

Factors Affecting the Growth of Agent Banking Operation in Selected Ethiopian Commercial Banks

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School of Graduate Studies

This is to certify that the thesis entitled, “*Factors Affecting the Growth of Agent Banking Operation in Selected Ethiopian Commercial Banks*” was carried out by Mikiyas Fekadu under the supervision of Tilahun Teklu (Ph.D) submitted in partial fulfillment of the requirements for the degree of Master of Business Administration complies with the regulations of the University.

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DECLARATION

I, the undersigned, declare that this research project is my own work and effort and it has not been submitted anywhere for any award. Where other sources of information have been used, they have been duly acknowledged.

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CERTIFICATION

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Contents

Thesis approval	I
Declaration.....	II
Certification	III
List of tables	IV
List of figures.....	V
Dedication.....	VI
Acknowledgement	VII
Acronyms	VIII
Abstract.....	IX
Chapter One :Introduction.....	1
1.1 Background of the study	1
1.2 Problem Statement.....	3
1.3 Research Question	4
1.4 Hypothesis of the Study	4
1.5 Objectives and Aims.....	5
1.5.1 Overall Objective.....	5
1.5.2 Specific Aims	5
1.6 Significance of the Study.....	5
1.7 Delimitation/Scope of the Study.....	6
Chapter Two: Literature Review	7

2.1 Theoretical Literature Review.....	7
2.1.1 Definition of terms.....	7
2.1.2 Meaning and Benefits of Agent Banking.....	10
2.1.3 Global experience on Branchless Banking	11
2.1.4 Agent banking in Ethiopia	15
2.1.5 Regulation on Agent banking: Review of NBE directives and circulars	16
2.1.6 The operational risks of using agents	18
2.1.7 Agent Banking Versus Bank Branches.....	19
2.1.8 Value proposition.....	19
2.1.9 Major challenges in adoption of agent banking	20
2.1.10 Digital Financial Services (DFSs) in Ethiopia.....	21
2.1.11 Financial inclusion in Ethiopia.....	22
2.2 Theoretical Framework.....	23
2.2.1. Diffusion of Innovation Theory	24
2.2.2. Four Elements of Diffusion of Innovation Theory	24
2.2.3. The five Attributes of innovations	26
2.2.4. Rate of adoption	28
2.2.5. Adoption strategies	28
2.2.6. Theoretical framework of the study.....	29
2.3. Conceptual framework of the study	30
2.4 Empirical Literature Review	31

Chapter Three :Research design and methods	33
3.1 Overview	33
3.2 Population of the Study	33
3.3 Sampling Techniques	34
3.4 Sources of Data	34
3.5 Variable specification	35
3.5.1 Explained variable	35
3.5.2 Explanatory Variables	35
3.6 Data Analysis Strategies	35
Chapter Four: Data Presentation, Analysis, and Interpretation	37
4.1 Introduction	37
4.2 Response Rate.....	37
4.3 Reliability Analysis.....	37
4.4 Demographic Information of the Respondents	38
4 .5 Regression Analysis	40
4.6 Testing of Multiple linear regression assumptions	41
4.6.1 Multivariate Normality.....	41
4.6.2 Multicollinearity Assumption testing.....	44
4.6.3 Checking for linearity	45
4.7 Correlation analysis.....	48
4.8 Regression Model summary and hypothesis testing	46
Chapter Five: Summary, Conclusion and Recommendation	53

5.1 Introduction	53
5.2 Summary	53
5.3 Conclusion	55
5.4 Recommendation.....	56
5.5 Indication for Further Research Areas	58
Bibliography	59
Appendix A:	
Questionnaire.....	62

