



ST. MARY'S UNIVERSITY SCHOOL OF GRADUTE STUDIES

MBA PROGRAM

**THE EFFECT OF MOBILE BANKING ON CUSTOMER RETENTION:
EVIDENCE FROM PRIVATE COMMERCIAL BANKS**

**BY
HELA KEBEDE**

JUNE, 2020

ADDIS ABABA, ETHIOPIA

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**BY
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**A THESIS SUBMITTED TO ST. MARY'S UNIVERSITY, SCHOOL OF
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ADDIS ABABA, ETHIOPIA

ST. MARY'S UNIVERSITY
SCHOOL OF GRADUATE STUDIES OF BUSINESS AND ECONOMICS
DEPARTMENT OF GENERAL MANAGEMENT

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DECLARATION

I, Hela Kebede, certify that this research paper entitled “**The Effect of mobile banking on customer retention: evidence from private commercial banks**” under the guidance of **Abraham Gebregiorgis (Asst Prof)** has not previously been submitted either in part or in full to any other higher learning institution for the purpose of earning any type of degree. I also certify that the thesis has been written by me and that any help that I have received in doing my research work and in the preparation of the thesis itself has been duly acknowledged.

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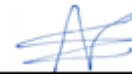
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ENDORSEMENT

This is to certify that Hela Kebede has carried out her research work on the topic “**The Effect of mobile banking on customer retention: evidence from private commercial banks**” and that this is her original work and is suitable for submission for the award of Master’s Degree in General Management.

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June, 2020

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LIST OF ACRONYMS

SPSS-----Statistical Package for Social Science

NBE -----National bank of Ethiopia

ANOVA -----Analysis of variance

Table of Contents

DECLARATION.....	I
ENDORSEMENT	II
ACKNOWLEDGMENT	III
LIST OF ACRONYMS	IV
LIST OF FIGURES	IX
CHAPTER ONE: INTRODUCTION.....	1
1.1 Background of the study	1
1.2 Statement of the problem	2
1.3 Research questions	5
1.4 Objectives of the study.....	5
1.4.1 General objective	5
1.4.2 Specific objectives	5
1.5 Significance of the study.....	6
1.6 Scope of the study.....	7
1.7 Limitation of the study.....	7
1.8 Organization of the study.....	8
CHAPTER-TWO: LITERATURE REVIEW	9
2.1 Theoretical Review	9
2.1.1 Overview of Mobile Banking	9

The effect of mobile banking on customer retention: evidence from private commercial banks

2.2 Definition of Customer retention	14
2.3 Mobile Banking Service and Customer Retention.....	15
2.4 Empirical literature review	16
2.4.1 Customer satisfaction.....	16
2.4.2 Service Quality & delivery	17
2.4.3 Customer awareness level.....	18
2.4.4 Information technology & Security/privacy	19
2.4.5 Switching cost.....	20
2.4.6 Corporate image & relationship quality.....	21
2.5 Literature gap	22
2.6 Conceptual Framework.....	23
CHAPTER THREE: RESEARCH METHODOLOGY	25
3.1 Research design	25
3.2 Research approach	25
3.3 Sampling methods.....	26
3.3.1 Target population:	26
3.3.2 Sample size:	26
3.4 Sources of data.....	27
3.5 Data collection tools	27

The effect of mobile banking on customer retention: evidence from private commercial banks

3.6 Data analysis method	28
3.6.1 Regression Model	29
3.6.2 Definition of Variables	30
3.7 Validity and Reliability Test.....	31
3.7.1 Validity test.....	31
3.7.2 Reliability Test.....	31
3.8 Hypothesis.....	33
CHAPTER FOUR: RESULTS AND DISCUSSIONS.....	36
4.1 Rates of Response.....	36
4.2. General Information about the Respondents.....	36
4.3 Descriptive Statistics.....	38
4.3.1 Customer Satisfaction (CS).....	38
4.3.2 Service quality & delivery (SQ &D)	40
4.3.3 Customer awareness level (CA).....	44
4.3.4 Information technology & Security/privacy (INFO & SEC).....	45
4.3.5 Switching cost (SC)	47
4.3.6 Corporate image & relationship quality (CI & RQ)	49
4.3.7 Customer retention (CR).....	50
4.4 Inferential Analysis.....	52

The effect of mobile banking on customer retention: evidence from private commercial banks

4.4.1 Correlation Analysis	52
4.4.2 Normality Test	54
4.4.3 Multicollinearity Test.....	55
4.4.4 Multiple Regression Analysis	56
CHAPTER FIVE: SUMMARY OF FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS....	63
5.1. Summary of Findings.....	63
5.2. Conclusions.....	64
5.3. Recommendations.....	65
5.4. Suggestions for Further Research	66

LIST OF FIGURES

Figure 1 Conceptual framework (Bhatti, 2016; Daniel, 2016 and modified by the researcher)----	24
Figure 2 Normality Test-----	55

LIST OF TABLES

Table 1 Reliability Statistics	32
Table 2 General information about the respondents	37
Table 3 Customer Satisfaction	39
Table 4 Service quality & delivery	41
Table 5 Customer awareness level.....	44
Table 6 Information technology & Security/privacy	46
Table 7 Switching cost.....	48
Table 8 Corporate image & relationship quality.....	49
Table 9 Customer retention.....	51
Table 10 Relationship between mobile banking and customer retention	53
Table 11 Multicollinearity Test	56
Table 12 Model Summary	57
Table 13 Analysis of Variance.....	58
Table 14 Regression Coefficients	58

ABSTRACT

The research helps to assess factors that affect customer retention and compare the practice of ten private commercial banks which implement mobile banking service that adds customer value through providing convenience and flexibility using a cost-effective method. For this reason, the research aimed at investigating the effect of mobile banking on customer retention: evidence from private commercial bank. To attain the objective, the study used explanatory research design method using quantitative approach. Both primary & secondary data were used, to collect primary data 384 questionnaires were distributed among them only 352 were obtained & used for the research. The study used both descriptive and inferential analysis methods using multiple regression models. To beat a high competition due to the provision of identical services among banks, Banks face problems on distinguishing themselves.

The study found that customer retention is positively affected by all variables. Among all customer satisfaction, service quality & delivery, customer awareness level has the highest effect and the other three variables (switching cost, corporate image & relationship quality, and information technology & security/privacy) have the least effect on customer retention in mobile banking service. Therefore to increase customer retention the bank management should implement programs that support awareness creation, customer satisfaction, brand image and reputation by continuously assessing the service quality & delivery of mobile banking services provided to their customers.

Key words: *Mobile banking, customer retention, customer satisfaction, service quality & delivery, customer awareness level, switching cost, corporate image & relationship quality, and information technology & security/privacy*

CHAPTER ONE: INTRODUCTION

This chapter discusses the overview of the study which included background discussions on customer retention and mobile banking services. Problems that initiated to carry out this paper and the research questions used to fill the gap are briefly discussed. The scope, limitations, significance, and organization of the research paper are also part of chapter one discussions.

1.1 Background of the study

The rapidly growing information and communication technology are knocking the front- door of every organization in the world (Nyamtiga et al., 2013), where Ethiopian banks would not be exceptional. The usage rate of electronic banking in developed countries is high and increasing in developing countries as well. To be competent in the current banking industry banks exert their effort in Ethiopia as well (Worku, 2010).

For the past decade, mobile banking service has gained popularity (Zhang & Liu, 2012) and considered as one of the major technological innovations (Lin, 2010). Banks also use services as one of their strategies to increase their relationship quality with the customers (Riquelme & Rios, 2010). Therefore, banks can offer a cost-effective channel that has a strong positive impact on the retention of existing customers (Rootman, 2010).

Mobile banking offers convenience to customers by allowing them to conduct financial transactions, such as account transfer, pay bills, to check their balance and other financial services by using a mobile device (mobile phone, Smartphone, or tablet) (Zhang & Liu, 2012) which helps to increase service quality through giving customers control over their bank accounts without having to physically visit bank's branch (Lin, 2013). Mobile banking most often performed via SMS or mobile internet which helps the banks to deliver products and services for their customers. It allows customers to create value anywhere and anytime (Thakur, 2014).

Recently the concept of customer retention has gained the attention of both goods and services providing firms. The banking institutions in both developed and developing countries are now giving attention to retaining their customers to distinguish themselves through delivering quality service (Munyiri, 2014).

To retain customers, banks need to develop effective strategies that help to move their clients to electronic channels such as mobile banking services (Laukkanen, 2016). For this reason, researchers emphasize the effect of mobile banking on customer retention, and some of them are discussed below.

According to Mahmoud (2019), the positive influence of e-banking on customer retention is proved by taking trustworthiness, reliability, and responsiveness as a variable factor and used gender as a mediating variable of e-banking system. Other research conducted by (Wasike & Otiso, 2016) considers other variable factors as mobile banking indicators i.e. efficiency, security, service quality, flexibility, and confidence level of the customers. using the variables the research proved that Mobile banking service is positively affected by the above-listed variables and enhances customer loyalty.

Research conducted by Salehi & Alipour (2010) found that there is a relationship between mobile banking and customer retention by accessing e-banking acceptance on banks by using service quality, customer preference, and satisfaction. The study also suggests other researchers access the effect of the customer awareness level on customer retention.

1.2 Statement of the problem

Since product developments in banks are easily adaptable, banks are providing nearly identical services. Hence, banks have to focus on distinguishing themselves on the bases of quality products and services to retain customers. Customer retention is an important component of banking strategy in today's increasingly competitive environment. The foremost challenges banks are currently facing are cost containment and customer retention. Therefore, a relentless focus on customer retention is required to sustain their competitiveness (Haripersad & Sookdeo,

2018) Organizations used different strategies to manage customer complaints and technology is one of them, especially on service sectors. For banks to embrace competition in the industry use of information technology concepts, techniques, and strategies is very important. Mobile banking is expanding and coverage into the developing world is beyond expectations (Aker & Mbiti, 2010) In many parts of the developing world, particularly in Africa and Asia, mobile banking is being used as an important tool to bring financial services to the people (Kim & Kang, 2018).

Mobile banking services are designed to offer customers convenience and control over their bank accounts without having to physically visit the bank's branch. Hence, this is expected to increase service quality by offering convenience, decrease error, and provide the self-service capability for customers. Commercial banks have recorded the benefits of electronic banking on increasing customer base, reduction on the cost of operation, enhancing customer service and improving competitive advantage in the industry due to its nascent nature, electronic banking cannot be ignored in the banking industry (Worku et al., 2016)

Recently the number of mobile phone users in Ethiopia is increasing tremendously. Even if the number is increasing the service is still at an infant stage and a recent phenomenon in the country. few researchers Jairus (2018) & Uronu (2014) have tried to investigate the effect of electronic banking on customer retention, but several researchers give attention to the impact of mobile banking on customer satisfaction, (Altobishi, 2018; Hamid et al., 2018; Gomachab & Franco, 2018; Shaban, 2016). For this reason, the effect of mobile banking specifically on customer retention is rarely researched and the result is inconclusive whether it is positive or otherwise. This study examines the effect of mobile banking on customer retention in private commercial banks.

Tamuliene & Gabryte (2014) tried to identify the factors influencing customer retention in the case of Lithuanian mobile operators by focusing on three variables i.e. customer satisfaction, relationship quality & switching costs. The result showed that there is a significant positive correlation between the variables and customer retention. Igbudu et al. (2018) assessed the effect of sustainable banking Practices using a corporate image as a mediating variable. Results from

The effect of mobile banking on customer retention: evidence from private commercial banks

the model showed that sustainable banking practices and corporate image directly and positively affected bank loyalty.

As per the study conducted by Mahapatra & Kumar (2017) focused on Indian banks the study grouped the variables into four i.e tangible, reliability, responsiveness and assurance & empathy with the customer retention, and the conclusion showed that there is a relationship between the variables.

Based on the study conducted by different researchers Yeong & Fen, 2012; Alkhaldi & Kharma (2018) concluded that a low level of customer awareness on mobile banking services can influence their intention to adopt this service and the loyalty of the customers.

The effect of technology on customer satisfaction and retention on TESO retail outlets is explained by (Folarin, 2015) using five independent variables (cost reduction, speedy process, communication & relationship, accessibility & convenience) and two dependent variables (customers satisfaction and retention).the research finally revealed that adoption of advanced information technology improves both customer satisfaction and retention.

Research conducted by Natarij & Rajendran (2018) on the association between relationship quality and customer retention in Chennai, India .the result concluded that relationship quality has a significant positive impact on customer retention.

By referring to the above-conducted researches conducted by different researchers this research expands the number of variable factors that are accessed by different researchers by overcoming the limitations on the selection of variables due to many constraints.in addition this research targets a different geographical area. For this reason, the effect of customer satisfaction, service quality & delivery, customer awareness level, information technology & security/privacy, switching cost, corporate image & relationship quality on customer retention is discussed. The listed variables are taken based on the previously conducted researches by different authors (Tamuliene & Gabryte, 2014; Mahapatra & Kumar, 2017; Yeong & Fen, 2012; Alkhaldi & Kharma, 2018; Folarin, 2015; Natarij & Rajendran, 2018).

1.3 Research questions

This paper examines the effect of mobile banking on customer retention of private commercial banks.

