention is the future propensity of the consumer to stay to their service provider. Motiwala (2008) defined as maintaining the existing consumer base by stabilizing good relations with all whom but the companies' product. In kumsah (2013) described that for the success and the survival of the firm companies practice consumer retention in order to gain the competitive advantage in the market. For that reason, business firms should focus consumer retention rate which has gone up to a higher level of market penetration in a short period of time in the highly competitive telecom market.

Consumer retention starts with maintaining successful relations with consumers along with providing the value of the product or service purchase. The concept of consumer retention came after the studies were conducted on relationship marketing which enhance consumer retention to a great extent. Singh & Imran (2012) stated that a base for consumer retention by defining relationship marketing as all the marketing activities which are directed towards establishing, developing and maintaining healthy relations with customers. This and many more studies have brought the concept of firming fruitful relationship with consumers by a dynamic process rather than focusing and fulfilling the need of the consumers. This indicates that in process of relationship building to parties, consumer and firms are involved whereby both will be benefitted

in the long term. In contrast, such relationship may not always leads to long term relations. Thus the primary goal is the long term continuity of exchange between consumer and firms.

Since the high cost of losing customers is rising every day, companies seek new techniques to acquire, and retain their loyal customers. Service has long been an important factor in customer retention, and new research suggests its role is more critical than ever and will continue to grow in the future (Rocking, 2005). Customer retention earns the business a good reputation and goodwill in a competitive market (Singh& Khan, 2012). Customer retention is all about the customers and their experience. Customer relationship management is the practice of analyzing and using marketing and leveraging communication technologies to determine corporate practices and methods that maximize the life time value of each customer to the firm (Reinartz, 2004). The fact that customer retention is widely accepted as it is central objectives in relationship marketing. Because customer retention focuses on repeated patronage of a marketer or supplier, it is closely related to repeat purchasing.

2.2.4 Customer Retention in Banking Services

Hoffman and Bateson (2006) specified that customer retention is one of the benefits of relationship marketing, and customer retention refers to concentrating the organisation's marketing efforts toward the existing customer base. Customer retention focuses only on developing marketing strategies that cause repeat-purchasing behaviour. Moreover, they stated that in contrast to seeking new customers, organisations engage in efforts directed towards customer retention in order to satisfy existing customers. Customer retention is a measure of customer loyalty based on an organization's success in retaining the business of its existing customers (Matanga, 2008).

The needs of the customers are increasing and the competitiveness among the different institutions within this sector has been similarly increasing. Winning in the highly competitive commercial banking market means convincing customers to come through the door and also convincing them to stay. Improved efficiency and simplification of the on-boarding process makes it easier for a customer to join a bank. Developing long-term relationships with customers should be the ultimate goal of organisations, if they want to grow their business (Hoffman and Bateson, 2006).

The longer a company retains a customer; the more profit the customer generates (Griffin and Lowenstein, 2001). They also stated that bank management must identify and improve upon factors that can limit customer defection. These include employee performance and professionalism, willingness to solve problems, friendliness, and level of knowledge, communication skills, and selling skills, amongst others. The banking industry is highly competitive, with banks not only competing amongst each other; but also with non-banks and other financial institutions (Boulding *et al.*, 2009). In order to gain the advantage in the highly competitive commercial banking market means those banks must understand the value of customer retention. The literature is clear on the point – the longer a company retains a customer; the more profit the company generates. Therefore, a positive relationship between the bank and the customer is significant since this is capable of influencing retention as the customer will experience feelings of trust and satisfaction towards the bank.

Banks obtain the rewards of excellent customer service in the form of increased loyalty of customers. This is also becoming the major driver for advancements, as awareness increases the growth, customer retention and possibly also the sustainability of the banks. Some of the advantages for banks include word-of-mouth suggestion, decreased costs for acquiring new customers, increased profitability and higher sales. These advantages can all result in the survival of the banks and create the outcomes of successful techniques for banking (Gefen *et al.*, 2003).

Overall, the trend of consumer retention occurred as a result of increasing the organization profit and minimizes both cost and consumer switching. The function of relationship marketing is all about acquiring and retaining consumers. Therefore, consumer retention is that part of relationship marketing where manipulating the relationship enables the consumer and firm to get the benefit through long term relation and giving repeat business.

2.2.5 Conceptualization of Dimensions

2.2.5.1 Security and Privacy

With the implementation of information technology, the banking industry has brought revolutionary change in the workability of banks. Now banks provide IT based products and services to their customers (Petter *et al.*, 2008). Bank customers are becoming highly demanding and curious about the new technology-based banking products and services. Security refers to the

protection of information exchanged during electronic transactions from the threats and risks of transactional integrity, authentication, and authorisation. Transactional integrity is the belief that the information will not be generated, intercepted, changed, or removed illegally (Gupta and Kamilla, 2014).

2.2.5.2 Relative Advantage

The main benefit of e banking from the bank customers' point of view is significant saving of time by the automation of banking services processing and also enabling the customers to access the banking service any time at anywhere (Petteret *al.*, 2008). The major benefits of e banking from customer's point of view are reduced costs in accessing and using the banking services, increased comfort and timesaving -transactions can be made 24 hours a day, 7 days in a week without requiring the physical interaction with the bank, quick and continuous access to information and better cash management. Generally, e-banking as already stated has greatly serviced both the public and the banking industry. This has resulted in creation of a better enabling environment that supports growth, productivity and prosperity (Bhattacharjee, 2001).

Relative advantage, which is known as net benefits in DeLone and Mclean IS success taxonomy refers to the extent to which IS contributes "to the success of individuals, groups, organizations, industries, and nations (Petteret *al.*, 2008). Perceived usefulness is the most frequently used measure of IS relative advantage, particularly at the individual level of analysis (Kang *et al.*, 2012). Consistent with majority of prior IS studies which focused on the individual level of analysis, relative advantage in proposed model refers to the extent to which M-banking service has been beneficial to a user, as experienced by him/her. Perceived usefulness (relative advantage) is a key determinant of both pre and post-adoption usage behaviour (Bhattacharjee, 2001).

2.2.5.3 System Quality

System quality in IS background is intellectualized and conceptualized as desirable characteristics of an IS (Petteret *al.*, 2008). Among different desirable characteristics, perceived ease of use is the most commonly employed measure of system quality (Hoffman and Bateson, 2006). Alternatively, some other scholars argued that perceived ease of use cannot fully capture all the desirable characteristics of an IS, therefore proposed more comprehensive instrument of system quality (Wixom and Todd, 2005). The system quality instrument proposed is among the most comprehensive instruments which includes many characteristics of an IS such as

effectiveness, user-friendliness and portability. DeLone and McLean (2004) proposed that characteristics such as ease of use, usefulness, usability, responsiveness, reliability and flexibility can be used to measure EC system quality. Consistent with the IS and EC background, M-banking system quality in the suggested model is conceptualized as desirable characteristics of M-banking application (the software installed on smart phones).

2.2.5.4 Information Quality

Information quality within IS literature generally refers to the desirable characteristics of the IS outputs (Petter et al., 2008). DeLone and McLean (2004) proposed that accuracy, relevance, completeness, currency and dynamic content are examples of characteristics of desirable content. It is generally accepted that the measurement instrument of information quality should be developed according to the type of IS under study (Petter et al., 2008; Wixom and Todd, 2005). The proposed model follows the DeLone and McLean IS success taxonomy and conceptualizes M-banking information quality as the desirable characteristics of outputs of M-banking applications.

2.2.5.5 Customer Satisfaction

Customer satisfaction is one of the most important issues about business organization of all types, which is justified by the customer oriented philosophy and the principles of continuous improvement in modern enterprise (Kotler et al. 2005). It is obvious that a satisfied buyer will be more likely to repurchase again, or at least has the intention of repurchasing again, than those who are dissatisfied. They consider that customer satisfaction and retention the most important long-term objectives of firms. It is also known that new buyers cost more to serve than repeat customer, which means that repeat customers are benefiting a firm's cost structure. A firm's primary strategic objectives are to minimize customer regress and to maximize customer intention rates to buy, as evidenced by the recent emphasis on customer relationship management (Alin, 2010).

2.2.5.6 Customer Retention

Customer retention is the key to healthy business growth. The key to customer retention is customer satisfaction. Customer retention means the company keeps its customers by providing a great customer experience (Reinartz, 2004). Singh & Imran (2012) identified that the main

aspect of customer retention is the emotions evoked by the customer experience combined with the organization's strong reputation. Without the emotional bond which is essential to retain customers, customer loyalty will be impossible. Customer retention is important to most companies because the cost of acquiring a new customer is greater than the cost of maintaining a relationship with a current customer.

2.3 Empirical Literature

2.3.1 Security and Privacy

Siu and Mou (2008) studied the perception of customers regarding the service quality dimensions in internet banking. Factors like credibility, efficiency, problem handling, and security were used to find the perception of customers towards the service quality dimensions in internet banking. From the regression test, finding reveals that credibility, problem handling, and security have significant impact on customer satisfaction. Kumbhar (2011) examined fifteen key dimension of service quality such as overall satisfaction, system availability, e-fulfilment, accuracy, efficiency, security/ assurance, responsiveness, easy to use, convenience, cost effectiveness, problem handling, compensation, contact, perceived value and brand perception were use. Statistical tools like descriptive statistics, multiple correlations, Kruskal Wallis, Mann Whitney test and principal component analysis were used to analyse the data. Further finding implies there was a significant relationship between all dimensions and overall customer satisfaction. Prameela (2013) analyzed the perceptions of the customers on the technology deployment in Andhra Bank & ICICI Bank. The variables included in this research were tangibility, reliability, responsiveness, assurance, empathy, efficiency, accuracy, security, easy and convenient banking. Tools like chi-square, ANOVA and t-test have been used to analyse the data. Finding reveals that the perception and experience of the customer's on the technology deployment in Andhra Bank and ICICI bank were in favour of up gradation of technology.