LIST OF TABLES

Table 1- CH- 1: Data from NBE	3
TABLE 2:- CH-2: SUMMARY OF NBE FIS/01/2012 DIRECTIVE	17
TABLE 3 -CH- 3: BANKS WHICH STARTS AGENT BANKING OPERATION	33
TABLE 4 - CH -4: CRONBACH'S ALPHA RESULT.....	38
TABLE 5 – CH-4: DEMOGRAPHIC PROFILE OF RESPONDENTS'	39
TABLE 6- CH- 4: SUMMARY OF VARIABLES	41
TABLE 7- CH-4 :SKEWNESS / KURTOSIS TEST FOR NORMALITY.....	42
TABLE 8- CH-4 :RUNTEST OF RESIDUALS.....	43
TABLE 9: CH-4 :MULTICOLLINEARITY DIAGNOSTIC TEST	44
TABLE 10 -CH-4 :COHEN PEARSON'S COEFFICIENT ASSOCIATION TABLE	47
TABLE 11- CH-4 :STATA PAIRWISE CORRELATION OUTPUT SUMMARY.....	48
TABLE 12- CH-4 :STATA REGRESSION OUTPUT SUMMARY	49

LIST OF FIGURES

FIGURE 1 - CH-2: (ROGERS E. , 2003) VARIABLES DETERMINING THE RATE OF ADOPTION OF INNOVATIONS.....	29
FIGURE 2 : VARIABLES DETERMINING ADOPTION OF INNOVATIONS	30
FIGURE 3- CH-4: HISTOGRAM OF RESIDUALS.....	42
FIGURE 4-CH-4: SERIAL CORRELATION OF RESIDUALS GRAPH.....	43
FIGURE 5- CH-4: GRAPH SHOWING LINEARITY AND OUTLINERS.....	46

DEDICATION

Let this work be dedicated to dearest Mother St. Mary and her son, the Almighty. Secondly, I am dedicating this thesis to for beloved people in my life namely... my Mother first and foremost, to my colleagues and friends who have meant and continue to mean so much to me.

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ACRONYMS

AFI:	Alliance for Financial Inclusion
API:	Application Program Interface
ATL:	Above the Line marketing
BB:	Branchless Banking
BTL:	Below the Line marketing
CGAP:	Consultative Group to Assist the Poor
CBE:	Commercial Bank of Ethiopia
CBO:	Cooperative Bank of Oromia
DB:	Dashen Bank S.C
EFINA:	Enhancing Financial Inclusion Innovation and Access
Findex:	World Bank's Global Financial Inclusion Index
FinTec:	Financial Technology
GAB:	Adoption of Agent Banking
ICT:	Information Communication Technology
LIB:	Lion International Bank of Ethiopia
MFI:	Micro Finance Institutions
MFS :	Mobile Financial Services
MNO:	Mobile Network Operator
MTI:	Mobile Telecom infrastructure
NBE:	National Bank of Ethiopia
NFIS:	National Financial Inclusion Strategy
OIB:	Oromia International Bank S.C
Org_f:	Organizational factors
PCU:	Perceived characteristics of users
Reg_f:	Regulatory frame work
SMFI:	Somali Micro finance Institution
UB:	United Bank S.C
Vp_uaa:	Value proposition to end users/ agents

Abstract

This study is designed to identify factors affecting growth of agent banking operation in selected Ethiopian commercial banks. In understanding the determinants that influence the growth of Agent banking, the study considered agent banking as a banking service developed as a result of technological innovation in the financial sector. Consequently, the study assessed the determinants affecting Agent banking using diffusion of innovation theory with some modification as result of reviewed literatures. The research work limited to commercial banks commenced the agent banking service before June 30, 2018. Thus, the researcher uses purposive non-probability sampling technique to question this dedicated units on the growth of agent banking operation. To this end, the researcher managed to gather data from 60 experts of commercial banks found in head office agent banking units. The study adopted quantitative research design where primary data is collected using a structured questionnaire and secondary data was used from annual reports of the banks and other sources. The research gap of the study was to identified on the review of literature and the researcher also want to fill the limited research gap made related to the subject matter in Ethiopian context. study identified the explained or dependent variable that is growth of agency banking and the independent variables as Mobile telecom infrastructure, Perceived characteristics of adopters, organizational factors ,regulatory framework and Value proposition to end users / agents. The data and the relationship among the dependent and independent variables were analyzed through the help of STATA v13. The study could benefit financial institutions that have commenced the service and those who are on process to start especially in understanding and proactively design or redesign a strategy to effectively expand the service via understanding the association of the influencing factors and adoption of agent banking.