Concerning the above premises the research answers the following basic questions:

- How customer satisfaction of mobile banking affects customer retention?
- How do service quality & delivery of mobile banking affect customer retention?
- How customer awareness level of mobile banking affects customer retention?
- How mobile banking information technology & security/privacy affects customer retention?
- How switching cost on mobile banking does affect customer retention?
- How corporate image & relationship quality of mobile banking do affects customer retention?

1.4 Objectives of the study

1.4.1 General objective

The main intent of this research is to examine the effect of mobile banking on customer retention of private commercial banks.

1.4.2 Specific objectives

The specific objectives of the study are:

- To examine the effect of customer satisfaction of mobile banking on customer retention
- To examine the effect of service quality and delivery of mobile banking on customer retention
- To investigate the effect of customer awareness level of mobile banking on customer retention

The effect of mobile banking on customer retention: evidence from private commercial banks

- To investigate the effect of mobile banking information technology & security/privacy on customer retention
- To examine the effect of switching cost of mobile banking on customer retention
- To investigate the effect of corporate image & relationship quality of mobile banking on customer retention

1.5 Significance of the study

The research is important for different stakeholders as input for the purpose they intended to use it. The conclusion, results, and recommendations of this research have potential value to financial institutions, particularly for banks to identify the significant factors which affect customer retention of ten selected private commercial banks which implement mobile banking service, which helps to manage the variable factors and increase rate of customer retention with a cost effective method which increases the success of the company by getting word of mouth referral.

For bank customers, the advantages of Mobile banking services increases the customers value by creating new levels of convenience with no time constraints which increases the flexibility. By staying with the same mobile banking service provider, customers can avoid the potential risks caused by switching such as switching cost, security/privacy related risks.

Additionally, the research also supports to decrease the usage of printing notes which incurs additional costs like printing costs as a country level by decreasing the cash flow using more technology based services.

Finally, for academicians, researchers and scholars the findings of this research provides empirical evidence and add new knowledge about the practice of 10 private commercial banks which implement mobile banking service in Ethiopia.it helps researchers who are interested on conducting a case study on one bank or compare the practice of selected/all private commercial banks and their effect on customer retention.in addition, the study also helps to understand the complex relationship between customer satisfaction, service quality & delivery, customer

The effect of mobile banking on customer retention: evidence from private commercial banks

awareness level, information technology & security/privacy, switching cost, corporate image & relationship quality with customer retention in the technology-based self-service area of mobile banking.

1.6 Scope of the study

The study focused on the effect of Mobile banking on customer retention evidence from private commercial banks in Ethiopia, Addis Ababa. Addis Ababa city is selected since the people residing in the city are relatively aware of the technologies and have more experience on using technology based services. Moreover, it is the capital city of the country and has a heterogeneous population, including wide spread of potential respondents to the study which ensure the inclusiveness of the respondents.

Since the study focused on the factors influencing customer retention the target population is a mobile banking customer of ten private commercial banks which implements mobile banking services since they have a direct contact with the issue and they are a good input to get the required level of the information.

1.7 Limitation of the study

The main limitation of the research is the target population of the study. The study only focused on selected private commercial banks which gives mobile banking service because it's difficult to generalize the effect of mobile banking service on customer retention in the banking industry practice in Ethiopia.

The survey is distributed to selected sample respondents due to financial and time constraint. In addition, due to the current epidemic, questionnaire distribution and respondent interview is difficult. Due to lack of sufficient researches on related topics in the country, it is difficult to obtain adequate data from published articles.

1.8 Organization of the study

The rest of the research report is organized into four chapters: In chapter two, a range of theoretical and empirical literatures review is captured there to gather relevant information concerning mobile banking. Additionally the chapter also included the literature gap and conceptual framework of the study .In chapter three, detail of methodology that was followed to achieve results was outlined. It includes the study design and approach, sampling method, source and type of data collection and analysis methods. Validity & reliability test and hypothesis of the study are parts of the chapter. Chapter four contains results and discussion of the research and the last chapter focused on the main findings, conclusions

CHAPTER-TWO: LITERATURE REVIEW

This chapter covers the theoretical, empirical, research gap, and conceptual framework of the study. Overview, importance, and practice of mobile banking in Ethiopia, the definition of the dependent variable (customer retention), and its relationship with mobile banking is discussed under the theoretical review part. The variable factors which affect customer retention (i.e. Customer satisfaction, service quality & delivery, customer awareness level, information technology & security/privacy, switching cost, corporate image & relationship quality) are included in the empirical review. The uncovered areas from the previous researches are discussed in the research gap & finally at the end of the chapter shows the conceptual framework of the study.

2.1 Theoretical Review

2.1.1 Overview of Mobile Banking

Electronic banking services are operated as banking services with the help of information technologies. This enables the bank customers to acquire service without the direct involvement of employees (Yaghubi & Seyedin, 2015). Banks use different electronic banking services channels i.e. internet banking, Automated teller machines (Atm's), Point of sales (POS), and mobile banking is also considered an important type of electronic channel in banks (Mohammed, 2018) to meet their customer requirements.

Mobile banking is a modern approach used by financial institutions to facilitate the service of financial organizations via mobile phone or device. Which gives chances to customers to access banking services and to transact using their mobile phones with the help of information and telecommunication technology (Dineshwar & Steven, 2013) Mobile banking can't stand alone without the help of mobile telecommunication device. According to Teshome (2016), mobile banking works with mobile telecommunication devices to provide and avail the banks and financial services to their customers.

Mobile banking is the use of mobile terminals such as personal digital assistants (PDAs) and cell phones to access banking networks via the wireless application protocol (WAP) (Zhou & Wang, 2010). Mobile banking service allows customers to perform fundamental transactions such as deposit, cash-in and cash-out, and transfer money that is accessible by the mobile device.

To enjoy the benefits of mobile banking, a user needs to have a mobile phone that is equipped with the features required by the bank that provides this service (Bank Negara Malaysia, 2012). Once a user obtained a registered account for mobile banking from the banking institution, the user would be able to do banking transactions from anywhere. The mobile banking can be done either by accessing the bank's web page through the web browser on the mobile phone, via text messaging, or by using an application downloaded to the mobile phone (Board of Governors of Federal Reserve Systems, 2012)

Another definition of mobile banking is a new and faster delivery channel which creates convenience for customers to enjoy banking services from anywhere anytime (Ravichandra, 2016) Mobile banking also is known as M-Banking.it is a system for performing balance checks, account transactions, payments, credit applications, and other banking transactions through a mobile device such as a mobile phone.

Worldwide, mobile banking service is increasing in different countries like India, Pakistan, Iran, and Saudi Arabia.in India, State Bank of India (SBI) provides micro-insurance, micro-finance facilities, deposit, withdrawal, remittance services to its customers through mobile banking (Bamoriya & Singh, 2011). Considering the advantages and the convenience of the usage rate of mobile banking services is still very low in both developed and developing counties (Agwu, 2012).

In some countries and regions, mobile banking and more specifically SMS-based mobile banking applications have become popular but not still widely used (Ravichandra, 2016), after 3G and 4G smart mobile phones come to the market wireless service delivery channel becomes the best alternative for firms to create opportunities. Besides this, the personality of mobile phones over PC's internet becomes the main preference of the customers. This shows that soon mobile

phones will be seen as an alternative to PC's (Kharaim & Salim, 2011). After the inception of a smartphone with WAP support in 1999, the first European bank offers mobile banking for its customers. This changes mobile banking services practice by using short message service (SMS) banking (Kiura & Ngahu, 2012). In several African countries, authorities issued legislation during the 2000s that allows mobile telecom operators to partner with financial institutions to provide mobile financial services. This initiative had a huge impact on the development of the traditional mobile banking services provided by banks such as Mozambican Banco Terra (Terra Movel) and Moza Bank (Moza mobile), Kenyan Bank of Africa (b-web), and South African Standard Bank (Standard Bank mobile). And the release of several mobile payment services such as Mozambican M-KESK, Kenyan M-PESA, and South African WIZZIT. Regional innovation, knowledge, and learning development strategies allowed financial institutions to obtain competitiveness in the mobile banking service in African countries (Zhao, 2011).

In addition to the above reason, rapid growth of mobile networks also plays a great role for developing countries to adopt mobile services (Nyamtiga, 2013) Mobile phone services facilitate customers to transfer money to and from their equity bank account and also helps to enjoy other benefits which come with the bank accounts (Mtaa, 2010) The expansion of systems in developed and developing countries, open doors to financial sectors to use the system effectively. The rapid growth of technology in Ethiopia becomes the alarm for every organization, where Ethiopian banks would never be exceptional. (Garedachew, 2010)

2.1.1.1 Benefits of mobile banking

The use of mobile phones gives a chance to expand the markets, social business, and public services in both developing and developed countries (Spence & Smith, 2010) The rapid advancement of mobile technologies all over the world made the mobile banking services increasingly important (Lin, 2011) mobile banking services benefits both the companies and customers. It allows financial service providers to introduce new financial innovations which help to improve the operational performance of the organizations, increase customer satisfaction and efficiency by giving opportunity for customers to access banking services without going to branches.

According to the researchers conducted by Cruz et al., 2010 & Dasgupta et al. (2011) adoption of mobile banking has a significant impact on reducing costs and facilitating change in retail banking. The researchers also stated that mobile banking has great potential to provide reliable services to people living in remote areas where internet facility is limited.

The main reasons for financial firms and banks to provide mobile banking service is to reduce costs, to gain revenue from service fees, to enable new service channels, improve the flexibility of business transactions, increase speed, minimize processing periods and to support future customers (Huili & Chunfang, 2011 & Ayo et al.; 2010). Through better marketing and sales activities banks can utilize the time saved by the mobile banking channel for expansion of business (Sunil & Durga, 2013) which gives opportunities for banks to have a competitive advantage over other banks and increases customer loyalty by creating a good relationship between banks and customers.

Sunil & Durga (2013) revealed that mobile banking service not only helps banks but also customers. Customers don't need to stand at the bank counter for various inquiries about their accounts. Because of this reason by using mobile banking customers can save their valuable time and decreases the traveling cost in reaching the bank for their financial transactions. Deloitte (2010) points out that with mobile banking customers no longer need to use scarce time and resources to travel to bank branches. Nevertheless, despite the widespread proliferation of mobile phones and the numerous advantages that mobile banking offers, mobile banking is still not widely adopted (Riquelme & Rios, 2010).

2.1.1.2 Mobile Banking in Ethiopian Banking Industry

The electronic banking service was introduced in the Ethiopian market in 2001 when the largest state-owned, Commercial Bank of Ethiopia (CBE) introduced an Automated teller machine to deliver service to the local customers. (Gardachew, 2010)After the introduction of electronic banking mobile banking came into full practice after several years of trials and errors. Since then, mobile banking has shown a gradual growth across many various parts of Ethiopia. Despite the very high mobile penetration rate, the use and adoption of mobile banking services remain

low. With the advent of new mobile technologies, such as Blackberry, iPhone, Androids, etc., which serve as a facilitator, (Agwu, 2012), many customers who are tired of the old banking systems started looking for time-saving alternatives. The review of the existing literature showed that mobile banking has been widely researched in developed and emerging economies compared to developing countries like Ethiopia.

Currently, mobile banking practice in Ethiopia can be considered as accessing the core banking system via their mobile phone. As per the National bank directives No. FIS /01/2012. Both government and private commercial banks have a license to operate mobile and agent banking services. The first bank which introduced mobile banking service is a commercial bank of Ethiopia in the year 2013. In 2014, among the other private banks, Dashen bank is the first private bank to provide mobile banking services to its customers. For the next four consecutive years, the number of mobile banking service provider banks are increasing. by the year 2016 eight banks started providing mobile banking service. as of 2017 the total number of banks increased by one compared to 2016. in 2018 there is no progress on the number of banks and as of June 2019, the number of banks has reached eleven in number. it shows that the expansion of mobile banking service providing firms as well as the number of customers. As of June 2019, the number of mobile banking service provider banks has reached eleven with 4,526,434 active numbers of mobile banking users.

After the implementation of mobile banking in Ethiopia, mobile banking users have seen some growth but in terms of the transaction and active involvement but still has a way to go as compared to a majority of customer who traditionally prefers banking.

In September 2013 the number of mobile banking users has reached 16,558. The data indicate that the users' number is increased every year. From 2013-2014 the highest growth was reached. in total on average from 2013-2019 299% growth is achieved in June 2019

As a result of the increase in the number of mobile banking users, both the transaction number and amount through mobile banking have shown some growth from year to year. The below

table shows the total transaction number and amount transacted through mobile banking from the year 2014– 2019.

According to the national bank of Ethiopia (NBE) data in 2019. the growth of the total amount transferred through mobile banking from 2014 – 2019 is 366% on average. By the year 2018, the growth is decreased by 3% and the amount is increased every year the average growth of the amount transferred through mobile banking from 2014-2019 is 829%

2.2 Definition of Customer retention

Customer retention is the activity of a company that is used to prevent customers not to shift to other competitors. This business strategy helps to decrease costs and increase the profitability of the organizations. Customer retention concept is given special attention in the banking industry also when the number of customers is losing and the cost of acquiring new customers is very high, it results from competition for deposits among banks which makes banks to give focus on this strategy (Mbithi, 2013).