2.3.2 Information and System Features

Jayawardhena (2000) showed that internet banking results in cost and efficiency gains for banks yet very few banks were using it and only a little more than half a million customers were online in U.K. Kariuki (2005) conducted a study on six puzzles in electronic (mobile) money and banking and presented the positive impacts of ICT on their banking performance using bank

turnover and profits as measure of performance. He established that banks with high profit growth are more likely to be using greater numbers of advanced ICTs. It was established that e-banking leads to higher profits though in long-term but not in short-term due to high ICT investment cost. Further the study provides evidence that the use of e-banking can contribute to improved bank performance, in terms of increased market share, expanded product range, customized products and better response to client demand.

Agboola (2006) conducted a study on information and communication technology (ICT) in Banking operations in Nigeria using the nature and degree of adoption of innovative technologies; degree of utilization of the identified technologies; and the impact of the adoption of ICT devices on banks, found out that technology was the main driving force of competition in the banking industry. During his study he witnessed increase in the adoption of ATMs, EFT, smart cards, electronic home and office banking and telephone banking. The study indicated that adoption of ICT improves the banks' image and leads to a wider, faster and more efficient market. He asserts that it is imperative for bank management to intensify investment in ICT products to facilitate speed, convenience, and accurate services, or otherwise lose out to their competitors.

Sushanta *et al.*, (2006) studied the impact of information technology on the banking industry. They analyzed both theoretically and empirically how information technology and its related products such as are internet banking, electronic payments, security investments and information exchanges impact the banks performances. Hernando and Nieto (2006) while studying whether internet delivery channels change bank's performance, they found out that adoption of internet as a delivery channel involved gradual reduction in overhead expenses (particularly, staff, marketing and IT) which translates to an improvement in banks' profitability. The study also shows that internet is used as a complement to, rather than a substitute for, physical branches. Their study showed that multichannel banks present statistically significant evidence of efficiency gains, that is, reduction in general expenses per unit of output. Banks would further profit from cost reductions to the extent that the Internet delivery channel functions as a substitute for traditional distribution channels. Cheruiyot (2010) found that found that internet banks are larger banks and have better operating efficiency ratios and profitability as compared to non-internet banks. Internet banks rely more heavily on core deposits for funding than non-internet banks do. The study was done on the impact of internet banking on financial

performance of commercial banks in Kenya. Nevertheless, the advantage expected of internet banking is yet to show some significant positive financial gains but begs for future investigation beyond financial measures used in the study as technology continues to penetrate the market. Osage (2012) conducted on mobile banking adoption by Kenyan Commercial banks and remarked as while adoption of electronic banking was beneficial, it was affected by factors such as availability of services 24/7, quickened transactions and customer convenience.

Mobile banking thus offers many benefits to banks as well as to customers. Mobile banking continues to influence banks activities and their income structure. Among the activities that may be subject to stronger pressures for change are those that, up to today, have remained relatively insulated from ICT developments. Nyangosi (2006) studied indicate that online bankers are the most profitable and wealthiest segment to banks. Attila et al., (2003) stated that new online users need first to learn how to use the service and then nonusers often complain that mobile banking has no social dimension and customers have been afraid of security issues. This situation is changing as the electronic banking channel has proven to be safe to use and no misuse has been reported by the media in Finland. It applies mainly to some retail banking activities that are suitable for standardization, and also to developments in remote banking.

Furst et al; (2002) examined the determinants of internet banking adoption and observed that more profitable banks adopted internet banking after 1998 but yet they were not the first movers. E-banking is driven largely by the prospects of operating costs minimization and operating revenues maximization. A comparison of online banking in developed and emerging markets revealed that in developed markets lower costs and higher revenues are more noticeable Simpson (2002) suggests that.

In Ethiopian case, Wondwossen and Tsegaye (2005) conducted a study on the challenges and opportunities of E-payments in Ethiopia; their objective was studying of E-payment practices in developing countries, Africa and Ethiopia. The authors assessed the challenges to E-payment in Ethiopia using qualitative study approach with interview and on site observation and found that, the main obstacles to the development of E-payments are, lack of customers trust in the initiatives, Unavailability of payment laws and regulations particularly for E-payment, Lack of skilled manpower and Frequent power disruption. Similarly, Gardachew (2010) conducted similar study who aimed to assess the main challenges and opportunities of implementing E-

banking system. He identified certain challenges of using E-banking system in Ethiopia, such as, lack of suitable legal and regulatory frame works for E-commerce and E- payments, political instability in neighbouring countries, high rates of illiteracy and absence of financial networks that links different banks.

2.4 Summary of Related Literature Review

Consumer satisfaction is regarded as an important factor in consumer retention. On the other hand, the relationship between satisfaction and consumer retention is varying. Customers have found doing business online simple and speedy and have become very comfortable with the arrangement. In view of that, the newly adapted technology called as internet banking is of quite eminence to customers and banks because it gives great advantages to the customer and the bank. It essentially gives people more control over their money in a very convenient way that they find enjoyable and reassuring. On the other hand, it comes with its own high possibilities in losing and retaining customers in service oriented organization. It requires thought and caution to implement the technology along with fulfilling customers' needs and wants.

Banks have to upgrade and constantly think of new innovative customized packages and services to remain competitive. The findings show that bankers have invested commercial banking technologies with very cautions with a sole objective of making high incomes from the service. In most cases, implementing internet banking mainly is facing various and unexpected complains with losing of customers and overlooking service delivery channels instead of creating new customers. So to make effective the internet banking, it should be used as a competitiveness tool in order to attract and retain mainly the corporate clients. In view of the overall findings, the research question for this study will hence be whether e- banking creates and improves the banks customer retention performance in terms of non-financial measures which include efficiency and effectiveness.

2.5 Research Gap

This study proposed a research model that explains the determinants of M-banking user retention and the existing interrelationships. M-banking retention means continuous usage of the M-banking. Therefore, a retained user who already has adopted M-banking will continue to using it. Thus, from IS acceptance perspective, M-banking retention is a post-adoption phenomenon and

the basic theory for developing the research model should offer a deep understanding of determinants of IS continuous usage intention. This study proposed a single and universally applicable, yet comprehensive model essentially encompassing descriptive as well as relational studies to ascertain M-banking user retention in post-adoption context. The proposed conceptual model is presented in the below figure. The dimensions and their hypothesized interrelationships are elaborated in following subsections.

2.6 Conceptual Framework

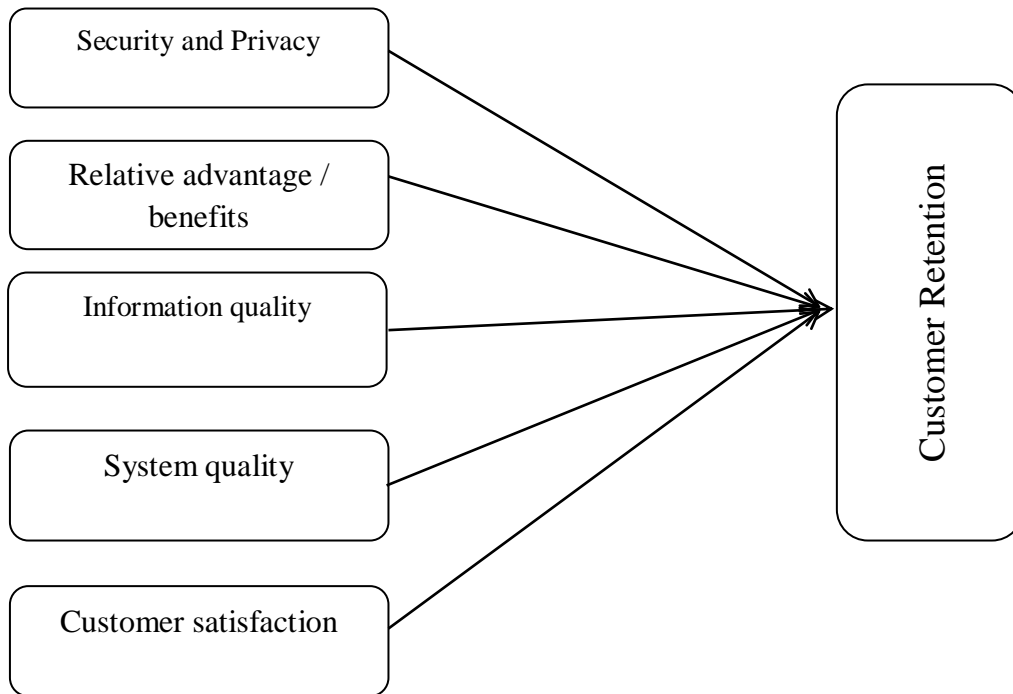


Figure 2.1: Conceptual Framework Adapted from Basheeret *al.*, (2015)

2.6.1 Research Hypotheses

Wang (2008) published studies on acceptance of M-banking service investigated the relationship between M-banking service quality and satisfaction with M-banking with regards to user retention in post-adoption context. This study proposed that when users of a particular M-banking service receive timely, professional and sincere supports from the bank regarding their issues and concerns with M-banking, they would be more satisfied with that M-banking service.

- Hypothesis 1: Security and privacy does not have a positive and significant effect on customer retention in Mobile banking in banking industry

Bhattacharya and Ravikumar (2001) proposed that perceived usefulness (relative advantage) (as a cognitive belief) determines attitude (as a pre-acceptance user affect), perceived usefulness can also determine user satisfaction (as a post-acceptance user affect). They further supported this relationship between perceived usefulness and satisfaction empirically and also proposed that perceived usefulness is a potential direct determinant of satisfaction. Consistently, the proposed model hypothesized that when users of M-banking believe that the service has provided them with expected advantages, these users will become satisfied with that particular M-banking service.

- Hypothesis 2: Relative advantage does not have a positive and significant effect on customer retention in Mobile banking in banking industry

Wixom and Todd (2005) studied on IS and banking industry and also provided strong evidence for the relationship between information quality and user satisfaction. Palmer (2002) showed that when websites provide high quality information such as accurate content, users of these websites tend to be more satisfied. Wang (2008) also showed that when EC provides up-to-date information, EC users would be more satisfied. He also demonstrated that when M-commerce provides users with accurate, well-formatted and up-to-date information, these users form information satisfaction. Following the above studies, the present research proposed that since banking information quality (e.g., in terms of accurateness, timeliness and completeness) are of prime importance to M-banking users, M-banking services capable of providing high quality banking information will satisfy their users.