Keywords: Agent banking, growth, Technological Innovations, Determinants' and value proposition

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Chapter One

1.1 Introduction

1.1. Background of the study

There is an increasing need to promote technological and institutional innovation as a means to expand financial system access and usage. This includes addressing infrastructure weaknesses and empowering business enterprises by developing financial literacy and financial capability programs to bring all people on board and all to participate in economic development of a country. To this end, perhaps agent banking offers a solution to slow pace of individual's enterprise development especially from the rural areas. (Fred, 2013).

This solution is offered by banking agent. A banking agent is a retail or postal outlet contracted by a FSP or MNO to process clients' transactions. Banking agents can be pharmacies, supermarkets, convenience stores, lottery outlets, post offices, and many more. Agency banking is changing the banking industry and is having the major effects on banking relationships. Banking is now no longer confined to the branches where one has to approach the branch, to withdraw cash or deposit a cheque or request a statement of accounts (Berege, 2003).

There are two business models exist in agent banking operation. The first one is bank-led model; where a licensed financial institution (typically a bank) delivers financial services through a retail agent. The financial products and services are developed by banks but distributed through retail agents (Lyman, Ivatury and Staschen, 2006). The bank led model composed of three main entities; the bank, the retail agents, and the customer. (Sunguti, 2013).

On the other hand, the second model (non-bank-led model or Telecom- led) is a model where a bank does not come into the picture (except possibly as a safe-keeper of surplus funds) and the non-bank performs all the functions. In this model, therefore, customers neither deal with the bank nor maintain a bank account. Instead customers deal with a non-bank firm, either a mobile network operator or prepaid card issuer and retail agents serve as point of customer contact (Sunguti, 2013).

Coming to our country context, currently there are sixteen private and one state owned commercial banks in Ethiopia. They all are following bank-led model of agent banking operation

since in mobile and agent banking directive article 4 sub articles 4.1 clearly stipulates and permits only financial institutions to conduct agent banking operation.

Agent banking products offered by multiple financial institutions but some gives the service under common brands such as HelloCash and M-BIRR. Hellocash for instance is a common brand provided by Lion International Bank S.C, Cooperative Bank of Oromia S.C, Wegagen bank S.C and Somali Micro finance. They have a revenue sharing agreement with their technology provide named Belcash Technology Solution PLC. On the other hand, M-BIRR have also a revenue sharing modality with six micro-finance institutions here in Ethiopia. They provide user interfaces in multiple languages, offline capabilities, and multilingual customer service centers. Whereas, The largest state-owned bank, the Commercial Bank of Ethiopia (CBE), launched its mobile offering (CBE Birr) in December 2017 with no-fee transactions and short codes to enable merchant payments, all while compensating its agents to incentivize recruitment and performance (Spencer, Mandana, & Faith, 2018).

Looking at the NBE data on agent banking progress report collected by the researcher we can see the following statistics. There are a total of 1,396,033 agent banking users throughout the nation as of June 30,2018. This is quite a small figure to a country of having over 100 million people.

Description	Fiscal Year			
	2014/ 15	2015/16	2016/17	2017/18
Number of Agent	370	2,228	4,627	9,739
Number of Transaction	9,507	52,390	208,011	914,864
Value of Transaction	1,253,705,567.17	2,560,878,269.80	138,894,384.53	339,808,848.01

Table 1: Data from NBE on progress of agent banking (Transactions at agent premises)

As can be seen above in the table the number of agents and number of transactions is growing with an increasing rate while in the contrary the value of transaction is showing fluctuation. Considering even the change in the four years, the value of transaction at agent shows a decline of 73 %.