Different researchers give a different definition of customer retention. Based on the research conducted by Danesh, et al., 2012 in Malaysia hypermarkets focusing on the relationship between customer satisfaction, Customer Trust, and Switching Barriers on Customer Retention. According to the study customer retention is defined as the future propensity of a customer to stay with the service provider.

The other definition given by Singh & Khan (2012) Customer Retention is the activity that a selling organization undertakes to reduce customer defections, which deals with keeping customers by providing a great customer experience aimed at turning the occasional customers into frequent customers.

According to Haripersad & Sookdeo (2018) the research conducted in commercial banking South Africa investigation the main factors that banking customers consider in their decision to leave their current bank for a competitor. Based on the initiation the study identified four variable factors, which have a higher effect on customer retention. The variables are service,

The effect of mobile banking on customer retention: evidence from private commercial banks

product, value, and technology according to their level of influence to retain customers of the banks.

2.3 Mobile Banking Service and Customer Retention

Jairus (2018) based on the research conducted in commercial banks in Nakuru Town the study ranked the communication types according to their impact on customer retention. Communication through SMS takes the leading part which is followed by mobile banking, ATM, e-mail, and internet banking. Based on the ranking the study concluded that there is a significant relationship between the use of electronic banking and customer retention.

Mahdi & Mehrdad (2010) According to the study conducted in IRAN which focused on the influence of mobile banking. The study concluded that customer knowledge about the service is insufficient, which revealed that e-banking acceptance depends on service quality, customer preferences, and satisfaction. This implies that there is a relationship between mobile banking and customer retention.

As stated by Mahmoud (2019) e-banking positively influences customer retention which implies that since mobile banking is one of the e-banking systems the finding shows that customer retention is also affected by mobile banking service by considering trustworthiness, reliability, and responsiveness as indicators of e-banking system.

Other research supported the concept that there is a relationship between mobile banking and customer retention. The assessment used variables such as service quality, customer's preference and satisfaction to assess the effect of the e-banking acceptance on banks Salehi, & Alipour (2010).

2.4 Empirical literature review

In connection with the empirical works of literature, numerous researches have been conducted to examine factors influencing customer retention using a wide variety of variables. Based on the previously conducted researches the customer retention variables are discussed in the following paragraphs.

2.4.1 Customer satisfaction

Odunlami (2015) According to the study conducted in Nigeria focused on a reputable bank that examined the impact of customer satisfaction on customer retention. The finding suggests that customer satisfaction as a whole has independently contributed immensely to retain respective customers. It is indicated that there is a significant relationship between customer satisfaction and customer retention.

A research conducted by Tamuliene & Gabryte (2014) tried to identify the factors influencing customer retention in the case of Lithuanian mobile operators by focusing on variables to identify their effect on customer retention. The result showed that there is a statistically significant positive correlation between customer satisfaction, relationship quality, switching costs, and customer retention. Among them, switching costs have the greatest impact on customer retention. It is also claimed that relationship quality has a direct and indirect impact on customer retention. (Auniel & Obino, 2018) In the research carried by the authors, the study selected four variables that affect customer retention by developing a hypothesis. The conclusion of the study shows that service quality, service delivery, customer relationships, and customer satisfaction are positively related to customer retention in commercial banks in Tanzania.

According to Ibojo et al (2013), Customer satisfaction is an integral part of business objectives of any organization which helps to constantly retain its numerous customers in this competitive global village, through understanding the needs of the target market and the provision of needs satisfying packages in meeting and satisfying these needs at a greater extent, thus, building and maintaining a long-lasting and favorable relationship with the target market. Based on the

author's opinion a satisfied and retained customer will give room for repeat purchase while the unsatisfied customer may decide to switch to other brands or competitive brands of other organizations.

According to Saleem & Rashid (2011), Banks changed their system from traditional to advanced (electronic banking) to get a competitive advantage and increase customer satisfaction. To achieve the objective they adopt new technologies like Mobile banking. Since the aim of mobile is communication, so bankers took advantage of using M-banking for bank transactions.

Makonnen (2016) the research used customer satisfaction as a mediator between independent variables (service quality, corporate image, and price) and the dependent variable (customer retention). Based on the conclusion it is revealed that service quality, price, image, and reputation are the important factors that can increase the satisfaction of a customer and retain customers towards the bank. The hypothesis test shows that service quality has a significant impact on customer satisfaction and retention. And also the service quality dimensions vary in driving customer satisfaction and retention. 63.5% the independent variables explained the dependent variable. Based on the finding major determinants of customer retention are service quality and corporate image and the effect of Price was found to be not significant to customer satisfaction and retention of bank customers.

2.4.2 Service Quality & delivery

Metabis & Hawary (2013) in the banking sector service quality is a foundation to differentiate & beat a competition from competitors which helps to satisfy customers' requirements. As per the study conducted by (Mary, 2013), the influence of service quality on customer retention in Tanzania commercial banks in the case of CRDB Bank in the Dar es salaam region was assessed using the SEQUAL model. The conclusion shows that service quality influences customer retention. The main influential factor is tangibility followed by responsiveness, Empathy, Reliability, and lastly Assurance.

The effect of mobile banking on customer retention: evidence from private commercial banks

According to the study conducted on commercial banks in Kenya by focusing on the relationship between service quality dimensions & customer retention. The analysis of the study shows that there is a significant relationship between the variables. This implies that an increase in any variable will increase customer retention (Daniel, 2016).

The study carried in Hong Kong by Mei et al. (2013) focusing on service quality in the banking industry showed that the value of services provided to the customers is directly affected loyalty in the banking industry.

To evaluate the service quality, the research used four variable dimensions of service quality i.e. Reliability, assurance, responsiveness, and empathy. This can be applied to mobile banking service (Culiberg & Rojsek, 2010) defines dimensions as follows:

- Reliability – the ability to perform the promised service dependably & accurately.
- Responsiveness – is providing prompt service and help customers
- Assurance is the knowledge and courtesy of employees and their ability to inspire trust and confidence.
- Empathy - willingness and capability to give personalized attention to a customer.

According to the result of the study quality of e-services also has a direct and indirect impact on both e-satisfaction and e-trust. This implies that all three variables have a direct and indirect effect on electronics loyalty (e-loyalty) of the customers. The other issue concluded in the research is E-loyalty brings a high rate of customer retention and reduced cost for recruiting new customers which increases the long-term profitability of the company. The study also recommends that managers should give attention since quality is a major factor in e-loyalty (Ghane et al., 2011)

2.4.3 Customer awareness level

Kumar et al (2015) mentioned that the growth of Information, Communication, and Technology facilitated the emergence of Electronic Commerce. The main objective of the study was to examine the customers' attitudes towards e-banking and to find out the level of satisfaction of

the customers towards e-banking services in Krishnagiri town. The study analyzed the awareness level of the customers based on age, qualification, occupation, and income of customers. Concentrating on the customers' expectations from value-added services helps to increase the satisfaction level of the customers towards e-banking services which leads to increase customer retention.

Based on the study conducted by different researchers Yeong & Fen, 2012; Alkhalidi & Kharma (2018).low level of customer awareness of mobile banking services can influence their intention to adopt this service. Besides, lack of knowledge about mobile technology and/or mobile banking especially information related to the applications discourage them from trying the service and not to be loyal to the service given by the banks. This leads to not familiar with the low adoption rate of the service. this research supports the below hypothesis by testing the integrated components of technology acceptance model (TAM) of Peou and PU, innovation diffusion theory of perceived risk with perceived trust and awareness to investigate what determines mobile banking user's acceptance of the technology.

2.4.4 Information technology & Security/privacy

Technological innovation has a significant effect on financial institutions make their business more flexible and adaptive (Crane, 2011) not only in Ethiopia, but technological innovations like mobile banking, smart card applications, ATM's and internet banking also s expanding in the global banking industry. Technological innovation is recognized as one of the major indicators of organizational competitive advantage to increase the rate of loyal customers by focusing on customer satisfaction and retention (Wisdom, 2012).

As explained by Folarin (2015) the effect of technology on customer satisfaction and retention was assessed using a sample size of 253 customers of various TESCO retail outlets. five independent variables (cost reduction, speedy process, communication and relationship, accessibility, and convenience) and two dependent variables (customer satisfaction and retention) were used. The research found that if there is an improvement in customer satisfaction

The effect of mobile banking on customer retention: evidence from private commercial banks

it will have a positive impact on customer retention. Additionally, the research revealed that the adoption of advanced information technology improves customer satisfaction and retention.

The effect of internet technology on customer loyalty is accessed by (Seyed et al., 2013) taken a sample size of 288 to test the relationship among internet technology, customer satisfaction, customer retention, and loyalty. According to the results, internet technology not only improves customer service, but it can also increase the value of the customers by increasing the rate of retention and loyalty. This shows that technology has a significant effect on customer retention.

Wisdom (2012) stated that technological innovation key variable to get a competitive advantage to the company. Furthermore, technological innovations like smart card applications, mobile banking, ATMs, and internet banking also improve loyalty increases the satisfaction and retention rate of customers.

As per the research conducted by Samsudin et al (2011), the research revealed that consumers do not use online services including mobile phone services because of the privacy issue of personal information and communications. The study conducted using 800 questionnaires distributed. The analysis shows that privacy is positively significant for customer loyalty.

User trust and privacy including security are required to ensure that users have their confidence and to feel secure in mobile banking services. Trust plays an important role in providing satisfaction and expected outcomes for mobile commerce users which enhance customer retention and loyalty (Li & Yeh, 2010).

2.4.5 Switching cost

The research conducted in Taiwan. A sample size of 500 bank account holders with 404 valid responses was taken to conduct the relationship between switching cost and customer retention in banking service customers. According to the result perception of switching costs has a positive impact on banking service customer retention (Wang et al., 2012)

The effect of mobile banking on customer retention: evidence from private commercial banks

Other research conducted by Venezuela (2014) defines switching cost as a type of costly difficulty of changing supplier and it is considered as a negative switching barrier. The paper also proved that customer loyalty is directly influenced by switching costs.

Martinović & Marija (2018) also support the conclusion of the above researchers. The study discussed that switching costs play an incremental role in loyalty development. The variable also has a direct and positive influence on loyalty and paly as a mediator between drivers of customer loyalty and customer loyalty itself in the banking sector.

2.4.6 Corporate image & relationship quality

The study used 511 questionnaires and developed an equation model to understand the role of sustainable banking practices on bank loyalty and explored the mediating effect of corporate image on the relationship between sustainable banking practices and bank loyalty. the result from the questionnaires revealed that corporate image directly and positively affects bank loyalty in banking service, (Igbudu et.al.,2018).

A study conducted in Zimbabwe also supported the research conclusion that revealed there is a direct relationship between corporate image and bank loyalty. The other finding is corporate image can be considered as a mediated factor among service quality and bank loyalty. (Makanyeza & Chikazhe, 2017)

This study showed that bank loyalty positively affected by corporate image. In other words, a positive perception from a bank's customer enhanced the customer's loyalty to that brand, which upholds the prior position that corporate image serves as an antecedent to bank loyalty (Abdinoor & Mbamba, 2017)

To beat stiff competition in the banking industry, customer retention gains special attention. (Gallo, 2014) Found that, acquiring a new customer is 25 times costly than retaining and it also has an impact on profit by a 5% increase in customer retention increases profits by 25% to 95%.

Nataraj & Rajendran (2018) the association between relationship quality and customer retention was the main focus of the study. For this reason, a multi-stage random sampling method was used and 413 responses from bank customers in Chennai, India were taken. The result revealed that relationship quality has a significant positive impact on customer retention.

2.5 Literature gap

Customer retention is an important component in the banking sector and researches proved that banks are facing a problem of retaining their customers (Haripersad & Sookdeo, 2018). Previous researches tried to assess the variable factors which affect customer retention by focusing on the overall practice of the organization, which is not specific to mobile banking service (Auniel & Obino, 2018; Makonnen, 2016; Daniel, 2016).

Ibojo & Odunlami (2015) the paper examined the impact of Customer Satisfaction on Customer Retention by focusing on a reputable bank in Oyo, Nigeria as a target group for the study. The finding revealed that customer satisfaction independently accounts for 71.7% of the variation in customer retention. This implies that there is a significant relationship between customer satisfaction and customer retention.

Tamuliene & Gabryte (2014) tried to identify the factors influencing customer retention in the case of Lithuanian mobile operators by focusing on three variables i.e customer satisfaction, relationship quality, switching costs. The result showed that there is a statistically significant positive correlation between the variables and customer retention

According to the research conducted by Sagib & Zapan (2014), the study tried to understand the quality dimensions of mobile banking services in Bangladeshi and their impact on customer satisfaction and retention. The study identified four dimensions of perceived quality (i.e. reliability and responsiveness, convenience, efficiency & assurance, and security).among the four variables only reliability and responsiveness, efficiency and convenience have a positive influence on customer satisfaction and two of them on customer retention (reliability and efficiency).