- Hypothesis 3: Information quality does not have a positive and significant effect on customer retention in Mobile banking in banking industry

Hsieh and Wang, (2007) proposed that system quality and information quality are antecedent determinants of satisfaction with IS. For many general IS applications, system quality is significantly related to the satisfaction with the system. Chung and Kwon (2009) also demonstrated that there is strong evidence for the direct relationship between system quality and satisfaction in EC context and even in M-banking context. Following these evidences, this study proposed that when the M-banking services provide a high system quality, for example when the mobile application is easy to use and offer a beautiful and attractive interface, M-banking users will be satisfied with them.

- Hypothesis 4: System quality does not have a positive and significant effect on customer retention in Mobile banking in banking industry

Rootman (2011) detailed that competition in the banking sector worldwide has been increasing, which has made it very difficult for commercial banks to provide their customers with exclusive banking services and products as required. In order to deal with customer retention, they have also found that banks that can excel in customer satisfaction. It can be accomplished through service provision that are capable of benefiting from the advanced customer relationship management. Since the customer pays attention to the aspects of interactions and services related to other service providers while examining the services of their own service provider (Bhattacharya and Ravikumar, 2001).

- Hypothesis 5: Customer satisfaction does not have a positive and significant effect on customer retention in Mobile banking in banking industry

2.7 Metrics

- 1) **Security and Privacy**—assurance of mobile banking integrity, certainly, secure personal privacy and promises and commitments (Malak, 2007).
- 2) **Relative advantage / benefits** - is identified as net benefits in information system (IS) success taxonomy refers to the extent to which IS contributes to the success of individuals, groups, organizations, industries, and nations and Perceived usefulness is the most frequently used measure of IS relative advantage, particularly at the individual level of analysis by Basheer *et al.*, (2015)
- 3) **Information quality** - refers to the desirable characteristics of the IS outputs such as accuracy, relevance, completeness, currency and dynamic content are examples of characteristics of desirable content Basheer *et al.*, (2015)
- 4) **System quality** - is conceptualized as desirable characteristics such as perceived ease of, effectiveness, user-friendliness and portability usefulness, usability, responsiveness, reliability and flexibility as indicated by Basheer *et al.*, (2015)
- 5) **Customer Satisfaction** -person's feelings of pleasure or disappointment resulting from comparing a product's perceived performance (or outcome) in relation to his or her expectation (Kotler, 2003).

6) **Consumer Retention** - long-term healthy relationship between the firm and consumer, (Kassim&Souiden (2007) and the future propensity of the consumer to stay to their service provider (Motiwalla, 2008).

CHAPTER THREE

RESEARCH DESIGN AND METHODOLOGY

This part of the study presents reach approach and design, data source, target population and sampling techniques, data presentation, instrument reliability and validity and ethical consideration in research.

3.1 Description of Study Area

The study area of this research is in Addis Ababa. Addis boasts an interesting range of things to buy. Addis Ababa holds the known market place called Merkato, meaning market in Italian, is said to be the largest open-air market in Africa. Certainly it's huge, sprawling, and has a large number of stalls. ShiroMeda has more of a roadside market feel than the massive Merkato, and is particularly good for hand-woven fabrics and traditional Ethiopian clothes. The Piazza, on the peak of Addis, is the old economic heart of the city, and lies in a picturesque sprawl around the stately stone Bank of Abyssinia building. With shops, stalls, bars, restaurants, nightclubs and plenty of young Addis onions hanging around to chat or sell something, this is a fun place to spend a day or a night. Bole is the more upmarket sector of Addis and has a plethora of expensive gift shops and branded wares. Ethiopian designer brands to look out for include Zaaf leather bags, Sabahar fair trade textiles, Salem woven textiles, T&H Designs jewellery, Sara Ethiopia dresses and shirts, Ariti organic teas and oils, Little Gabbies baby clothes and Ecopia eco soaps and creams (Source, Addis city administration).

3.2 Research Approach

Mixed methods research is a methodology for conducting research that involves collecting, analysing, and integrating (or mixing) quantitative and qualitative research (and data) in a single study or a longitudinal program of inquiry. The purpose of this form of research is that both qualitative and quantitative research, in combination, provides a better understanding of a research problem or issue than either research approach alone (Creswell, 2009). The current study employed a mixed approach; it incorporates elements of both qualitative and quantitative approaches.

3.3 Research Design

This study described and interpreted mobile banking adoption and its role in customer retentions in CBE. It looks at its customers or sampled respondents to describe, compare, contrast, classify, analyze and interpret their opinion about mobile banking system and information design, its benefits and its associated transactions. Overall, it aims to describe the state of affairs as it exists. In addition, this study establishes the cause and effect relationship between e-banking factors such as contribution, benefits, information and system quality and customer retention. The researcher uses data from respondents from questionnaire to analyze and make a critical evaluation of the data/information. In short, this study used both descriptive and explanatory research design.

3.4 Sources of Data

Primary sources were applied to generate data for the study. The study collected data through questionnaires and semi structured interviews from employees of CBE. It was obtained from the original source of information. As secondary data, desk review was conducted to collect data from various secondary sources. This includes CBE reports and national bank documents related to mobile banking. Secondary data sources were obtained from the companies' manuals, reports, and some management documents which are included under the desk review.

3.5 Population and sampling

3.5.1 Target Population

In the current study, the study population consists of customers who use considerably Mobile banking of selected branch of Commercial bank of Ethiopia in Addis Ababa. In addition, employees and managers of CBE were selected for interviews. The total population of the study sums up to 11192 customers and 15 interviewees.

3.5.2 Sample Size Determination

In order to sample size determination and allocation to respondents, the study employs the known sampling formula called Yamane's formula for calculating sample size. Yamane (1967) suggested simplified formula for calculation of sample size from a population which is an alternative to Cochran's formula. The formula to be used to calculate the sample size of the study

is the statistical formula given by Yamane (1967) formula. Sample size for $\pm 5\%$ precision levels Where Confidence Level is 95% and $P=.5$. For 11192 size of population, the sample Size (n) for precision (e) of 5% was 386. The formula is presented below:

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

$$n = \frac{11192}{1 + 11192(0.05)^2}$$

$$=386$$

Where n = number of sample size and N = Total number of study population e= level of confidence to have in the data or degree of freedom which is 95% apply for this study with 5% error. Therefore, sample size of the study was 386 respondents of CBE selected customers in Addis Ababa.

For qualitative data a non-probability sampling technique was identified fifteen participants from senior management team and employees using purposive sampling. Interviewees were fifteen as of Bertaux (1981) who stated the minimum sample size for interview is fifteen. These participants are senior staff that have strategic and leadership experience to actively provide valuable information on the practice of internet marketing and technology banking services within their respective offices.

3.5.3 Sampling Technique

Table 3.1 Selection of Branches and Mobile banking

No	Branch	Active Mobile banking User	Branches per the number they have	Proportion	samples per branch
1	Tewodos Square	1647	=1647/11192	15%	57
2	Asko	1719	=1719/11192	15%	59
3	Gulele	1079	=1079/11192	10%	37
4	Addis Ababa	2014	=2014/11192	18%	69
5	Arat Kilo	1791	=1791/11192	16%	62
6	Arqdagiorgis	1935	=1935/11192	17%	67
7	Sheger	1007	=1007/11192	9%	35
		11,192		100%	386

CBE and survey result, 2020

In this study, convenience sampling was used to select the respondents and the top active mobile banking users used as the selection criteria to select branches in Addis Ababa. The study selects CBE branches based on their performance on holding active users of mobile users visits special grading having high saving rate and computes proportionally of the designated 386 customers.

3.5.4 Sampling Procedure

For this study, the procedure is first, seven active branches are selected which have active in serving Mobile banking application. From, these branches, two cash transaction terminal were selected; one assigned teller or Mobile banking transaction desk and the second one is from nearby Mobile banking agent or representative will be chosen. Respondents will be selected from customers who were willing to complete a questionnaire while spending time in those places without consideration of any selection criteria.

3.6 Data Collection Instruments

The data gathering tools for this study were questionnaire, document review and interview.

3.6.1 Questionnaires

The assessment questionnaire was used to gather information on the status of Mobile banking practices, customers retention and satisfaction level. Converting the answers to a Likert Scale to measure the frequency of practices (1 to 5) was used to measure the practice of Mobile banking and its performance.

3.6.2 Interview

The main advantage of interviews is that they are useful to obtain detailed information about personal feelings, perceptions and opinions. It allows more detailed questions to be asked, and it also achieves a high response rate. Semi structure interview was conducted for the purpose of investigating the participants understanding the concept of internet marketing practice in CBE.

3.6.3 Document Review

This study tried to review inactive mobile banking status of the selected branches. This study tried to review branches' document review during the months of January through April of, 2020. The inactive user analysis was conducted by visiting Mobile Banking in Active List by Branch

and District From 01-Jul-2019 TO 27-Apr-2020 which counted 2478 lists and 11192 active users also investigated for further comparison.

3.7 Data Analysis

The study used SPSS (Statistical Package for Social Sciences) version 20.0 that helps to compute and analyze the data. The data was analyzed using inferential statistics (correlation and regression) and descriptive statistics (percentages, frequency, mean and standard deviation).

Model specification

The multiple linear regression model of the study is based on the theoretical regression model as indicated follows

$$Y = a + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + e$$

Where:

Y= Consumer Retention

a= the y intercept.

X₁ – Security and Privacy

b₁= the regression coefficient of Security and Privacy

X₂ - Relative Advantage / Benefits

B₂= the regression coefficient of Relative Advantage/ Benefits

X₃ - Information quality

B₃= the regression coefficient of Information Quality

X₄ - System quality

B₄= the regression coefficient of System Quality

X₅ – Customer Satisfaction

B₅= the regression coefficient of Customer Satisfaction

e= error term.

3.8 Instrument test

3.8.1 Reliability

This study used Chronbach’s alpha to assess the internal consistency of variables in the research instrument.

Table 3.2 Reliability Test

Dimensions	Cronbach's Alpha	N of Items
Security and Privacy	.765	5
Relative Advantage	.79	5
Information Quality	.878	6
System Quality	.796	5
Customer Satisfaction	.762	5
Customer Retention	.872	3
Overall	.867	29

Own study, 2020

Chronbach's alpha is a coefficient of reliability used to measure the internal consistency of the scale. According to Kumar (2000), scale with coefficient alpha between 0.6 and 0.7 indicate fair reliability so for this study a Chronbach's alpha score of >0.70 or higher is consider adequate to determine reliability.