Even though similar studies have been done by previous researchers most the studies focused on the selected variables & selected organization which is hard to conclude the effect of mobile banking on customer retention as a broad level (Ibojo & Odunlami, 2015; Tamuliene & Gabryte, 2014; Sagib & Zapan; 2014)

2.6 Conceptual Framework

A research conducted by Tamuliene & Gabryte (2014) focused on customer satisfaction, relationship quality, switching costs, and customer retention and the conclusion revealed that there is a positive correlation among the variables.

Other research conducted by (Yeong & Fen, 2012) assessed the influence of customer awareness on the adoption of mobile banking service.

Wisdom (2012) stated that technological innovation like mobile banking service improves loyalty which increases the rate of customer satisfaction & retention.

The association between relationship quality and customer retention was assessed by Natarij & Rajendran (2018) and the study concluded that relationship quality has a significant positive impact on customer retention.

The conceptual framework displayed in the Figure below extracted from previously discussed empirical and theoretical literature. It illustrates the causal effect of independent variables on the dependent variable. It shows customer satisfaction, service quality & delivery, customer awareness level, information technology & security/privacy, switching cost and, corporate image & relationship quality have an effect on customer retention.

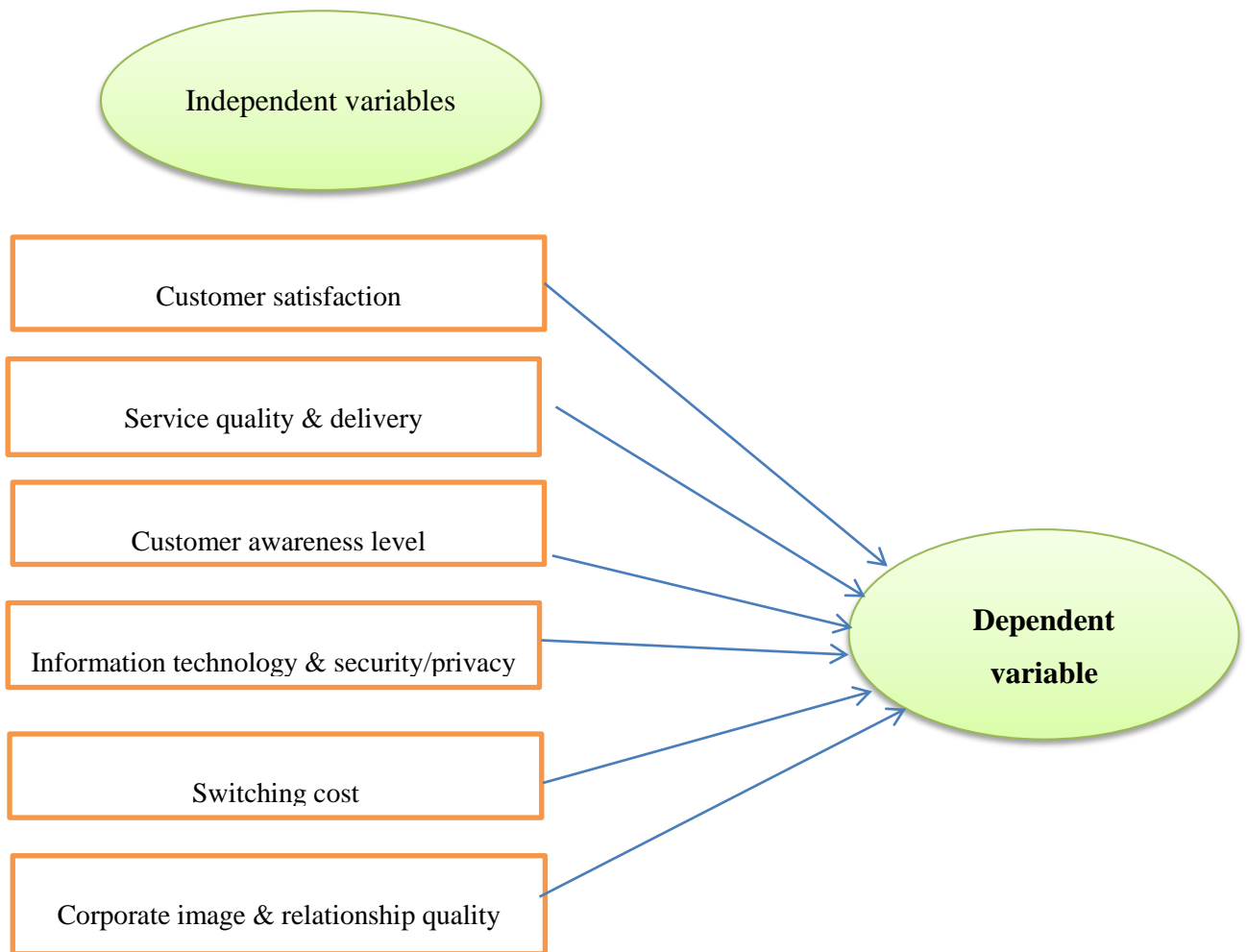


Figure 1 Conceptual framework (Bhatti, 2016; Daniel, 2016 and modified by the researcher)

CHAPTER THREE: RESEARCH METHODOLOGY

This section presents the methodology followed to achieve the research objectives. It highlights the research approach, research design, source of data for the study, data sampling technique, and descriptions of data collection tools. Finally, the methods used to analyze the data are discussed.

3.1 Research design

According to Sekaran (2016) research design is a blueprint or plan for the collection, measurement, and analysis of data to answer the research questions. Explanatory research type is a type of research that helps to cover the unexplored areas & problems in-depth manner that is not well researched before. Additionally, it provides a better-researched model and conclusion by focusing on variables that demand priority. For this reason, explanatory research type is considered as appropriate to examine the effect of mobile banking on customer retention. Based on the theoretical framework, the study undertakes to measure the effects of the independent variables such as customer satisfaction, service quality & delivery, customer awareness level, information technology & security/privacy, switching cost, corporate image & relationship quality, and the dependent variable (customer retention).

3.2 Research approach

To answer the questions raised in the research quantitative research method was used. According to Mujis (2010) Quantitative method is important in business research as data from samples can be used to estimate parameters relating to the population as a whole, it is the best to explain phenomena and specifically suitable for testing hypothesis'. Thus, the quantitative method enabled this research to produce reliable data as the research result can be generalized based on selected samples. A quantitative research method is used using close-ended structured questionnaires. For the above listed reasons the research used quantitative research approach method.

3.3 Sampling methods

3.3.1 Target population:

Since the main purpose of the study is to examine the effect of mobile banking on customer retention evidence from private commercial bank customers who use mobile banking services is the target for the study. Based on the national bank of Ethiopia 2019 data the study targets a population of 4,526,434 mobile banking users. Considering time and cost constraints the target sample or respondents are selected using a convenience sampling method. The convenience sampling method is used for the study since it allows getting data by achieving the sample size in a relatively affordable and easiest way. Besides, it also facilitates the data gathering process by following limited rules. To overcome the limitations of the sampling method the researcher took samples from different branches of the banks to minimize the possibility of being biased and the limitation on the generalization of the results.

3.3.2 Sample size:

The sample size is a part of the population chosen for a survey or experiment. The mathematics of probability proved that the size of the population is irrelevant unless the size of the sample exceeds a few percent of the total population under examination. The following sample size determination formula is developed for sampling size, using a 95% confidence level with a 5% margin error. A confidence level refers to the percentage of all possible samples that can be expected to include the true population parameter and helps to test the hypothesis. It implies that the sample population represented the target population of the research with a 95% confidence level. A 95% confidence level is chosen to get a 95% true value with a 5% error/probability that might be wrong. This indicated that if the survey were repeated it will deliver a result that would be close to the same value. Yamane (1967) provides a simplified formula to calculate sample sizes as shown below.

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

Where n is the sample size,
 N is the population size, and
 e is the sampling error = (0.05)

However this sampling formula is functional for small samples. Therefore, statisticians set standard sample calculators and tables for large samples. Based on this table the standard sample size is 384. Therefore Kocheral table of sample size determination is employed to have efficient representations of the samples. The detail of sample size determinations is annexed at the end of this paper.

3.4 Sources of data

The data needed for the research paper is collected from both sources i.e. primary as well as secondary data. Primary data is gathered up through close-ended questionnaires in the form of Likert five scales. Primary data is used since it helps to generate accurate and valid data by giving the researcher full control to decide the design, method, and data analysis techniques to be used. It also supports the study to get up to figure since it's an actual data & doesn't gather from old sources it helps to generate appropriate conclusions and recommendations. Besides the primary data published journals are also used as a source of data.

3.5 Data collection tools

Methods of data collection depend on standard questionnaires which are in the form of Likert five scales to measure Customer Retention (CR) dimensions with the conceptual framework of the study. Likert scale is a type of attitudinal scale primarily used in questionnaires to obtain participant's preferences or degrees of agreement with a set of statements. Likert scales are a non-comparative scaling technique and are one-dimensional (only measure a single trait) in nature. Respondents are asked to indicate their level of agreement within a given statement by way of an ordinal scale. Here, the study adopted a Likert scale that had five scales that ranged from "Strongly Disagree" (1) to "Strongly Agree" (5) depended on the conceptual framework of the study and its objective to be achieved. It is used for part two. The Likert Scale is used to

The effect of mobile banking on customer retention: evidence from private commercial banks

measure the beliefs, attitudes, and opinions of the respondents' by reducing frustration and helps to increase response rate and quality (Albaum et al., 2010).

The research data is collected by distributing a close-ended questionnaire to customers at different branches of private commercial banks which uses mobile banking service. The questionnaire consisted of the general information of the respondents (age, sex, education status, etc.) and multiple-choice questions. This approach helped to get the required data to measure the effect of independent variables (customer satisfaction, service quality & delivery, customer awareness level, information technology & security/privacy, switching cost, corporate image & relationship quality) on the dependent variable (customer retention).

The questionnaires are designed in a survey based on the conceptual framework. Each questions are derived from factors of customer retention. It is designed in a way that is clear, brief, and understandable to the respondents as well as covering the relevant aspects of the main variables.

The first part of the questionnaire identified the demographic profile of the respondents. This contains data about respondents' characteristics like age, gender, education, and experience level. The next part included opinion variables which consist of what respondents feel about mobile banking service. These include 28 questions that measure customer satisfaction, service quality & delivery, customer awareness level, information technology & security/privacy, switching cost, corporate image & relationship quality. And the last part consisted of 3 questions measuring customers' retention.

3.6 Data analysis method

The research involved the use of descriptive and regression data analysis method for the primary data. Descriptive statistics such as frequency distribution is used to make the analysis more meaningful, clear and easily interpretable. Descriptive statistics allows the researchers to present the data acquired in a structured, accurate and summarized manner. A Pearson Correlation analysis method helps to rank correlation that helps to test the significance relationship between customer retention factors and customer retention (Gogtay & Thatte, 2017).

3.6.1 Regression Model

Regression is a statistical method used in finance, investing, and other disciplines that attempt to determine the strength and character of the relationship between one dependent variable and a series of other variables (known as independent variables) (Nusair & Hua, 2010).

For this research, multiple linear regressions (multiple regression or MLR) were used. It is a statistical technique that used several explanatory variables to predict the outcome of a response variable. Multiple regressions explained the relationship between multiple independent or predictor variables and one dependent variable. A dependent variable is modeled as a function of several independent variables with corresponding coefficients, along with the constant term. It is used to predict the value of a variable based on the value of two or more other variables. The variable we want to predict is called the dependent variable.

For this study multiple regression analysis helps to identify the strength of the effect of the independent variables (customer satisfaction, service quality & delivery, customer awareness level, information technology & security/privacy, switching cost and corporate image & relationship) on the dependent variable (customer retention) additionally, it helped to understand how much will the dependent changes when there is a change occurs on the independent variables. The study used a regression model that addressed the variables such as customer satisfaction (X_1), service quality & delivery (X_2), customer awareness level (X_3), information technology & security/privacy (X_4), switching cost (X_5), corporate image & relationship quality (X_6),) and customer retention (Y) based on the above definition of variables.

Based on the above concept the regression model is specified as follows.

$$Y = B_0 + A_1X_1 + A_2X_2 + A_3X_3 + A_4X_4 + A_5X_5 + A_6X_6 + e$$

Where, A_1 , A_2 , A_3 , A_4 , A_5 , and A_6 represented coefficients to be estimated

B_0 = constant term, and;

The effect of mobile banking on customer retention: evidence from private commercial banks

e= error term or noise of the model.

This can be expressed in terms factors of customer retention and customer retention in the following ways:

Customer retention= $B_0 + A_1$ (customer satisfaction) + A_2 (service quality & delivery) + A_3 (customer awareness level) + A_4 (information technology & security/privacy) + A_5 (switching cost) + A_6 (corporate image & relationship quality) + e

3.6.2 Definition of Variables

- **CUSTOMER SATISFACTION:** is a measurement that determines how happy customers are with the company's products, services, and capabilities
- **SERVICE QUALITY:** is a global consumer judgment or attitude relating to service and resulting from consumer comparison of their expectations and perceptions of actual service performance
 - i. **RELIABILITY** – the ability to perform the promised service dependably and accurately.
 - ii. **RESPONSIVENESS** – the willingness to help customers and provide prompt service which deals with customer's questions, requests, and complaints attentively and promptly.
 - iii. **ASSURANCE** - the Knowledge and courtesy of employees and their ability to convey trust and confidence.
 - iv. **EMPATHY** - the provision of individualized attention and care to customers by knowing the customer's preference, his name, and his needs).
- **SERVICE DELIVERY:** the structure (facilities, equipment, etc.), infrastructure (job design, skills, etc.), and processes for delivering a service.
- **CUSTOMER AWARENESS LEVEL:** the knowledge and understanding of a purchaser regarding products/services or institutions or companies providing the products/services.
- **INFORMATION TECHNOLOGY:** the application of scientific knowledge for practical purposes, especially in industry.
- **PRIVACY:** the right of a person to be left alone and to be able to have control over the flow and disclosure of information about him or herself.

The effect of mobile banking on customer retention: evidence from private commercial banks

- **SECURITY:** any kind of electronic tool, technique, or process which is designed to protect a system's information assets, or is a risk management or risk-mitigation tool.
- **SWITCHING COST:** are the costs that a consumer incurs as a result of changing brands, suppliers, or products.
- **CORPORATE IMAGE:** is the overall perception of the company possessed by different stakeholders.
- **RELATIONSHIP QUALITY:** refers to the overall assessment of the strength of a relationship between two parties.

3.7 Validity and Reliability Test

3.7.1 Validity test

Validity is a degree of measuring procedure accurately reflects or assesses/captures the specific concept that the researcher is attempting to measure.

The validity of the study is tested for the content of the research questionnaires against its objectives, basic research questions, and hypotheses. The researcher used content and constructive validity test by checking the concepts of the questionnaires, and literature review critically. Constructive validity is a type of validity that evaluates whether a measurement tool represents things we are interested in measuring. Content validity assessed whether a test is representative of all aspects of the construct.

3.7.2 Reliability Test

Reliability refers to the consistency and stability of measurement. The finding of this research study said to be reliable if other researchers repeated this study and obtained the same result. In this study, Alpha reliability was used to measure internal consistency of the mean of the items at the time of administration of the questionnaire. The measurement of Cronbach's Alpha is specified as number 0 and 1. Hence, Cronbach's Alpha have better consistency within items in the scale if coefficient that closer to 1. George and Mallery (2003), provides the following rules

The effect of mobile banking on customer retention: evidence from private commercial banks

of thumb: >0.9-Excellent, >0.8-Good, >0.7-Acceptable, >0.6-Questionable, >0.5-Poor, <0.5-Unacceptable (as cited by Gleam and Rosemary, 2003).

Total numbers of questions in the questionnaire were six testing variables. From the analysis the Cronbach's alpha result found from the data collected, the overall Cronbach's alpha score is 0.777. The values of the reliability analysis were listed on the following Table

Table 1 Reliability Statistics

No	Dimensions	Cronbach's Alpha	N of Items
1	Customer satisfaction	.841	3
2	Service quality & delivery	.792	11
3	Customer awareness level	.864	3
4	Information technology & security/privacy	.655	4
5	Switching cost	.712	3
6	Corporate image & relationship quality	.693	4
7	Customer retention	.888	3
	Average Cronbach's alpha	0.777	31

Source: SPSS Output from survey result, 2020

3.8 Hypothesis

The hypothesis is an approximate explanation that is related to the set of facts that can be tested by certain further investigations. There are three common types of hypothesis which are working, null and alternative hypothesis. A working hypothesis is provisionally adopted to explain the relationship between some observed facts for guiding a researcher in the investigation of a problem. The null hypothesis is a typical statistical theory which suggests that no statistical relationship and significance exists in a set of given single observed variable, between two sets of observed data and measured phenomena. An alternative hypothesis is defined as a position that stated something is happening a new theory is true instead of an old one.

Based on the above hypothesis the research developed an alternative hypothesis

Based on the research carried by Auniel & Obino (2018) the study selected four variables (i.e. service quality, service delivery, customer relationships, and customer satisfaction) which affect customer retention. The conclusion of the study showed that all the variables are positively affected customer retention in the case of commercial banks in Tanzania. According to the above concepts, the study defined the following hypothesis:

H1: Customer satisfaction has a positive significant effect on customer retention

According to the study conducted on commercial banks in Kenya by focusing on the relationship between service quality dimensions & customer retention. The analysis of the study showed that an increase in any service quality dimensions will increase customer retention (Daniel, 2016). So the study determined the above hypothesis:

H2: Service quality & delivery has a positive significant effect on customer retention

Kumar et al (2015) mentioned that the growth of Information, Communication, and Technology facilitated the emergence of Electronic Commerce. The study analyzed the customers' awareness level based on age, qualification, occupation, and income of customers. The finding revealed that

increasing customer awareness helps to increase the satisfaction level of the customers which leads to an increase in customer retention. Based on this concept, the study described the following hypothesis:

H3: Customer awareness level has a positive significant effect on customer retention

As explained by Folarin (2015) the effect of technology on customer satisfaction and retention is assessed using cost reduction, speedy process, communication and relationship, accessibility, and convenience as an indicator of technology. The research revealed that the adoption of advanced information technology improves customer satisfaction and retention.

As per the research conducted by Samsudin et al (2011), the research revealed that privacy is the main factor that affects customers not to use online services including mobile phone services. The analysis of the study shows that privacy is positively significant towards customer loyalty accordingly; the study determined the following hypothesis

H4: Information technology & security/privacy has a positive significant effect on customer retention

The study conducted in Taiwan examined the relationship between switching cost and customer retention in banking service customers. According to the result perception of switching costs has a positive impact on banking service customer retention (Wang et al., 2012). Based on the above concepts, the study entailed the following hypothesis:

H5: Switching cost has a positive significant effect on customer retention

The study tried to understand the role of sustainable banking practices on bank loyalty using the mediating effect of corporate image on the relationship between sustainable banking practices and bank loyalty. The result from the questionnaires revealed that corporate image directly and positively affects bank loyalty in banking service (Igbudu et al., 2018).

The effect of mobile banking on customer retention: evidence from private commercial banks

Nataraj & Rajendran (2018) the association between relationship quality and customer retention was the main focus of the study. For this reason, samples were taken from bank customers in Chennai, India. The result revealed that relationship quality has a significant positive impact on customer retention. According to the above concepts, the study defined the following hypothesis

H6: Corporate image & relationship quality has a positive significant effect on customer retention

CHAPTER FOUR: RESULTS AND DISCUSSIONS

This chapter presents the result and discussion part of the paper. As explained in the earlier chapters, this study aimed at investigating the effects of mobile banking on customer retention: evidence from private commercial banks. Therefore, this part of the paper analyzed, summarized, and presented the result of the collected data from mobile banking customers of ten private commercial banks operating in the country.

4.1 Rates of Response

A total of 384 questionnaires were distributed to target respondents. Out of the total 384 questionnaires, 352 questionnaires were obtained which is a 91% response rate.

4.2. General Information about the Respondents

The first part of the questionnaire consists of general information about the respondents. This part of the questionnaire requested a limited amount of information related to the personal and professional characteristics of the respondents. Demographics information of the respondents was presented by age, educational level, monthly income, and respondent's experience. Accordingly, the following variables about respondents were summarized and described.

Table 2 General information about the respondents

Product Dimension	Measurement scale	N=352	100 %
Gender	Male	161	45.7
	Female	191	54.3
Age	18-30	211	59.9
	31-40	109	31.0
	41-50	23	6.5
	Above 50	9	2.6
Educational Level	Below high school	-	-
	Diploma	29	8.2
	First degree	135	38.4
	Masters or above	188	53.4
Monthly income	Up to 10,000	112	31.8
	10,001-20,000	231	65.6
	above 20,000	9	2.6
For how long have you been a customer of your bank?	Less than 1 year	65	18.5
	1-4 years	235	66.8
	5-9 Years	52	14.8
	above 10 years	-	-

Source: SPSS Output from survey result, 2020

As the above table depicts, female respondents constitute the largest portions of respondents, which is about 54% of the sample size, while male respondents cover 46% of the total.

Concerning age category, the largest number of respondents falls within the range of age 18-30, which constitutes 60% of the sample, while the second-largest portion of respondent's age range belongs to 31-40, which is about 31%.

The effect of mobile banking on customer retention: evidence from private commercial banks

According to the above table, 8% of the respondents were Diploma holders, 38% of the respondents were first degree holders while the rest 53% of the respondents were graduates of Masters.

For income level, the majority of the respondents fall with the income level of greater than 10,000 Birr, which accounts for 65% and followed by Birr up to 10,000 Birr (31%), and above 20,000 Birr (2.6%). This infers high-income earners were more likely to adopt mobile banking.

Concerning respondents' using the service in the bank, around 67% of them have 1-4 years' experience, which has direct relevance to the research topic, and the remaining 14% and 18% of respondents have 5-9 years' and less than 1-year experience with the bank.

4.3 Descriptive Statistics

After collecting, screening, and organizing the data gathered through a questionnaire filled by different customers, the researcher came across the following findings of the effect of mobile banking on customer retention. The data collected are tabulated in which it shows the frequency/number of respondents and the percentage from the total 352 sample size.

The feedback of the respondents for the variables indicated below were measured on five-point Likert scale with measurement value 1= Strongly disagree; i.e. very much dissatisfied with the case described; 2= Disagree, i.e. not satisfied with the case described; 3= Neutral, i.e., uncertain with the case described; 4= Agree, i.e., feeling all right with the case described and considered as satisfying; and 5 =strongly agree, i.e. very much supporting the case described and considered as highly satisfactory. To make an easy interpretation, the following ranges of values were reassigned to each scale: Less than 2.8 = Disagree, 2.9-3.2 = Neutral, Above 3.2 = Agree

4.3.1 Customer Satisfaction (CS)

Customer satisfaction is a measurement of how the services provided or supplied by an organization meets or exceeds the expectations of a consumer. Customer satisfaction is obtained through meeting the expectations that customers have about the mobile banking service, if the

The effect of mobile banking on customer retention: evidence from private commercial banks

expectations of the reliability, safety, ease of use, etc. are met by the service, customer satisfaction will be high (meaning more customers will engage into mobile banking) and if not, it will be low (meaning more customers will not engage in using mobile banking services). The respondents were asked to indicate their levels of agreement. The findings are presented in the Table 4.3.1 below.

Table 3 Customer Satisfaction

S.	Customer Satisfaction		SD	D	N	A	SA	MS	SDV
1	I am satisfied with the overall service quality of mobile banking services given by my bank	N=352	-	70	52	202	28	3.53	.899
		100	-	20	15	57	8		
2	I always get prompt service whenever I use mobile banking and I am satisfied with that.	N=352	21	93	52	159	27	3.2	1.00
		100	6	26	15	45	8		
3	The bank completely meets my expectations	N=352	10	92	61	168	21	3.2	1.00
		100	3	26	17	48	6		
	Valid N							3.36	0.96

Source: SPSS Output from survey result, 2020

Analyzing the data obtained from the questionnaire, table 4.3.1 reveals that the study measured the customer satisfaction dimensions. Concerning the overall service quality of mobile banking services given by the bank, the survey result showed that 8% of respondents were strongly agreed, 57% of respondents were agreed, 15% of respondents are neutral, while 20% of respondents disagreed. As a result, the majority of the respondents satisfied with the overall quality of mobile banking services given by the bank.

About “I always get prompt service whenever I use mobile banking and I am satisfied with that.” The feeling of respondents indicates that 8% and 45% of customers strongly agree and agree

respectively. Thus, it indicates that the customer gets prompt service whenever they use mobile banking.

Customer satisfaction is obtained by meeting the expectations that consumers have about the mobile banking service, the above table shows About 6% and 48% of the respondents selected strongly agree and agree respectively. However, 29% of respondents were disagreeing regarding this issue.

The customer satisfaction dimension in this study comprises three items intended to measure the degree of customer satisfaction to understand customer retention. Of those items, satisfied with the overall service quality of mobile banking, get prompt service whenever I use mobile banking and bank meets my expectations are scored the mean value of 3.53, 3.28, and 3.28 respectively. Thus, the Customer satisfaction dimension including all the three items has scored 3.36 grand mean which falls in the range of above 3.2, it is considered as agreed. Therefore, it is possible to conclude that, customers of the bank are satisfied with the line of mobile banking services that the bank can provide.

4.3.2 Service quality & delivery (SQ &D)

Service quality is determined by the differences between customer's expectations of services provider's performance and their evaluation of the services they received. The instrument used for measuring customer expectations and perceptions of a service along five quality dimensions: tangibles, reliability, responsiveness, assurance, and empathy (Parassuraman et al, 1991). Table 4.3.2 below illustrates the reflection of the respondents regarding Service quality & delivery dimensions.