3.8.2 Validity

Validity is the extent to which difference found with measuring instrument reflecting true differences among those being tested. To ensure the quality of the research design content and construct validity of the research was checked. Construct validity establishing correct operational measures for the concepts being studied (Kumar, 2000). The literature review was conducted and thoroughly examined to make sure that the content of measuring is relevant to the study. Experts who are specialized knowledge and experience on marketing, internet services, customers' management and managers' opinion were taken.

3.8.2.1 Pilot Study

A pilot survey was conducted on ten respondents prior to administrating the questionnaire to the selected sample size. The pilot survey was conducted to check if the questionnaire is clear, easy to understand and straightforward to ensure that the respondents could answer the questions with no difficulty. Based on the feedback from the pilot survey, necessary changes were made on the questionnaire before administering to the selected sample size.

3.9 Ethical Consideration

All the participants of this study were provided with detailed information on the purpose and procedure of the current study, in all cases directly from the researcher. The information regarding the purpose and procedure of the study was provided through both verbal means when personally meeting each of the participants as well as through a written form that is included with the questionnaires. The researcher maintained scientific objectivity throughout the study, recognizing the limitations of his competence. Every person who was involved in the study was entitled to the right of privacy and dignity of treatment, and no personal harm was caused to subjects in the research. Information obtained was held in strict confidentiality by the researcher. All assistance and collaboration were acknowledged properly and ethically. In addition, all the collected data through the questionnaires and interviews will be employed only for this particular research project and will not be used in any other contexts or other research purposes. As permission to conduct the current study was granted by top management, all study procedures were communicated and study materials were submitted.

CHAPTER FOUR DATA PRESENTATION AND ANALYSIS

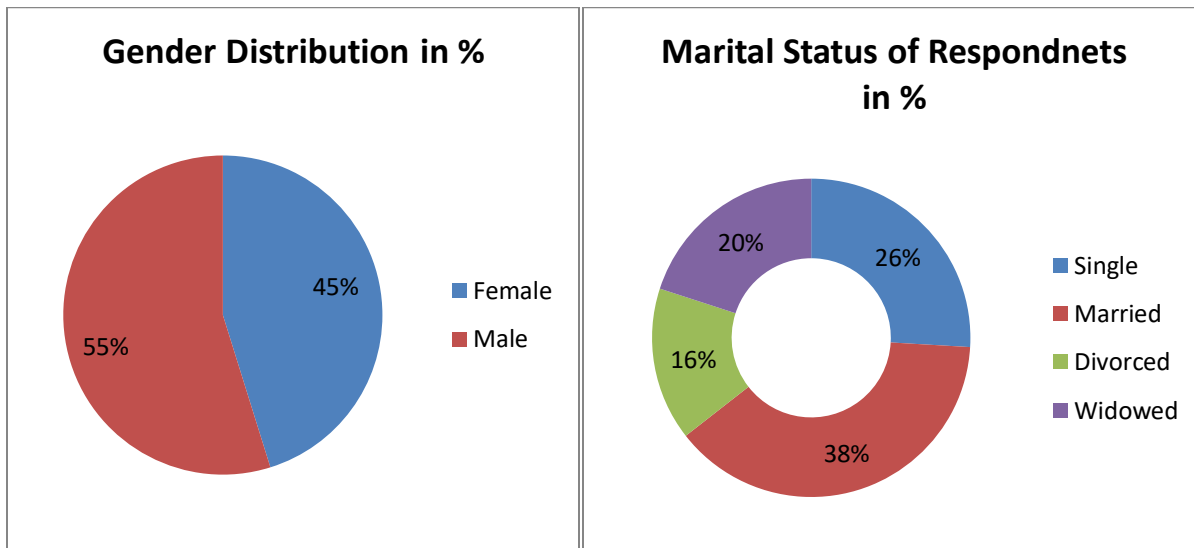
This chapter presents findings of the study, followed by their interpretations. It includes the frequency of response rate and respondents profile of customers as well as response analysis by descriptive statistics and qualitative data analysis to answer the research objective.

Response Rate

A total of 386 self-administrated questionnaires were distributed to the respondents with close follow up and guide in filling the questioners. Accordingly, 270 respondents properly filled and returned the questionnaires in suitable form; and they were used to analysis. It indicates that seventy (70%) of the total targeted respondents were participated in the study. In addition, only eleven interviewees were conducted over phone based on the prepared interview checklist and the result of their responses are discussed accordingly.

4.1 Respondents' Profile

This part of the data presentation summarized demographic profiles of the respondents, i.e. distribution of respondents in sex, age, and educational, marital status as well as their contact years with CBE. In view of that, their responses are presented in the following figures, followed by the implication of the responses.



Own survey, 2020

Figure 4.1: Gender distribution and marital statusof the respondents

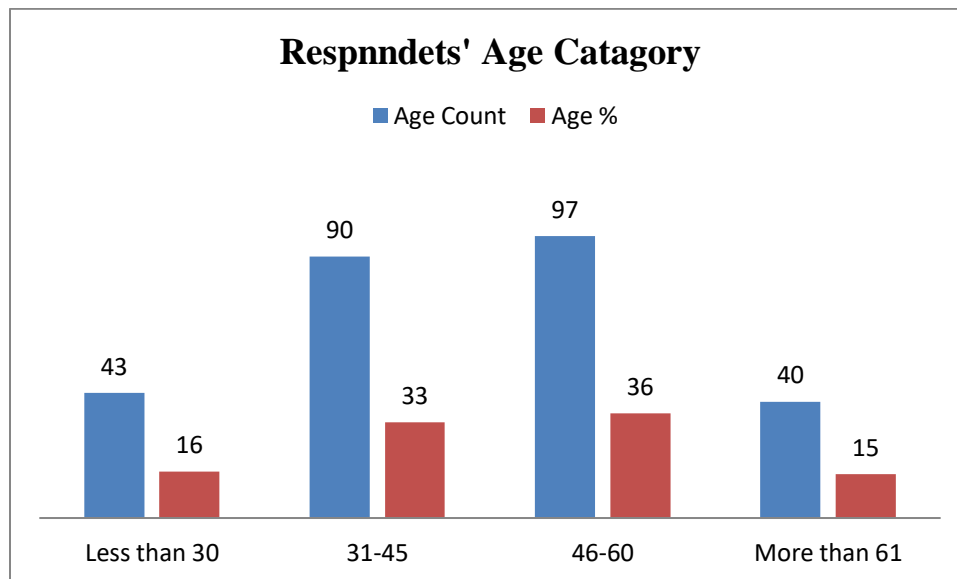
As shown in the above pi graph, out of 270 the total of customer respondents of this study, 45% (122 in number) of the respondents are femalesand55% of the respondents (149 in numbers) are male. The

second graph shows marital status of the respondents. Most of the respondents (39 %, 105 in number) are married and single (26 %, 70 in number). In view of this, the majority respondents are married showing that they have been exercising the role of accountability and responsibility and in better social relations they are taking part. In addition, it shows the distribution of gender participants in the study is relatively equal even if the majority of the respondents are male.

Table 4.1 Respondents' Profile

Level of Education			Respondents contact with CBE in years		
Category	Count	%	Category	Count	%
High school and below	47	17	Less than one year	46	17
Diploma	85	31	1-2 years	54	20
Bachelor degree	92	34	3-4 years	68	25
Master or higher	46	17	More than 5 years	102	38
Total	270	100.0	Total	270	100

Own survey, 2020



Own survey, 2020

Figure 4.2: Age category of the respondents

The educational profile of respondents indicate that 17% of the respondents sampled from customer lie within the educational category of high school and below; 31 % of the respondents within the educational category of diploma; 34% of the respondents have bachelor degree and the remaining 17% have master or higher degree. From the educational profile of respondents, it can be seen that

majority of the respondents are higher educational background with a capable filling self-administrated questionnaire and able to understand banking and its mobile banking system. They can easily related banking services procedures and policies in any mobile banking operations to get financial transactions services to their personal and organizational need and want. The above table shows that sampled respondents have extensive years of contact with the study company. 38% of the total respondents have known CBE for more than 5 years and 17% of them known it for less than 1 year. This indicates that the study fortunately included those customers who have extensive experience with CBE to get better picture of the organization understudy from their experience. On other hand, the bar graph below the table shows the age group shows that the majority of respondents sampled from customer lie within the age group of above 31 – 60 (33% of them 31-45 years and 36% from 46-60 years).It indicates that most of the respondents are in active and at the age of maturity where they can feel more responsible to properly play the roles expected of them with the sense of accountability.

4.2 Document Review

This document review was conducted during the months of January through April of, 2020. The inactive documents analysis was conducted by visiting Mobile Banking Inactive List By Branch and District From 01-Jul-2019 TO 27-Apr-2020 which counted 2478 lists. These lists were selected based on system and information failure as well as the discrepancies and do not comply with mobile banking system.

4.2.1 Active Users by Branch and Payment Type

Table 4.2 Active and Inactive Users

Active by Branch	%	Payment active	%	Active by Year Starting year	%
Type	%	Type	%	Year	%
Tewodos Square	14%	Android	10%	2018	1%
Asko	15%		0%	2019	45%
Gulele	14%	payment	0%	2020	55%
Addis Ababa	14%	SMS payment	0%		
Arat Kilo	10%	ussd payment	64%		
Aradagiorgis	21%	Xhtmlpayment	25%		
Sheger	10%	Mobile app	0%		
Unknown Transaction	2%				
	100%		100%		100%

Own survey, 2020

The data identified the mobile banking status of CBE based on the sample branches of the study. As the above table shows almost all branches have similar inactive mobile banking users but AradaGiorgis takes the highest number (22%). It shows that the branches deployed similar technology in all branches. In regarding payment inactive, out of 2478 , 64 % inactive users' ussd payment that created a lion shore for system and information problem. It is clear that the bank has high problem directly involved with ussd payment system, followed by Xhtml payment (25%). It is clear from the table that the inactive list has been increased from 2018 to 2020. It is register as 1353 inactive users in 2020.