Table 4 Service quality & delivery

S.	Service quality & delivery		SD	D	N	A	SA	MS	SDV
1	Mobile banking service provides me reliable information about my account	N=352	9	12	39	182	110	4.06	.888
		100	3	3	11	52	31.3		
2	The service offered by the bank is high quality and the speed of the mobile banking is very fast.	N=352	9	79	50	176	38	3.44	1.033
		100	3	22	14	50	11		
3	I got prompt response if my transaction isn't processed while using mobile banking.	N=352	19	61	95	159	18	3.27	.987
		100	5	17	27	45	5		
4	The bank quickly resolves mobile banking related problems.	N=352	10	117	88	109	28	3.08	1.035
		100	3	33	25	31	8		
5	I know exactly when my transaction is performed.	N=352	-	20	69	193	70	3.89	.782
		100	-	6	19	55	20		
6	I feel safe when I use mobile banking provided by my bank.	N=352	20	27	65	168	72	3.70	1.057
		100	5.7	7.7	19	47.7	20.5		
7	My bank gives individual attention to customer.	N=352	-	90	79	153	30	3.35	.955
		100	-	26	22.4	43.5	8.5		
8	My bank collects feedback to understand the need of the customer.	N=352	20	79	115	101	37	3.16	1.066
		100	6	22	32	28	10		
9	My bank delivers equitable & dependable mobile banking service as promised.	N=352	-	54	66	213	19	3.56	.814
		100	-	15	18	60	6		
10	My bank provides mobile	N=352	-	91	42	191	28	3.44	.962

The effect of mobile banking on customer retention: evidence from private commercial banks

S.	Service quality & delivery		SD	D	N	A	SA	MS	SDV
	banking service to meet my changing needs with clearly stated terms and conditions.	100	-	26	12	54	8		
11	The level of service quality & delivery determines my frequency of using a specific mobile banking service.	N=352	9	30	42	230	41	3.75	.864
		100	3	8	12	65	11		
	Valid N							3.518	0.949

Source: SPSS Output from survey result, 2020

Table 4.3.2 above depicts the perception of customers about the service quality provides which determines the frequency of using a specific mobile banking service. 11% of respondents were neutral; about 52% and 31% of the respondents were strongly agreed and agree respectively. This tells us that the level of service quality determines the frequency of using specific mobile banking services provided by the bank.

The above table shows the perception of customers about Mobile banking service provides reliable information about the customer account. About 11% and 50% of the respondents were strongly agreed and agree respectively. However, 22% of respondents were disagreeing regarding this issue.

Concerning “The service offered by the bank is high quality and the speed of the mobile banking is very fast”. The feelings of respondents indicate that 5% and 45% of customers strongly agree and agree respectively. Thus, it indicates that the customer gets high quality and fast speed mobile banking services.

The description presented in table 4.3.2 tells us the majority (39%) of the respondents were found to be confident with the above statement. The rest 25% of the respondents, however, found to be neutral regarding the aforementioned statement, while 36% of them show their

disagreement with immediately respond if the transaction isn't processed while using mobile banking.

Analyzing the data obtained from the questionnaire concerning the bank quickly resolves mobile banking related problems, the result showed that 20% and 55% of respondents were strongly agreed and agreed respectively, 19% of respondents are neutral; while 6% of respondents disagreed. As a result, the majority of the respondents agreed that the bank quickly resolves mobile banking related problems.

With regard to "I know exactly when my transaction is performed" they responded having a scored mean value of 3.7 this shows that the respondents were "agreed" that is customer knows when transaction is performed.

Table 4.3.2 above depicts the perception of customer about bank delivers equitable & dependable mobile banking service as promised. 11% of respondents were neutral; about 52% and 31% of the respondents were strongly agreed and agree respectively. This tells us that the level of service quality determines the frequency of using specific mobile banking services provided by the bank.

About "The level of service quality & delivery determines my frequency of using a specific mobile banking service". 12% of respondents were neutral; about 11% and 65% of the respondents were strongly agreed and agree respectively. This tells us that the level of service quality & delivery determines the frequency of using specific mobile banking services provide by the bank.

Table 4.3.2 above depicts the bank provides mobile banking service to meet my changing needs with clearly stated terms and conditions. 12 % of respondents were neutral and 26% were disagree and about 8% and 54% of the respondents were strongly agreed and agree respectively.

The overall mean rating and the standard deviation of the respondents' for service quality were 3.51 and .949 respectively. It indicates that customers' attitude towards Service quality is good.

4.3.3 Customer awareness level (CA)

The level of information customers have on mobile banking is one of the major factors impacting the adoption of mobile banking (Bhatt & Bhatt, 2016). The research further states that the adoption rate of innovation could be determined by the level of awareness of the customers. The respondents were asked to indicate their levels of agreement. The findings are presented below in table 4.3.3.

Table 5 Customer awareness level

S.	Customer awareness level		SD	D	N	A	SA	MS	SDV
1	I received information on how to use & when additional mobile banking services are included.	N=352	10	40	21	232	49	3.77	.926
		100	3	11	6	66	14		
2	I receive enough information about the benefits of mobile banking & the differences between conventional banking and e-banking.	N=352	10	41	64	169	68	3.69	1.003
		100	3	11	18	48	19		
3	I get information from the bank when additional mobile banking services are included.	N=352	-	80	63	190	19	3.42	.899
		100	-	22	18	54	5		
	Valid N							3.62	0.941

Source: SPSS Output from survey result, 2020

The description presented in table 4.3.3 tells us the majority (80%) of the respondents were found to be confident with the above statement. The rest 6% of the respondents, however, found to be neutral regarding the aforementioned statement, while 3% of them show their disagreement with receiving information on how to use & when additional mobile banking services are included.

The effect of mobile banking on customer retention: evidence from private commercial banks

About “I receive enough information about the benefits of mobile banking & the differences between conventional banking and e-banking”, the feeling of respondents indicates that 19% and 48% of customers strongly agree and agree respectively. Thus, it indicates that the banks deliver enough information about the benefits of mobile banking & the differences between conventional banking and e-banking.

Table 4.3.3 above depicts customers get information from the bank when additional mobile banking services are included, 22% of respondents were strongly disagreed; about 5% and 54% of the respondents were strongly agreed and agree respectively.

They responded having a scored mean value of 3.62 this shows that the respondents were “agreed”. It is found that the customer awareness level of mobile banking is one of the major factors impacting the adoption of mobile banking.

4.3.4 Information technology & Security/privacy (INFO & SEC)

Technologies are the medium and tools which enable the firms to get the appropriate information to the right person at the right time. Security refers to the need to protect data, equipment, and processing time. Organizations restrict access to certain data and protect data and applications from manipulation or contamination.

Accordingly, different questions were raised under Information technology & Security/privacy variables to determine the impact on customer retention. Table 4.3.4 below illustrates the reflection of the respondents regarding the dimension.

Table 6 Information technology & Security/privacy

S.	Information technology & Security/privacy		SD	D	N	A	SA	MS	SDV
1	My bank use up-to-date equipment and technology that allows me to confirm the transaction processes.	N=352	-	102	31	210	9	3.36	.929
		100	-	29	9	60	3		
2	I am willing to use new mobile banking technologies that are clear and easy to understand	N=352	-	91	42	191	28	3.92	.474
		100	-	26	122	54	8		
3	I feel secured when I use mobile banking service given by my bank.	N=352	9	21	45	277	-	3.68	.702
		100	2.6	6	13	79	-		
4	I believe my bank keeps my personal information privately & have set of rules which protect my bank details.	N=352	21	-	24	307	-	3.75	.739
		100	6	-	7	87.2	-		
Valid N								3.67	0.711

Source: SPSS Output from survey result, 2020

As shown in Table, Out of 352 respondents, 60% and 3% of the respondents agree and strongly agree respectively with the bank use up-to-date equipment and technology that allows confirming the transaction processes. While 29% of the respondents disagreed and the rest 9% of the respondents uncertain about equipment and technology the bank currently using. Therefore, it can be observed that above half of the respondents believe that the bank use up-to-date equipment and technology that allows confirming the transaction processes.

The effect of mobile banking on customer retention: evidence from private commercial banks

Regarding the willingness of using new mobile banking technologies; the majority of respondents (62%) customers are willing to use new mobile banking technologies that are clear and easy to understand.

Concerning “I feel secured when I use mobile banking service given by my bank.” The feeling of respondents indicates that 79% and 13% of customers strongly agree and agree respectively. Thus, it indicates that the majority of the customers feel secured when using mobile banking service of the bank.

Lastly, the respondents were asked bank keeps personal information privately and have a set of rules which protect bank details. About 7% and 87% of the respondents selected neutral and agree respectively. However, 6% of respondents were disagreeing regarding this issue. Therefore, the majority of the respondents agreed that the bank keeps personal information privately and has a set of rules which protect the bank details.

As it can be observed from the above table, respondents have generally developed positive perception regarding the Information technology & Security/privacy dimension. It indicated that the grand mean value is 3.67 which is above the cut-off point 3.2.

4.3.5 Switching cost (SC)

Switching cost is the technical, financial, or psychological factors that make it difficult or expensive for a customer to change the brand (Afsar et al., 2010). Table 4.3.5 below illustrates the reflection of the respondents regarding the Switching cost dimension.

Table 7 Switching cost

S.	Switching cost		SD	D	N	A	SA	MS	SDV
1	Considering everything the cost & effort switching to other bank would be high.	N=352	-	19	63	103	167	3.19	.915
		100	-	5	18	29	47		
2	It is risky to change my current service provider.	N=352	-	29	186	80	57	2.47	.860
		100	-	8	53	23	16		
3	Considering the time dealing with my bank is easier than switching to another competitor.	N=352	20	73	71	170	18	3.26	1.027
		100	6	21	20	48	5		
	Valid N							2.97	0.934

Source: SPSS Output from survey result, 2020

Table 4.3.5 above depicts considering everything the cost & effort switching to other bank would be high. 5% of respondents were strongly disagreed; about 47% and 29% of the respondents were strongly agreed and agree respectively. This tells us the cost & effort switching to other bank would be high.

With regard to “It is risky to change my current service provider”, they responded having a scored mean value of 2.4 this shows that the respondents were “disagreed” that is not risky to change current service provider.

The description presented on table 4.3.5 tells us the majority (53%) of the respondents agreed that considering the time dealing with the bank is easier than switching to another competitor. The rest 20% of the respondents, however, found to be neutral regarding the aforementioned statement, while 27% of them show their disagreement. As it can be observed from the above table, grand mean value of switching cost is 2.97 this shows that the respondents were “neutral”.

4.3.6 Corporate image & relationship quality (CI & RQ)

Corporate image includes participation of the banks in sponsoring of local events, bank's reputation. The bank also uses sales promotion and television advertising to enhance its brand image and in order to create the long term relationship between the company and the customers, the company should provide more benefits to their customers in order to increase the retention level of the customers (Angelini et al., 2017). Table 4.3.6 below illustrates the reflection of the respondents regarding corporate image & relationship quality.

Table 8 Corporate image & relationship quality

S	Corporate image & relationship quality		SD	D	N	A	SA	MS	SDV
1	I feel self-confident about the mobile banking service provided by bank.	N=352	-	27	73	204	48	3.78	.776
		100	-	8	21	58	13		
2	My bank creative in introducing products that benefits its customers in an ethical way.	N=352	-	20	51	243	38	3.85	.677
		100	-	6	14	69	11		
3	My bank provides distinctive service & information to its customers to build a long-term relationship.	N=352	-	69	70	153	61	3.59	.992
		100	-	19.6	20	43	17		
4	My bank meets the expectation of its customers & solves conflicts in a professional way	N=352	-	12	19	42	232	3.80	.860
		100	-	3	5	12	66		
	Valid N							3.75	0.82

Source: SPSS Output from survey result, 2020

Table 4.3.6 above depicts I feel self-confident about the mobile banking service provided by bank., 8% of respondents were disagreed; about 13% and 58% of the respondents were strongly

The effect of mobile banking on customer retention: evidence from private commercial banks

agreed and agree respectively. It indicates that the majority of the customers feel self-confident about the mobile banking service provided by the bank.

Regarding the bank creative in introducing products that ethically benefit its customers; the majority of respondents (80%) customers are agreed that bank creative in introducing products that ethically benefits its customers.

The respondents were asked the bank provides distinctive service & information to its customers to build a long-term relationship. About 20% and 60% of the respondents selected neutral and agree respectively. However, 19% of respondents were disagreeing regarding this issue. Therefore, the majority of the respondents agreed that the bank provides distinctive service & information to its customers to build a long-term relationship.

As shown in Table, Out of 352 respondents, 12% and 66% of the respondents agree and strongly agree respectively with the bank meets the expectation of its customers & solve conflicts in a professional way. Therefore, it can be observed that above half of the respondents believe that the bank meets the expectation of its customers & solve conflicts in a professional way. From this result majority of the respondents were agreed with mean scores of 3.75 from the result of corporate image & relationship quality.

4.3.7 Customer retention (CR)

Customer retention practice is reflected as one of the most significant weapons to sustain in the competition and, hence improve their performance (Padmashantini, 2013). Customers are considered to be the focal point of the organizations. Therefore, the main aim of every organization is to create more customers to achieve their target and to retain their customers by providing the best quality of services. It is not possible for organizations to increase their business performance without their customers. Table 4.3.7 below illustrates the reflection of the respondents regarding customer retention.

Table 9 Customer retention

S.	Customer retention		SD	D	N	A	SA	MS	SDV
1	I am happy & plan to continue as customer of the bank for the coming years.	N=352	24	37	53	201	37	3.54	1.040
		100	6.8	10.5	15	57	10.5		
2	I consider myself to be the loyal customer of my bank.	N=352	12	46	61	205	28	3.54	.936
		100	3.4	13	17	58	8		
3	I have a positive emotional relation with my bank & I will recommend to others.	N=352	24	37	75	150	66	3.56	1.115
		100	7	10	21	43	19		
Valid N								3.54	1.01

Source: SPSS Output from survey result, 2020

The description presented in table 4.3.7 tells us the majority (67%) of the respondents were found to be confident with the above statement. The rest 15% of the respondents, however, found to be neutral regarding the aforementioned statement, while 17% of them show their disagreement with a plan to continue as a customer of the bank for the coming years.

Concerning “I consider myself to be the loyal customer of my bank”, the feeling of respondents indicates that 8% and 58% of customers strongly agree and agree respectively. Thus, it indicates that the majority of the customers are a loyal customer to the bank.

Table 4.3.7 above depicts I have a positive emotional relationship with my bank and I will recommend to others, 17% of respondents were strongly disagreed; about 19% and 43% of the respondents were strongly agreed and agree respectively.

The overall mean rating and the standard deviation of the respondents for customer retention were 3.54 and 1.01 respectively. It indicates that respondents have generally developed a positive perception regarding customer retention.

4.4 Inferential Analysis

The inferential analysis section includes correlation and regression analysis to investigate the effects of mobile banking on customer retention.

4.4.1 Correlation Analysis

Correlations are the measure of the linear relationship between two variables. A correlation coefficient has a value ranging from -1 to 1. Values that are closer to the absolute value indicates that there is a strong relationship between the variables being correlated whereas values closer to 0 indicates that there is little or no linear relationship (Fikre et al., 2009).

As described by Koo & Li (2016) the correlation coefficient is a commonly used measure of the size of an effect: Values of ± 0.1 represent a small effect, ± 0.3 is a medium effect and ± 0.5 is a large effect. A positive correlation coefficient indicates that there is a positive linear relationship between the variables. A negative value indicates a negative linear relationship between variables.

The correlation between dependent and independent variables along with the causal effect was analyzed using Statistical Package for Social Science (SPSS).The below correlation matrix shows the correlation between variables in the questionnaire with a Pearson Correlation coefficient to show the strength of the relationship among the variables considered in the questionnaire.

The effect of mobile banking on customer retention: evidence from private commercial banks

Table 10 Relationship between mobile banking and customer retention

Correlations								
		CSAT	SQ & D	CA	INFO & SEC	SC	CI & RQ	CR
CSAT	Pearson Correlation	1						
	Sig. (2-tailed)							
	N	352						
SQ & D	Pearson Correlation	.529**	1					
	Sig. (2-tailed)	.000						
	N	352	352					
CA	Pearson Correlation	.559**	.643**	1				
	Sig. (2-tailed)	.000	.000					
	N	352	352	352				
INFO & SEC	Pearson Correlation	.429**	.586**	.572**	1			
	Sig. (2-tailed)	.000	.000	.000				
	N	352	352	352	352			
SC	Pearson Correlation	.470**	.616**	.492**	.516**	1		
	Sig. (2-tailed)	.000	.000	.000	.000			
	N	352	352	352	352	352		
CI & RQ	Pearson Correlation	.393**	.577**	.507**	.551**	.507**	1	
	Sig. (2-tailed)	.000	.000	.000	.000	.000		
	N	352	352	352	352	352	352	
CR	Pearson Correlation	.757**	.688**	.672**	.539**	.657**	.593**	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	
	N	352	352	352	352	352	352	352

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

Source: SPSS Output from survey result, 2020

Correlation is significant at the 0.01 level (1-tailed)

The highest strong coefficient of correlation is between customer satisfaction and customer retention ($r = 0.757$, $n = 352$, $p \leq 0.01$). This means that customer satisfaction has a positive effect on customer retention. The second highest strong coefficient of correlation is between service quality & delivery and customer retention ($r = 0.688$, $n = 352$, $p \leq 0.01$). The third highest strong coefficient of correlation is between customer awareness level and customer retention ($r = 0.672$, $n = 352$, $p \leq 0.01$). The fourth strong correlation is between switching cost and customer retention ($r = 0.657$, $n = 352$, $p \leq 0.01$). The fifth and the sixth moderate correlation is between corporate image & relationship quality and customer retention ($r = 0.593$, $n = 352$, $p \leq 0.01$), information technology & Security/privacy and customer retention ($r = 0.539$, $n = 352$, $p \leq 0.01$). Generally, the above correlation matrix shows that all independent variables are positively and either moderately or strongly correlates with the dependent variable.

4.4.2 Normality Test

One of the assumptions in panel regression analysis is whether variables in the model are obtained from a normally distributed population or not. If the disturbances are normal allows exact inference about the estimate and standard error of estimated coefficients. The study employed the relevant normality tests. Useful figure that the researcher can inspect to see if a distribution is normally distributed is called a P-P plot (probability-probability plot). This figure plots the cumulative probability of a variable against the cumulative probability of a particular distribution.

As we have seen in the below figure (figure 4.4.2), the dots are closely plotted to the straight line, which indicates a small or no deviation from normality and there are no extreme cases observed. Therefore, the assumptions of simple linear regression have been met and we can assume that the model is accurate and can probably generalize to the population.

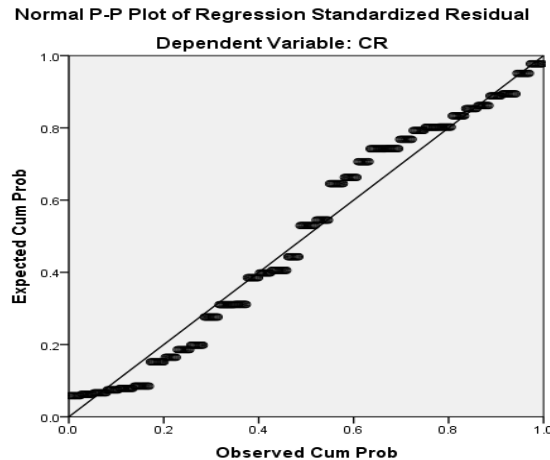


Figure 2 Normality Test

Source: SPSS Output from survey result, 2020

4.4.3 Multicollinearity Test

Multicollinearity refers to the situation where two or more of the predictors in a regression model are highly correlated. It implies that one can be linearly predicted from the others with a substantial degree of accuracy. In the presence of multicollinearity, the coefficient estimates of the multiple regressions may change erratically in response to small changes in the model or the data. If there is multicollinearity in the model, the estimated coefficients possess large standard error, which means the coefficients cannot be estimated with great precision or accuracy. To alleviate this problem one or more of the correlated variables must be dropped from the model. Therefore, the study checks for the presence of Multicollinearity in the model. The collinearity statistics result for all independent variable constituents was performed on SPSS and presented as follows.

Table 11 Multicollinearity Test

Coefficients ^a			
Model	Collinearity Statistics		
	Tolerance	VIF	
1	Customer Satisfaction	.617	1.619
	Service quality & delivery	.412	2.427
	Customer awareness level	.474	2.109
	Information technology & Security/privacy	.533	1.876
	Switching cost	.550	1.819
	Corporate image & relationship quality	.573	1.746

Source: SPSS Output from survey result, 2020

According to P.Vatecheva (2016), tolerance values lower than 0.20 suggest a multicollinearity problem. The minimum value in our model was 0.412. A variance inflation factor (VIF) above 10 indicates the possible existence of a multicollinearity problem. In our model, the maximum value was 2.427. So multicollinearity does not exist for the independent variables.

4.4.4 Multiple Regression Analysis

Linear regression estimates the coefficients of the linear equation, involving one or more independent variables that best predict the value of the dependent variable (Schneider et al, 2010). It includes many techniques for modeling and analyzing several variables when the focus is on the relationship between a dependent variable and one or more independent variables. More specifically, regression analysis helps to understand how the typical value of the dependent variable changes when any one of the independent variables is varied, while the other

The effect of mobile banking on customer retention: evidence from private commercial banks

independent variables are held fixed. In this study regression analysis is used to identify the effect of mobile banking and customer retention

Table 12 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.873 ^a	.761	.757	.28341

Source: SPSS Output from survey result, 2020

R – Indicates the value of the multiple correlation coefficients between the predictors and the outcome, with a range from 0 to 1, a larger value indicating a larger correlation and representing an equation that perfectly predicts the observed value. The model summary (R = 0.761) indicates that the linear combination of the six independent variables strongly predicts the dependent variable (customer retention).

R-Squared is the proportion of variance in the dependent variable which can be explained by the independent variables. The R-squared in this study was 0.757, the weighted combination of the independent variables explained in the model summary is affected by approximately 75.7% of the variance of customer retention and the remaining 24.3% is by extraneous uncontrollable variables. This result also indicates that there may be other variables that could have been neglected by the current study in predicting customer retention.

Table 13 Analysis of Variance

ANOVA^a

Model	Sum of Squares	Df	Mean Square	F	Sig.
1 Regression	88.412	6	14.735	183.451	.000 ^b
Residual	27.711	345	.080		
Total	116.123	351			

Source: SPSS Output from survey result, 2020

a. Dependent Variable: CR

b. Predictors: (Constant), CI & RQ, CSAT, SC, INFO & SEC, CA, SQ & D

The ANOVA table shows the overall significance/ acceptability of the model from a statistical Perspective (Sow, 2014). The above ANOVA table shows the acceptability of the model. The p-value is less < 0.05 i.e. 0.001. From the ANOVA table, it has been determined that F = 183 and Sig. is .000 which confirms that the independent variables have a significant impact on customer retention.

Table 14 Regression Coefficients

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
1 (Constant)	.189	.154		1.225	.000
CSAT	.385	.029	.437	3.060	.000
SQ & D	.158	.046	.140	3.406	.001
CA	.168	.039	.163	4.280	.000
INFO & SEC	.038	.055	.025	.690	.000
SC	.232	.038	.215	6.073	.000
CI & RQ	.180	.038	.163	4.681	.000

Source: SPSS Output from survey result, 2020

The effect of mobile banking on customer retention: evidence from private commercial banks

a. Dependent Variable: CR

In the multiple regression, this standardized regression coefficient Beta (β) is useful, because it allows comparing the relative strength of each independent variable's relationship with the dependent variable (O'Neill et al., 2013). The regression coefficient explains the average amount of change in the dependent variable that is caused by a unit change in the independent variable. The larger value of the Beta coefficient an independent variable has brought more support to the independent variable as the more important determinant in predicting the dependent variable. Thus, the strength of each predictor (independent variables) influencing the criterion (dependent variable) can be investigated via a standardized Beta coefficient.

Based on these results, the regression equation that predicts customer retention based on the linear combination of independent variable is:

Regression Equation

$$Y = a + bX_1 + bX_2 + bX_3 + bX_4\dots$$

$$CR = 0.189 + 0.437 CSAT + 0.146 SQ \& D + 0.163 CA + 0.025 INFO \& SEC + 0.215 SC + 0.163 CI \& RQ$$

Where, CR = Customer retention

CSAT= Customer Satisfaction

SQ & D= Service Quality & Delivery

CA= Customer Awareness Level

INFO & SEC= Information Technology & Security/Privacy

SC= Switching Cost

CI & RQ= Corporate Image & Relationship Quality

Six major hypotheses were constructed in this study to test the effect of mobile banking on customer retention in commercial banks.

Hypotheses # 1

From the multiple regression analysis, we can see that customer satisfaction (the independent variable) positively affects customer retention (the dependent variable). As the above table presents the coefficient of determination indicates the proportionate amount of variation in the response variable (customer retention) explained by the independent variable (customer satisfaction) in the linear regression model. concerning the result customer satisfaction has a beta coefficient of 0.437 with a significant value of .001. this implies that a unit increase in customer satisfaction leads to .437 increases in customer retention other things being constant. This indicates that customer satisfaction makes a positive, statistically significant, and unique contribution to the prediction of customer retention. Therefore the more the commercial banks satisfy their customers the more they retain the customers. Previous related research findings by Bilal et al 2010; Auniel & Obino (2018) revealed the same result; customer satisfaction has a positive effect on customer retention. Therefore, controlling the variance explained by all other variables in the model; customer satisfaction contributes 43% to the variance explanation of the dependent variable.

H1: Customer satisfaction has a positive effect on customer retention

Hypotheses # 2

The result in the above coefficient table shows that service quality & delivery has a beta coefficient of 0.146 with a significance value of .001. This implies that there is a positive statistical relationship between service quality & delivery (the independent variable) and customer retention (the dependent variable) this is supported by (Daniel, 2016; Elly, 2010) conducted in commercial banks. A unit increase in service quality & delivery leads to .146 increases in customer retention other things being constant this proved that service quality & delivery contributes 14.6% to the variance explanation of the dependent variable.

H2: Service quality & delivery has a positive effect on customer retention

Hypotheses # 3

As per the result in the above table, the customer awareness level has a beta coefficient of 0.163 with a significance value of .001. Thus a unit increase in customer awareness level leads to .163 increases in customer retention other things being constant. This is an indication that customer awareness level makes a positive, statistically significant, and has a unique contribution to the prediction of customer retention. Further controlling the variance explained by all other variables in the model, the customer awareness level contributes 16% to the variance explanation of the dependent variable. The result matches with the research conducted by (Kumar et al., 2015)

H3: customer awareness level has a positive effect on customer retention

Hypotheses # 4

From the regression analysis, we can see that there is a positive and statistically significant relationship between information technology & security/privacy (the independent variable) and customer retention (the dependent variable) with a beta coefficient of 0.025 with a significance value of .001. This implies that 2.5% to the variance explanation of the dependent variable (customer retention) is contributed by information technology & security/privacy. Therefore a unit increase in information technology & security/privacy leads to .025 increases in customer retention other things being constant. The result showed that there is a positive and statistically significant relationship between information technology & security/privacy (the independent variable) and customer retention (the dependent variable) which is matched with the research study carried by (Folarin, 2015; Samsudin et al., 2011). H4 is accepted.