4.2.2 Comparison Active and inactive Users (system inaccuracies)

Table 4.3 Composition for active and inactive users

Branch	Active Mobile banking User	In active Mobile banking User	active Mobile banking User	% errors or defects
Tewodos Square	1647	351	15%	3%
Asko	1719	371	15%	3%
Gulele	1079	357	10%	3%
Addis Ababa	2014	339	18%	2%
Arat Kilo	1791	249	16%	2%
Aradagiorgis	1935	515	17%	4%
Sheger	1007	240	9%	2%
Unknown Transaction		56	15%	0%
Total	11,192	2478		

Own survey, 2020

The abovetable shows that the system and information effectiveness based on inactive users that created by system and information process of CBE mobile banking. Mobile banking of CBE is operating with fewer errors occurred as all branches exhibit less than 3% of defects. It may be difficult to eliminating error along entire mobile banking value streams, but it can be found at isolated points or branches. Interviewees assured braches can create processes that need less human effort, less space, less capital, and less time to make mobile banking services at far less costs and with much fewer defects, compared with traditional business systems.

4.3 Response Analysis

Targeted respondents were asked to express their opinion about security and privacy, relative advantage, information quality, system quality and customer satisfaction and retention in relation to mobile banking service of CBE. This response analysis presents ratings of respondents' level of agreement for each dimension: Simpson (2002) indicates more than 4.51 as excellent, 3.51-4.50 good, 2.51 – 3.50 satisfactory and below 2.50 poor.

4.3.1 Security and Privacy

Table 4.4 Respondents' Response on Security and Privacy

Items	Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree		Mean	Grand mean and sd
	%	Count	%	Count	%	Count	%	Count	%	Count		
The reputation and size of the bank provides assurance of mobile banking integrity	5%	14	3%	8	18%	49	36%	97	38%	103	4.189	4.17 0.897
I am quite certain what to expect from mobile banking information system	3%	8	0%	0	14%	38	29%	78	54%	146	4.304	
CBE's mobile banking facility offers secure personal privacy	6%	16	3%	8	9%	24	27%	73	55%	149	4.123	
I believe that CBE's mobile banking system would act in my best interest	7%	19	2%	5	13%	35	28%	76	50%	135	3.983	
CBE's mobile banking system keeps its promises and commitments	4%	11	1%	3	13%	35	38%	103	44%	119	4.112	

Own survey, 2020

The above table shows that most of the respondents (74%) have at least agree indicating the reputation and size of the bank provides assurance of banking integrity, 83% of them certain what to expect from mobile banking information system, 82% of them believe that CBE's offers secure mobile banking, 78% believe that CBE's mobile banking based their best interest and 82% agree CBE's mobile banking system keeps its promises and commitments. Mobile banking security and privacy responses (4.17 grand mean) was rated as good with less variability data. It shows that CBE adapts mobile technology through its reputation and size of the bank provides, meets customer expectation, offers secure personal privacy, act in customers' interest and keeps its promises. The same result was found from interviewees. Mobile banking security and privacy

helps to assurance of mobile banking integrity of the bank. This study acquires similar results with (Petter et al., 2008) and (Gupta and Kamilla, 2014). The banking industry used effectively technology-based banking services such as protection of information exchanged during electronic transactions from the threats and risks minimization and transactional integrity.

4.3.2 Relative Advantage

Table 4.5 Respondents' Response on Relative Advantage

Items	Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree		Mean	Grand mean and sd
	%	Count	%	Count	%	Count	%	Count	%	Count		
I can access my account 24 hours and seven days a week using mobile banking of CBE	2%	6	4%	10	14%	37	37%	101	43%	116	4.15	4.28 0.789
I get much benefit from CBE's mobile banking system	9%	23	2%	6	8%	21	26%	69	56%	151	4.18	
Mobile banking of save my time as CBE brings self-service banking	4%	11	2%	6	7%	18	22%	58	66%	177	4.42	
I get fast banking service transactions using CBE mobile banking	3%	9	3%	9	10%	26	23%	61	61%	165	4.35	
CBE mobile banking is helpful for my personal and business needs	4%	12	4%	11	7%	20	23%	63	61%	164	4.32	

Own survey, 2020

The above table portrays 80% of respondents that have at least agree indicating that they can access my account 24 hours and seven days a week using mobile banking of CBE; meanwhile, 6% disagree with the fact and 13.7 are uncertain; 82% of them get much benefit from CBE's mobile banking system; 87% save their time using CBE's mobile banking; 84% get fast banking service

transactions using CBE mobile banking and 84% assumes CBE mobile banking is helpful for their personal and business needs. The grand mean this response was rated as good with less variability data. The same result found from interviewees that states that the bank benefits by adopting e banking in its operation. The main benefits to banks are cost savings, reaching new segments of the population, efficiency, enhancement of the banks reputation and better customer service and satisfaction. They also added that mobile banking strengthens the relationship between the service provider (e.g. bank) and the customer, because it brings banking services directly to a customer's home or office via mobile phone. This creates customer loyalty. We can understand that e-banking helps in reducing the cost of delivering the services to the customers. It reduces the use of paper money that helps the central bank in printing less paper notes

Bhattacharjee (2001) also presents the net benefits as the success of individuals, groups, organizations, industries, and nations and Petter et al. (2008) present perceived usefulness is the most frequently used measure of IS relative advantage, particularly at the individual level of analysis.

4.3.3 Information Quality

Table 4.6 Respondents' Response on Information Quality

	Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree		Mean	Grand mean and sd
	9%	24	8%	21	4%	12	19%	51	60%	162		
Accurate information	9%	24	8%	21	4%	12	19%	51	60%	162	4.13	4.02
Relevant information	9%	25	13%	35	9%	23	30%	80	40%	107	3.77	
Complete information	7%	19	12%	32	7%	19	24%	65	50%	135	3.98	
Favorable CBE's mobile banking format	9%	23	9%	24	9%	23	18%	49	56%	151	4.04	
CBE's mobile banking application produce appropriate transactions	7%	20	7%	20	7%	18	19%	52	59%	160	4.16	0.789
Accurate information	8%	22	8%	22	7%	18	26%	71	51%	137	4.03	

Own survey, 2020

The above table shows the responses of sampled respondents on CBE’s information quality. The data shows that 79% of the respondents get accurate information; 69.20% get relevant information and 74.10% get complete information when they use CBE’s Mobile banking. In addition, 74.00% of them like CBE’s mobile banking format or application and 78.60% believe that CBE’s mobile banking format or application produce appropriate banking transactions and 77.00% get accurate information when I use CBE’s Mobile banking. Grand mean (4.02) was rated as good. It meant that CBE tries to disseminate accurate, relevant and complete information. It has user friendly mobile banking format that can produce appropriate banking transactions. Petteret *al.*, (2008) and Wixom and Todd (2005) found that accuracy, relevance, completeness, currency and dynamic content are examples of characteristics of desirable content.

4.3.4 System Quality

Table 4.7 Respondents’ Response on System Quality

	Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree		Mean	Grand mean and sd
	%	Count	%	Count	%	Count	%	Count	%	Count		
CBE’s mobile banking system is easy to use	4%	12	10%	26	11%	30	29%	79	46%	123	4.02	
CBE’s mobile banking system is user-friendly	4%	10	9%	24	7%	18	33%	89	48%	129	4.12	4.05
CBE’s mobile banking is straightforwardly accessible	7%	19	7%	20	10%	28	27%	73	48%	130	4.02	
CBE’s mobile banking application or system is reliable	7%	18	8%	22	14%	38	32%	86	39%	106	3.89	
CBE’s mobile banking system can be used anywhere at any time	3%	8	7%	19	11%	30	27%	73	52%	140	4.18	0.857

Own survey, 2020

The above table shows that sample customers’ responses on information quality of mobile banking of CBE. Accordingly, 74.90% have at least agree indicating CBE’s mobile banking system is easy to use, 80.80% CBE’s mobile banking system is user-friendly, 75.10% CBE’s mobile banking is straightforwardly accessible, 71.20% CBE’s mobile banking application or

system is reliable and 78.90% CBE's mobile banking system can be used anywhere at any time. In this regard, interviewees also participated in similar questions: CBE tried to implement user-friendly, easy to use, reliable, and straightforwardly accessible CBE's mobile banking system and its mobile banking system can be used anywhere at any time. The problem raised that related to waiting time to get the transaction information, and additional features like producing receipt after payment. Similar studies found with Jayawardhena (2000) showed that internet banking results in cost and efficiency gains of information and assuring quality and Kariuki (2005) stated how to improve information, expanded product range, customized products and better response to client demand.

4.3.5 Customer Satisfaction and Retention

Table 4.8 Respondents' Response on Customer Satisfaction and Retention

	Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree		Mean	Grand mean and sd
	%	Count	%	Count	%	Count	%	Count	%	Count		
I am satisfied with Mobile banking system	6%	16	4%	10	11%	30	30%	82	49%	132	4.13	
I am willing to pay higher service charge for Mobile banking system	7%	20	5%	13	14%	39	33%	88	41%	110	3.94	
I recommend my families and relatives to use Mobile banking	6%	17	8%	21	17%	45	44%	120	25%	67	3.74	3.92 and .878
I am pleased in the current available bank products and services provided by CBE's mobile banking system and application	5%	13	19%	50	6%	16	31%	83	40%	108	3.83	
I am satisfied with CBE's mobile banking	4%	12	16%	43	9%	25	28%	76	42%	114	3.88	
I create healthy relation with CBE due to Mobile banking	8%	22	24%	65	6%	16	21%	56	41%	111	3.63	3.62 and .915
I create long term relation with CBE due to Mobile banking	10%	28	27%	72	5%	14	16%	42	42%	114	3.53	
I stay long time with CBE due to Mobile banking	8%	21	24%	64	3%	8	21%	56	45%	121	3.71	

Own survey, 2020

In regarding to customer satisfaction and retention, 79.30% of the respondents are satisfied with mobile banking system of CBE, 73.30% are willing to pay higher service charge for Mobile banking system, 69.20% recommend their families and relatives to use Mobile banking, 70.70% are pleased in the current available bank products and services provided by CBE's mobile banking system and application, 70.30% are satisfied with CBE's mobile banking, 61.80% create healthy relation with CBE due to Mobile banking, 57.80% create long term relation with CBE due to Mobile banking and 65.50% stay long time with CBE due to Mobile banking. I meant that customers are satisfied, willing to pay higher service charge for Mobile banking system, recommend their families and relative, pleased in the current available bank products and services provided by CBE's mobile banking system and application, create healthy relation with, create long term relation with CBE and want to stay long time with CBE due to Mobile banking. Thus is basically related to adoption of technology to banking system, Customers need such kind of adoption system for their personal and organizational interest. Similarly, Furst et al; (2002) examined the determinants of internet banking adoption and the need for lower costs and higher revenues. Simpson (2002) suggests that adoption technology helps to attract customers and retain them for long time. Contrarily, Wondwossen and Tsegaye (2005) found E-payments are lack of customers trust in the initiatives and similar challenges related to banking transactions.