H4: Information technology & security/privacy has a positive effect on customer retention.

Hypotheses # 5

According to Wang et al., (2012) conclusion there is a positive and statistically significant relationship between switching cost (the independent variable) and customer retention (the dependent variable). which is confirmed by a beta coefficient value of 0.215 of switching cost

The effect of mobile banking on customer retention: evidence from private commercial banks

with a significance value of .001. Controlling the variance explained by all other variables in the model, switching cost contributes 21% to the variance explanation of the dependent variable. Thus a unit increase in switching cost strongly increases customer retention by .215 other things being constant. Consequently, considering the significance of switching cost to customer retention, H5 is accepted.

H5: Switching cost has a positive effect on customer retention

Hypotheses # 6

The result in the above table shows that corporate image & relationship quality has a beta coefficient of 0.163 with a significant value of .001. This indicates that corporate image & relationship quality (the independent variable) makes a positive, statistically significant, and unique contribution to the prediction of customer retention (the dependent variable). Therefore, controlling the variance explained by all other variables in the model; corporate image & relationship quality contributes 16% to the variance explanation of the dependent variable. As a result of a unit increase in corporate image & relationship quality strongly increases customer retention by .163 other things being constant. The result is matched with the study carried by (Natarij & Rajendran, Igbudu et al., 2018).

H6: Corporate image & relationship quality have a positive effect on customer retention.

CHAPTER FIVE: SUMMARY OF FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

The final part of this research paper provides a summary of the findings of the study, conclusions, and recommendations for the effect of mobile banking on customer retention. The chapter is structured as follows: Summary, conclusion, recommendations, and suggestions for further research.

5.1. Summary of Findings

The following are the major summaries obtained based on the results and discussions made in the previous chapter:

- This study aimed to examine the effect of mobile banking on customer retention, finding that a combination of six dimensions best represents the measurement of mobile banking within private commercial banks.
- The study was conducted using a questionnaire distributed to 352 sample respondents randomly selected from branches of the private commercial banks. The collected primary data were analyzed using descriptive and inferential statistics. As depicted in descriptive statistics, corporate image & relationship quality was the highest mean score of 3.75 and followed by information technology & security/privacy (Mean = 3.67), customer awareness level (Mean = 3.62), service quality & delivery (Mean = 3.51), customer satisfaction (Mean=3.36), switching cost (Mean=2.97) and customer retention (Mean = 3.54).
- The correlation result shows that there is a positive and significant relationship between customer satisfaction, service quality & delivery, customer awareness level, information technology & security/privacy, switching cost, corporate image & relationship quality, and customer retention. The finding also indicates that the highest relationship was found between customer satisfaction and customer retention, while the lowest relationship was found between information technology & security/privacy and customer retention.

Furthermore, the multiple regression results showed that the independent variable has a positive and significant effect on customer retention. The R square value of 0.75, demonstrates that 75% of the variation in customer retention can be accounted for by the six independent variables. The coefficient results show that corporate image & relationship ($\beta= 0.163$), information technology & security/privacy ($\beta= 0.025$), customer awareness level ($\beta=0.163$), customer satisfaction ($\beta=0.437$), switching cost ($\beta=0.215$) and service quality & delivery ($\beta=0.140$) have a positive and statistically significant effect on customer retention.

5.2. Conclusions

Customer retention is the major factor contributing to the success of service sector. Mobile banking has recently become a major factor to retain customers. For this reason, a service sector especially banks depends gives focus to their customers and rate of retention. For this reason the study was intended to investigate the effect of mobile banking on customer retention from private commercial banks using a structured questionnaire. By undertaking a detailed analysis of the situation, the following findings were obtained. Majority of the respondents indicated that:

- Descriptive analysis revealed that the majority of current mobile banking customers are females between 18-30 masters and above educational level of 1-4 years of experience of using the service. Based on the analysis female and younger generations are ready to use new and existed mobile banking services offered by their banks.
- The study found that customer retention is positively affected by all variables. Among all customer satisfaction, service quality & delivery, customer awareness level has the highest effect and the other three variables (switching cost, corporate image & relationship quality, and information technology & security/privacy) have the least effect on customer retention in mobile banking service. This implies that the bank should work on all the variables to increase the rate of customer retention.
- The adjusted R-square values for the regression model was 0.757 This indicates that the weighted combination of the independent variables explain approximately 75.7% of the

variation in the level of customer retention and the remaining 24.3% is by extraneous uncontrollable variables which is not included in the model.

5.3. Recommendations

Based on the information which is described above, the researcher attempted to recommend the following possible solutions.

- According to the result of the study customer satisfaction of mobile banking has the strongest predictor of customer retention among the independent variables of the study. Thus, this study recommends that bank management to take major activities for customer satisfaction. They should also develop a strategy to deliver proactive services by adding new features on mobile banking service to deliver superior & unique customer experience.
- Based on the result of the study service quality & delivery of mobile banking has a significant influence on customer retention. Thus, this study recommends that bank management may take a major review of their daily banking activities by tracking and addressing individual customer feedbacks that needs improvement actions to deliver quality customer service consistently across their service outlets.
- The findings of the study indicate that the customer awareness level of mobile banking is one of the major influences on customer retention among the independent variables of the study. Awareness creation programs (campaigns) have to be done on the existence of mobile banking, formal training should be organized by the banks for customers to increase customers' awareness about mobile banking.
- The Bank should implement a comprehensive and adequate set of information and security components of mobile banking that are clear and easy to understand, and protects customer bank details from fraud.
- According to the research finding, switching cost is another factor that influences customer retention. Hence, management of the private banks may exert maximum effort to reduce customers switching by continuously reviewing and building positive switching

barriers through the offering of incentives like a discount for various service charges, intensifying customers on some mobile banking services and other possibilities.

- It is found that corporate image & relationship quality is another factor that influences customer retention. Hence, the banks management has to pay their attention to building reputation & image by promoting the bank services through creating brand positioning in the minds of the customers that makes customers to retain.

5.4. Suggestions for Further Research

In general, the findings of this study offer additional insights into the effect of mobile banking on customer retention. This study included only six factors, there could be some other relevant factors that may be perceived as important by customers, but those were excluded from this study. Secondly, targeting only private commercial banks located in Addis Ababa could not adequately represent the population of private commercial banks in Ethiopia. Therefore, it necessitates conducting further research by incorporating other commercial banks located in another geographical area of the country.

Future researches, Furthermore, can survey the feedback of bank staff and management towards customer retention. Therefore, future researches could expand their analysis by incorporating bank staffs and management in examining the factors affecting customer retention.

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The effect of mobile banking on customer retention: evidence from private commercial banks

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Appendices

Appendix I: Questionnaire

Survey on the Effect of mobile banking on Customer Retention evidence from selected private commercial banks in Ethiopia

Dear sir/madam,

You are invited to take part in research project on “*Effect of Mobile Banking on Customer Retention*” evidence from selected private commercial banks in Ethiopia for the *Partial Fulfillment of Master’s Degree In General MBA*. The research mainly focuses on private commercial bank customers in Addis Ababa.

The objective of the study is to investigate factors that affect customer retention. The survey therefore contains personal information of the respondents and questions relating to customer satisfaction, service quality & delivery, customer awareness level, information technology & security/privacy, switching cost, corporate image & relationship quality of mobile banking and customer retention. The questionnaire will be collected by the one who gave it to you.

Participation in this research is voluntary. Your response will be anonymous. The data from the survey will be used solely for the purpose of academic research and no other purpose.

Thank you very much for your participation. Your views are highly valued and will go a long way in determining the successful completion of this survey.

Yours faithfully,

Hela Kebede

Section I: General information

- 1) Name of your bank _____
- 2) Gender
 Male Female
- 3) Age
 18-30 Years 31-40 Years
 41-50 Years above 50 Years
- 4) Education level
 High school & below Diploma
 Degree Masters & above
- 5) Monthly income
 Up to 10,000 10,001-20,000 above 20,000
- 6) For how long have you been a customer of your bank?
 Less than 1 year 1-4 years
 5-9 Years above 10 years

Section II: Questions related to effect of mobile banking on customer retention

Section A: Customer Satisfaction	Strongly disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly agree (5)
I am satisfied with the overall service quality of mobile banking services given by my bank					
I always get prompt service whenever I use mobile banking and I am satisfied with that.					
The bank completely meets my expectations					
Section B: Service quality & delivery	Strongly disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly agree (5)
Reliability					
Mobile banking service provides me reliable information about my account					
The service offered by the bank is high quality and the speed of the mobile banking is very fast.					
Responsiveness					
I got prompt response if my transaction isn't processed while using mobile banking.					
The bank quickly resolves mobile banking related problems.					
Assurance					
I know exactly when my transaction is performed.					
I feel safe when I use mobile banking provided by my bank.					

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Empathy					
My bank gives individual attention to customer.					
My bank collects feedback to understand the need of the customer.					
My bank delivers equitable & dependable mobile banking service as promised.					
My bank provides mobile banking service to meet my changing needs with clearly stated terms and conditions.					
The level of service quality & delivery determines my frequency of using a specific mobile banking service.					
Section C: Customer awareness level	Strongly disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly agree (5)
I received information on how to use & when additional mobile banking services are included.					
I receive enough information about the benefits of mobile banking & the differences between conventional banking and e-banking.					
I get information from the bank when additional mobile banking services are included.					
Section D: Information technology & Security/privacy	Strongly disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly agree (5)
My bank use up-to-date equipment and technology that allows me to confirm the transaction processes.					
I am willing to use new mobile banking technologies that are clear and easy to understand					

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I feel secured when I use mobile banking service given by my bank.					
I believe my bank keeps my personal information privately & have set of rules which protect my bank details.					
Section E: Switching cost	Strongly disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly agree (5)
Considering everything the cost & effort switching to other bank would be high.					
It is risky to change my current service provider.					
Considering the time dealing with my bank is easier than switching to another competitor.					
Section F: Corporate image & relationship quality	Strongly disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly agree (5)
I feel self-confident about the mobile banking service provided by bank.					
My bank creative in introducing products that benefits its customers in an ethical way.					
My bank provides distinctive service & information to its customers to build a long-term relationship.					
My bank meets the expectation of its customers & solves conflicts in a professional way					
Section G: Customer retention	Strongly disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly agree (5)
I am happy & plan to continue as customer of the bank for					

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the coming years.					
I consider myself to be the loyal customer of my bank.					
I have a positive emotional relation with my bank & I will recommend to others.					

THANK YOU!

Appendix II: Kocheral table of Sample size

Required Sample Size [†]								
Population Size	Confidence = 95%				Confidence = 99%			
	Margin of Error				Margin of Error			
	5.0%	3.5%	2.5%	1.0%	5.0%	3.5%	2.5%	1.0%
10	10	10	10	10	10	10	10	10
20	19	20	20	20	19	20	20	20
30	28	29	29	30	29	29	30	30
50	44	47	48	50	47	48	49	50
75	63	69	72	74	67	71	73	75
100	80	89	94	99	87	93	96	99
150	108	126	137	148	122	135	142	149
200	132	160	177	196	154	174	186	198
250	152	190	215	244	182	211	229	246
300	169	217	251	291	207	246	270	295
400	196	265	318	384	250	309	348	391
500	217	306	377	475	285	365	421	485
600	234	340	432	565	315	416	490	579
700	248	370	481	653	341	462	554	672
800	260	396	526	739	363	503	615	763
1,000	278	440	606	906	399	575	727	943
1,200	291	474	674	1067	427	636	827	1119
1,500	306	515	759	1297	460	712	959	1376
2,000	322	563	869	1655	498	808	1141	1785
2,500	333	597	952	1984	524	879	1288	2173
3,500	346	641	1068	2565	558	977	1510	2890
5,000	357	678	1176	3288	586	1066	1734	3842
7,500	365	710	1275	4211	610	1147	1960	5165
10,000	370	727	1332	4899	622	1193	2098	6239
25,000	378	760	1448	6939	646	1285	2399	9972
50,000	381	772	1491	8056	655	1318	2520	12455
75,000	382	776	1506	8514	658	1330	2563	13583
100,000	383	778	1513	8762	659	1336	2585	14227
250,000	384	782	1527	9248	662	1347	2626	15555
500,000	384	783	1532	9423	663	1350	2640	16055
1,000,000	384	783	1534	9512	663	1352	2647	16317
2,500,000	384	784	1536	9567	663	1353	2651	16478
10,000,000	384	784	1536	9594	663	1354	2653	16560
100,000,000	384	784	1537	9603	663	1354	2654	16584
300,000,000	384	784	1537	9603	663	1354	2654	16586

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