4.3.6 Grand Mean Results

The grand means shows that the four independent variables have at least agree or more than 4 indicating that CBE's mobile banking are rated as good. However, customer satisfaction has higher mean than customer retention. Even if they are satisfied, they are less retained to the bank. As result, the study found the mean responses indicating that security and privacy (4.17), relative advantage / benefits (4.28), information quality (4.02), system quality (4.05) have higher mean than customer satisfaction (3.92) and consumer retention (3.62). It meant customers like CBE's efforts to assure mobile banking integrity, certainly, secure personal privacy and promises and commitments; customers like CBE;s efforts the application of information system (IS) in its banking service that contributes to its success and presenting perceived usefulness of its services. In most cases, CBE's tries to provide accurate, relevant and complete mobile banking with dynamic content and its system is ease to use, effective, user-friendly and usable. CBE's

have feelings of pleasure with little disappointment resulting from comparing its mobile banking perceived performance (or outcome) in relation to their expectation.

Table 4.9 Grand Mean of Respondents' Response

Dimensions	Minimum	Mean	Maximum
Security and Privacy	1	4.17	5
Relative Advantage	1	4.28	5
Information Quality	1	4.02	5
System Quality	1	4.05	5
Customer Satisfaction	1	3.92	5
Customer Retention	1	3.62	5

Own survey, 2020

Overall, the found that customer needs to create long-term healthy relationship with CBE but future propensity of the consumer to stay to its mobile service is under question. The bank is working under slow system provision, no additional banking information system is not being included and there is high infrastructure problem such network and working with reluctant telecom provider. Customers have found doing business online simple and speedy and have become very comfortable with the arrangement. In view of that, the newly adapted technology called as internet banking is of quite eminence to customers and banks because it gives great advantages to the customer and the bank. It essentially gives people more control over their money in a very convenient way that they find enjoyable and reassuring. On the other hand, it comes with its own high possibilities in losing

4.4 Inferential Analysis

In this study, inferential analysis was conducted to test hypothesis. In this regard, Karl Pearson Correlation was applied to establish the nature of relationship between the independent variables and the dependent variable. Subsequently, the p-values obtained formed the basis for either accepting or rejecting the Null Hypotheses.

4.4.1 Correlation Analysis

Table 4.10 Correlation Test Results

		Correlations					
		security and Privacy	Relative Advantage	Information Quality	System Quality	Customer Satisfaction	Customer Retention
Security and Privacy	Pearson Correlation	1	.753**	.698**	.734**	.710**	.750**
	Sig. (2-tailed)		.000	.000	.000	.000	.000
	N	270	270	270	270	270	270
Relative Advantage	Pearson Correlation	.753**	1	.878**	.818**	.863**	.879**
	Sig. (2-tailed)	.000		.000	.000	.000	.000
	N	270	270	270	270	270	270
Information Quality	Pearson Correlation	.698**	.878**	1	.765**	.839**	.863**
	Sig. (2-tailed)	.000	.000		.000	.000	.000
	N	270	270	270	270	270	270
System Quality	Pearson Correlation	.734**	.818**	.765**	1	.833**	.838**
	Sig. (2-tailed)	.000	.000	.000		.000	.000
	N	270	270	270	270	270	270
Customer Satisfaction	Pearson Correlation	.710**	.863**	.839**	.833**	1	.927**
	Sig. (2-tailed)	.000	.000	.000	.000		.000
	N	270	270	270	270	270	270
Customer Retantion	Pearson Correlation	.750**	.879**	.863**	.838**	.927**	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	
	N	270	270	270	270	270	270

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

Own study, 2020

Correlation analysis test was conducted to examine this relationship among variables. The Pearson Product-Moment Correlation Coefficient is a statistic that indicates the degree to which two variables are related to one another. This study used the rating of relationship between two variables based on Cheruiyot (2010) found that found that internet banks are larger banks and have better operating efficiency ratios and Osage (2012) conducted on mobile banking adoption on commercial banks and remarked as while adoption of mobile banking was beneficial, it was affected by factors. Thus, this study found similar results as there is a positive and significant relationship between security and privacy (.750), relative advantage / benefits (.879), information quality (.863), system quality (.838) and customer satisfaction (.927) and consumer retention.

4.4.2 Regression Analysis

Linear regression analysis was used to measure the statistical significance of the effect of each individual independent variable on the dependent variable through F and P value.

4.4.2.1 Assumptions and Diagnostic Test

Assumptions and diagnostic test are presented at the appendix part next to questionnaire. It includes average value of the error term is zero ($E(u) = 0$); normality, multicollinearity and autocorrelation tests. All were tested and found all the linear regression assumptions were maintained.

4.4.2.2 Regression Test Result

Table 4.11 Regression Test Results

Model Summary ^b					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.947 ^a	.897	.895	.443	1.859

a. Predictors: (Constant), Customer Satisfaction, security and Privacy, Information Quality, System Quality, Relative Advantage

b. Dependent Variable: Customer Retention

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	453.042	5	90.608	461.901	.000 ^b
	Residual	51.787	264	.196		
	Total	504.830	269			

a. Dependent Variable: Customer Retention

b. Predictors: (Constant), Customer Satisfaction, security and Privacy, Information Quality, System Quality, Relative Advantage

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	
	B	Std. Error	Beta			
	(Constant)	-.036	.085			
1	Security and Privacy	.088	.032	.088	2.794	.005
	Relative Advantage	.119	.051	.118	2.327	.021
	Information Quality	.175	.044	.174	3.975	.000
	System Quality	.098	.039	.099	2.518	.012
	Customer Satisfaction	.545	.046	.533	11.736	.000

Own survey, 2020

This measurement is made by inferring the value of R^2 to explain the magnitude of the effect of the independent variable on the dependent variable. Here below depicted and explained are the linear regression of five independent variables and dependent variable. As shown in the above table, the overall bundle of determinant factors of the four independent variables were 89.7 % ($R^2 = .897$) explained the dependent variable (customer retention). This suggests that 89.7% of customer retention level in the bank clearly depends on the independent variables while the remaining 10 % is determined by other unaccounted factors in this study. As the second table shows the result $F= 461.901$, it can be concluded that the combination of determinant factor have positive effect on customer retention which is statistically significant. Thus, this study rejects the null hypothesis.

From the above multiple regression table, this study found similar results as there is a positive and significant effect of security and privacy (.005), relative advantage / benefits (.021), information quality (.0001), system quality (.012) and customer satisfaction (.0001) on consumer retention. Similarly, Hoffman and Bateson (2006) customer retention is a measure of customer loyalty based on these factors and an organization's success in retaining the business of its existing customers and Matanga (2008) found similar trend. The longer a company retains a customer; the more profit the customer generates (Griffin and Lowenstein, 2001). A positive relationship between the bank and the customer is significant since this is capable of influencing retention as the customer will experience feelings of trust and satisfaction towards the bank (Boulding *et al.*, 2009). Banks obtain the rewards of excellent customer service in the form of increased loyalty of customers (Gefenet *et al.*, 2003). Generally, the trend of consumer retention

occurred as a result of increasing the organization profit and minimizes both cost and consumer switching. The function of relationship marketing is all about acquiring and retaining consumers. The data was analyzed using inferential statistics (correlation and regression) and descriptive statistics (percentages, frequency, mean and standard deviation).

4.4.2.3 Model Specification

The multiple linear regression model of the study is based on the theoretical regression model as indicated follows

$$Y = a + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + e$$

Where:

Y = Consumer Retention

a = the y intercept.

X₁ – Security and Privacy

b₁ = the regression coefficient of Security and Privacy

X₂ - Relative Advantage / Benefits

B₂ = the regression coefficient of Relative Advantage/ Benefits

X₃ - Information quality

B₃ = the regression coefficient of Information Quality

X₄ - System quality

B₄ = the regression coefficient of System Quality

X₄ – Customer Satisfaction

B₄ = the regression coefficient of Customer Satisfaction

e = error term.

$$Y = a + .088x_1 + .119x_2 + .175x_3 + .98x_4 + .545x_5 + e$$

a is the intercept term- it gives the mean or average effect on Y of all the variables excluded from the equation, although its mechanical interpretation is the average value of Y when the stated independent variables are set equal to zero. β_1 , β_2 , β_3 , β_4 and β_5 refer to the coefficient of their respective independent variable which measures the change in the mean value of Y, per unit change in their respective independent variables.

4.5 Hypothesis Testing

Security and Privacy

H₀: Security and privacy does not have a positive and significant effect on customer retention in banking industry

Using correlation analysis, this study established the relationship between Security and privacy and customer retention ($r=.750$; sig, 0.000) and tested the influence on customer retention in banking industry (Sig, 0.005) by applying multiple regression analysis. Then, the result of the regression analysis displays that security and privacy have a positive and significant effect on customer retention in banking industry, the acknowledged alternative hypothesis is accepted. Similarly, Wang (2008) published studies on acceptance of mobile banking service investigated the relationship between security and privacy influence customer retention with regards to user retention in post-adoption context. This study also found the same results. This study proposed that when users of a particular M-banking service receive timely, professional and sincere supports from the bank regarding their issues and concerns with M-banking, they would be more satisfied with that M-banking service.

Benefits

H₀: Relative advantage does not have a positive and significant effect on customer retention in banking industry

Using correlation analysis, this study established the relationship between relative advantage and customer retention ($r=.879$; sig, 0.000) and tested the influence on customer retention in banking industry (Sig, 0.021) by applying multiple regression analysis. Then, the result of the regression analysis displays that it has a positive and significant effect on customer retention in banking industry, the acknowledged alternative hypothesis is accepted. Bhattacharya and Ravikumar (2001) proposed that perceived usefulness (relative advantage) (as a cognitive belief) determines attitude (as a pre-acceptance user affect), perceived usefulness can also determine user satisfaction (as a post-acceptance user affect). Accordingly, this study found that there is a significant effect relative advantage on customer retention. Rootman (2011) detailed that banks that can excel in customer service are capable of benefiting from the advanced CRM, since the customer pays attention to the aspects of interactions and services related to other service providers while examining the services of their own service provider.

Information Quality

H₀: Information quality does not have a positive and significant effect on customer retention in Mobile banking in banking industry

Using correlation analysis, this study established the relationship between information quality and customer retention ($r=.863$; sig, 0.000) and tested the influence on customer retention in banking industry (Sig, 0.000) by applying multiple regression analysis. Then, the result of the regression analysis displays that it has a positive and significant effect on customer retention in banking industry, the acknowledged alternative hypothesis is accepted. Wixom and Todd (2005) studied on information system and banking industry and also provided strong evidence for the relationship between information quality and user satisfaction. Palmer (2002) showed that when websites provide high quality information such as accurate content, users of these websites tend to be more satisfied. Wang (2008) demonstrated that when M-commerce provides users with accurate, well-formatted and up-to-date information, these users form information satisfaction. Following the above studies, the present research found that there is a significant positive relationship between information quality and customer retention.

System Quality

H₀: System quality does not has a positive and significant effect on customer retention in Mobile banking in banking industry

Using correlation analysis, this study established the relationship between system quality and customer retention ($r=.838$; sig, 0.000) and tested the influence on customer retention in banking industry (Sig, 0.012) by applying multiple regression analysis. Then, the result of the regression analysis displays that it has a positive and significant effect on customer retention in banking industry, the acknowledged alternative hypothesis is accepted. Hsieh and Wang, (2007) proposed that system quality and information quality are antecedent determinants of satisfaction with IS as system quality is significantly related to the satisfaction with the system. Chung and Kwon (2009) also demonstrated that there is strong evidence for the direct relationship between system quality and satisfaction in mobile banking context. Following these evidences, this study found that there is a significant positive relationship between system quality and customer retention.

Customer satisfaction

H₀: Customer Satisfaction does not have a positive and significant effect on customer retention in Mobile banking in banking industry

Using correlation analysis, this study established the relationship between customer satisfaction and customer retention ($r=.927$; sig, 0.000) and tested the influence on customer retention in banking industry (Sig, 0.000) by applying multiple regression analysis. Then, the result of the regression analysis displays that it has a positive and significant effect on customer retention in banking industry, the acknowledged alternative hypothesis is accepted. H₀: Customer Satisfaction does not have a positive and significant effect on customer retention in Mobile banking in banking industry Siu and Mou (2008) as well as Kumbhar (2011) examined fifteen key dimension of service quality and found that implies there was a significant relationship customer satisfaction and retention. Prameela (2013) analyzed the perceptions of the customers on the technology deployment and found that finding reveals that the perception and experience of the customer's on the technology deployment in banks were in favour of up gradation of technology.

Table 4.12 Summary of hypotheses

Hypothesis	Sig. Value	Status
H ₀ : Security and privacy does not have a positive and significant effect on customer retention in Mobile banking in banking industry	.005	Rejected
H ₀ : Relative Advantage does not has a positive and significant effect on customer retention in Mobile banking in banking industry	.021	Rejected
H ₀ : Information quality does not have a positive and significant effect on customer retention in Mobile banking in banking industry	.000	Rejected
H ₀ : System Quality does not have a positive and significant effect on customer retention in banking industry	.012	Rejected
H ₀ : Customer Satisfaction does not have a positive and significant effect on customer retention in banking industry	.000	Rejected

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

This part of the study presents closing chapter of the study which includes summary of findings, conclusion and appropriate recommendations regarding the study findings.

5.1 Summary of Findings

This study aimed to examine the effect of mobile banking on customer retention in mobile banking of Commercial Bank of Ethiopia in Addis Ababa. The used explanatory and descriptive research design, and applied primary and secondary data sources. The study revealed that branches are less dedicated to solve system and information problems and most inactive users' errors were found at branch level rather than centrally. The grand means have at least agree category indicating CBE is performing in good position security and privacy (4.17), relative advantage / benefits (4.28), information quality (4.02), system quality (4.05) have higher mean than customer satisfaction (3.92) and consumer retention (3.62). Moreover, there is a positive and significant relationship between security and privacy (.750), relative advantage / benefits (.879), information quality (.863), system quality (.838) and customer satisfaction (.927) and consumer retention using correlation test results and analysis. Further, multiple regression has been applied and found that there is a positive and significant effect of security and privacy (.005), relative advantage / benefits (.021), information quality (.0001), system quality (.012) and customer satisfaction (.0001) on consumer retention.

5.2 Conclusion

In the banking sector, customer retention becomes a crucial phenomenon since this sector has perceived substantial growing and competition both globally and locally. Customer retention provides a clear picture of customers' relationship with their favorite bank. Accordingly, it is a must to assess the factors that would influence their decision to stay with or leave their current bank. In this study, the most important construct (by regression and correlation tests) was customer satisfaction, followed by others. The findings of this study express that it is necessary to consider as to how they might improve customer retention in today's competitive banking environment. Results of this analysis have also shown that as banks improve security and

privacy, provides relative advantage / benefits, updates information and system and focus on customer satisfaction, the propensity to stay with their current bank will be long life. It is also essential to understand the phenomenon of M-banking customer retention in the form of this study intention to use M-banking services continuously by existing users. In consequence, this study established to there is a positive and significant effect of security and privacy, relative advantage / benefits, information quality, system quality and customer satisfaction on consumer retention. Customer retention is a means of an ultimate organization's success in retaining the business of its existing customers.

5.3 Recommendations

The bank may understand that the importance of the banking operators will have been through a wave of critically rapid changes in its structure, competition, strategies, techniques, and technological environment. These changes came as a result of marketing concepts (customer satisfaction) and technological developments and adaptation (information and system quality and security) which are the primary factors affecting economies in general and the banking industry in particular. As a result, the study suggests

- The bank should enhance its ability of businesses to retain its through facilitate secured information exchanges, make relationship exchanges more possible, reduce transaction and system costs, and maximize the relationship's benefits in order to repeat the exchange processes in the future;
- Include how comfortable and pleasant mobile banking services with heightened its relationship and having good business friends or spending a good time with customers digitally, and ensure customer-perceived value which has many elements (perception of reliability, solidarity, trust, responsiveness);
- The bank may acknowledge that user satisfaction with a product/service significantly determines attitudinal and behavioral loyalty; it is true that a dissatisfied customer will be less loyal to a product or service and will attempt to search for alternatives, resist to retention attempts by current service provider, and take steps to reduce dependence on that service provider;
- The bank should always meet customers' expectations through adapting latest technologies may continue using information system as it is a source of customer

retention in different applications such as mobile and telecommunications service This is because adaptive technology demonstrates that satisfaction is the key determinant of customer loyalty in mobile commerce context;

- Since these factors are significantly influential to customers' retention, the bank should avoid harmful opportunistic behaviors such as inferior system and information quality, unfair pricing and violation of privacy;
- The bank should first exhibit its commitment toward its customers and the particular marketing banking service users, and then perform the continued use of mobile banking service. Concerning mobile banking, customers will be more behaviorally loyal to mobile banking;
- Branches may apply key principles of total quality include define quality in terms of branch customers and their requirements, emphasize prevention rather than detection of defects, focus on process rather than output, strive for zero defects and establish continuous improvement as a way of life. This completely may enhance system and information quality of CBE's mobile banking;
- Finally, the bank should enhance brand loyalty to create favorable attitude and repeat purchase behavior. This is because attitudinal loyalty is indeed the most important determinant of intention to repurchase from an e-marketplace.

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Annex

Appendix I - Questionnaires

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

(Questionnaire Filled by Customers)

Dear Respondent,

My name is Mekonen Addis a post graduate student in the department of marketingManagement, at St. Marry University. I am currently gathering data for my thesis entitled *“Effect of Mobile Banking on Customer Retention: Case Of Commercial bank of Ethiopia in Addis Ababa”*. As part of my assessment, I will ask you about some issues related to the subject of my study. I will use the information for the fulfilment of the thesis requirement only.

Please not that your name will not be mentioned and any information provided by you will be kept confidential. Thank you in advance for your kind cooperation and dedicating your time.

Thank you very much and bestregards,

Mekonen Addis

Student researcher

0913004573

Section I Demographic information

Part I: Demographic or personal information, **please insert (x) in the box for your appropriate answer**

Gender: Male Female

Age Less than 26-45 46-65 Above
25 66

Education Level Secondary Diploma First Masters
School Degree and above
and below

Marital Status Single Married Divorced Widow

How many years did Less than 1-2 3-4 Above 5
you have contact with 1

CBE?

Please indicate your job or profession _____

Section II: Main questions related to Mobile banking

1. Please rate your level of agreement on mobile banking effect on customer retention based on the provided statements by ticking `√`. Notice - 1= Strongly Agree, 2= Agree, 3= Disagree, 4= Strongly Disagree, 5= Neutral

Variables	Items	1	2	3	4	5
Security and Privacy	The reputation and size of the bank provides assurance of mobile banking integrity					
	I am quite certain what to expect from mobile banking information system					
	CBE's mobile banking facility offers secure personal privacy					
	I believe that CBE's mobile banking system would act in my best interest					
	CBE's mobile banking system keeps its promises and commitments					
Relative advantage	I can access my account 24 hours and seven days a week using mobile banking of CBE					
	I get much benefit from CBE's mobile banking system					
	Mobile banking of save my time as CBE brings self-service banking					
	I get fast banking service transactions using CBE mobile banking					
	CBE mobile banking is helpful for my personal and business needs					
Information quality	I get accurate information when I use CBE's Mobile banking					
	I get relevant information when I use CBE's Mobile banking					
	I get complete information when I use CBE's Mobile banking					
	CBE's mobile banking format or application has my favourite					

	design					
	CBE's mobile banking format or application includes appropriate banking transactions					
System quality	CBE's mobile banking system is easy to use					
	CBE's mobile banking system is user-friendly					
	CBE's mobile banking is straightforwardly accessible					
	CBE's mobile banking application or system is reliable					
	CBE's mobile banking system can be used anywhere at any time					

2. The following statements describe your satisfaction level on CBE's mobile banking. Please also indicate your level of satisfaction with statements in the appropriate answer box by ticking '\'. Notice - 1= Strongly Agree, 2= Agree, 3= Disagree, 4= Strongly Disagree, 5= Neutral

Variables	Items	1	2	3	4	5
Customer Satisfaction	I am satisfied with Mobile banking system					
	I am willing to pay higher service charge for Mobile banking system					
	I recommend my families and relatives to use Mobile banking					
	I am pleased in the current available bank products and services provided by CBE's mobile banking system and application					
Customer Retention	I create healthy relation with CBE due to Mobile banking					
	I create long term relation with CBE due to Mobile banking					
	I stay long time with CBE due to Mobile banking					

3. The following statements describe your satisfaction level on CBE's mobile banking.

Variables	Items	1	2	3	4	5
Customer Satisfaction	I am satisfied with CBE's mobile banking.					

Appendix II – Interview Checklist

Dear Respondent,

My name is Mekonen Addis a post graduate student in the department of marketing Management, at St. Marry University. I am currently gathering data for my thesis entitled “Effect of Mobile Banking on Customer Retention: Case Of Commercial bank of Ethiopia in Addis Ababa”.

Can I continue, my dear?

Thank you!

-
1. What do you think about Mobile banking in terms of contribution, benefits, and others?
 2. How do you observe the benefits of CBE’s mobile banking?
 3. Please indicate your observation about customer retention due to CBE mobile banking?
 4. What do you say about the attitude of customers about CBE mobile banking?
 5. What do you think CBE effectively implement its Mobile banking application?
 6. Your suggestions, recommendations and any feedback related to CBE mobile banking.
-

Thank you again for completing the questionnaire!!

Appendix III – Assumptions and Diagnostic Test

- I. Test for average value of the error term is zero ($E(u_t) = 0$); the first assumption required is that the average value of the errors is zero. In fact, if a constant term is included in the regression equation, this assumption will never be violated. Therefore, since the constant term (i.e. α) was included in the regression equation, the average value of the error term in this study is expected to be zero.
- II. Normality Test

Appendix Table 3 -1 Normality Test

	Skewness		Kurtosis	
	Statistic	Std. Error	Statistic	Std. Error
Security and Privacy	-.815	.399	-.477	.325
Relative Advantage	-.846	.399	-.531	.325
Information Quality	-.819	.399	-.572	.325
System Quality	-.804	.399	-.350	.325
Customer Satisfaction	-.802	.399	-.089	.325

Own survey, 2020

The above table shows the descriptive statistic of Kurtosis and Skewness statics calculation and demonstrates that the distribution is normal because Kurtosis and Skewness are in between -2 and +2, thus data is normally distributed and had a reasonable variance to use subsequent analysis.

- III. Test for multicollinearity

Multicollinearity refers to a situation in which there is exact (or nearly exact) linear relation among two or more of the input variables (Uma, 2003).

Appendix Table 3 -2 Multicollinearity Test

Model	Collinearity Statistics		
	B	Tolerance	VIF
(Constant)	-.036		
1 security and Privacy	.088	.389	2.573
Relative Advantage	.119	.152	6.600
Information Quality	.175	.202	4.943
System Quality	.098	.249	4.014
Customer Satisfaction	.545	.188	5.310

Own survey, 2020

The VIF (Variance Inflation Factor) for each term in the model measures the combined effect of dependence among the regressors on the variance of that term. One or more large VIF indicate multicollinearity. Practical experience indicates that if any of the VIF results exceed 5 or 10, it is an indication that the associated regression coefficients are poorly estimated because of multicollinearity (Uma, 2003). According to the result obtained from the analysis, there is no strong multi collinearity and degree of association between variables. The above table shows that the VIF value of four factors was found less than 5 or 10. It can be concluded that no collinearity was observed on this data.

IV. Test for Autocorrelation

Assumption that is made of the multiple linear regressions disturbance terms is that the covariance between the error terms over time (or cross-sectionally, for that type of data) is zero.

Appendix Table 3 -3 Autocorrelation Test: Durbin Watson

Variables	DW test static result
All variables	1.859

Own survey, 2020

To test the presence of autocorrelation, the popular Durbin-Watson Test was employed in this study. In other words, it is assumed that the errors are uncorrelated with one another. If the errors are not uncorrelated with one another, it would be stated that they are “auto correlated” or that they are “serially correlated”. A test of this assumption is therefore required.

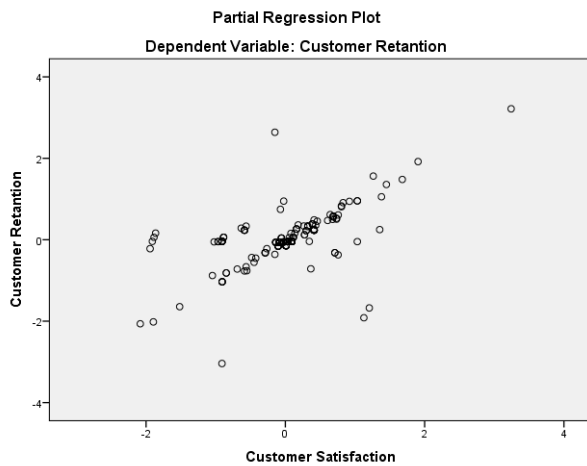
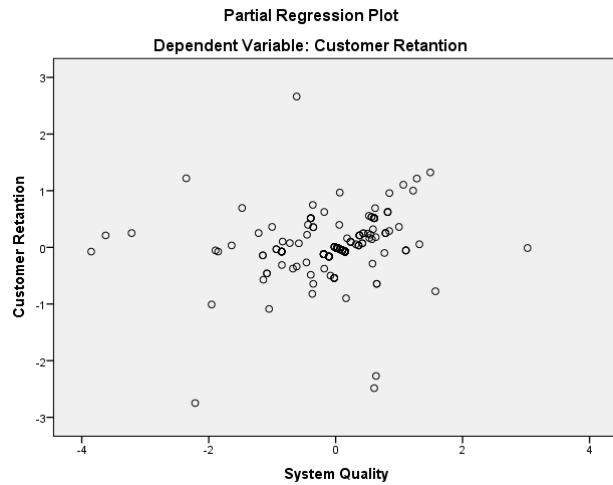
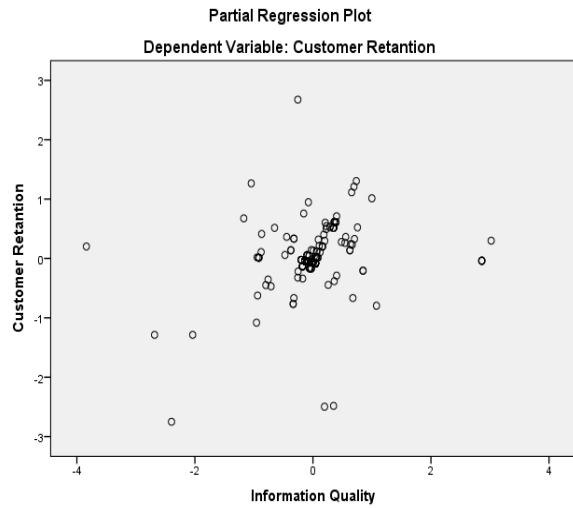
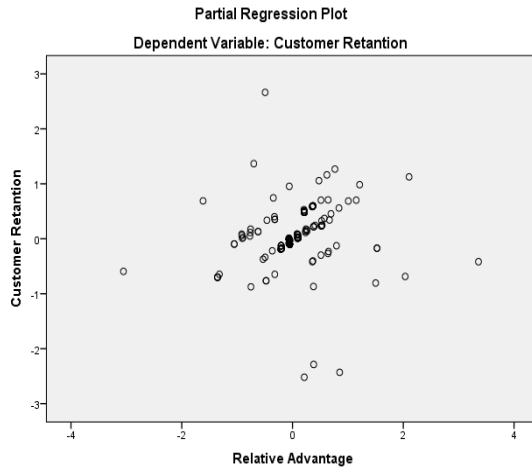
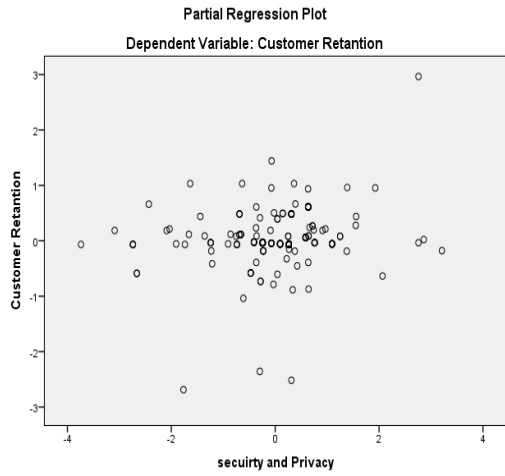
V. Residuals Statistics

Appendix Table 3 -4Residuals Statistics

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	.99	5.09	3.76	1.298	270
Residual	-2.544	2.722	.000	.439	270
Std. Predicted Value	-2.138	1.022	.000	1.000	270
Std. Residual	-5.745	6.146	.000	.991	270

a. Dependent Variable: Customer Retention

Own survey, 2020



Own survey, 2020

Appendix Figure 3.1 Scatter plot

A scatter plot is a graphical technique used to illustrate the association of two numerical variables. Data are represented visually by making a graph with two axes: horizontal (x axis) and vertical (y axis). Each point in the plot represents one observation. When all observations are plotted, the diagram conveys information about the direction and magnitude of the association of the two variables (x and y). Since the dots are dispersed, it shows the data meet the assumptions of the errors being normally distributed and the variances of the residuals being constant.