To this end, E-money represents a promising opportunity if managed properly to provide low-income individuals with more than just safe storage services by providing them access to finance to the millions who lack access to them.

1.2 Problem Statement

Mobile telecom service is increasing among low-income populations; however, with over 1 billion mobile service users worldwide, many people still lack banking services. Banks do not reach out to the poor because of the high operational costs involved. Scholars and industry practitioners have indicated that mobile phones could be an alternative channel for delivering financial services to the less advantaged and unbanked, without requiring a traditional bank with a branch network. (Kanagwa, 2016)

According to Findex Global Survey of 2014, Kenya is leading Sub-Saharan African countries having more than 75% inclusion level that has mainly been supported by the high mobile service penetration and usage for financial transactions. Rwanda, Tanzania and Zambia are in the line, having 42%, 40% and 36% respectively. The average inclusion level of Sub-Saharan Africa (SSA) stood at 34%. Ethiopia is lagging behind its peers and even below the average having only 22% inclusion. ((FIS), 2018).

Some research works made locally also argued that agency banking is not well adopted by Ethiopian banking industry due to lack of suitable legal frameworks, low level of ICT infrastructure, lack of customers trust and awareness towards the technology and customers' fear to use the technologies that hold banking industry to adopt the system. (Afework g., 2015).

Another study conducted by Henok (2015), on "Financial Inclusion through Agency Banking: Challenges and Prospects", he discusses the crucial use of the mobile phone for inclusive finance for countries where most of the population is unbanked or under banked. The study identified the major challenges and opportunities for Agency banking development in Ethiopia. The study revealed that there are no operational challenges that hinder the flourish of m-banking development in Ethiopia. However, lack of timely approval of new products by a regulatory body, lack of interoperability system and lack of aggregators between the service provider and retail agents were the major problems observed in the study.

We can see the research gap in this endeavor from what is known little about the factors affecting the growth of agency banking in Ethiopia. Most of the reviewed studies are more concerned with adoption of agency banking and focus mostly on challenges and prospects. They are concerned with more of the benefit of agency banking and its role for financial inclusion. In contrast this research will go further and analyze agent banking by studying the factors affecting its growth in

depth. The researcher will investigate the factors that hinder the growth of agency banking as well as the enablers in selected commercial banks. If Agent banking can be instrumental in reaching the poor unbanked especially in remote areas of the country the factors that affect the growth of agent banking operation should have to be identified so as the service will boost and reach its ultimate goal.

1.3 Research Question

This study was attempted to identify the relationship that exists between the selected determinant factors with that of the growth of agency banking in Ethiopian commercial banks. Specifically, the study is designed to address the following basic questions.

What are the relationships between the selected explanatory variables and the growth of agent banking in Ethiopian commercial banks?

Which factor/s is/are potentially affecting the growth of agent banking operation?

1.4 Hypothesis of the Study

In light of the above-mentioned research questions, this study hypothesizes the following five hypotheses were used tested for this study:

Hypothesis 1: Mobile-Telecom infrastructure has a significant effect on the growth of Agency banking.

Hypothesis 2: Perceived characteristic of users has a significant effect on the growth of agency banking.

Hypothesis 3: Regulatory frame work has a significant effect on the growth of Agency banking.

Hypothesis 4: Organizational factors has a significant effect on the growth of agency banking

Hypothesis 5: Value proposition to users/ agents has a significant effect on the growth of agency banking.

1.5 Objectives and Aims

1.5.1 Overall Objective

The general objective of the study was to identify factors that affect the growth of agency banking in Ethiopian commercial banks and provide suggestions as to how to tackle or conquer those factors to better perform in the market.

1.5.2 Specific Aims

- *To know the relationship between Mobile-Telecom infrastructure and the growth of agency banking*
- *To distinguish the association of perceived characteristic of users and the growth of agency banking in the study area.*
- *To know the relationship of regulatory frame work and the growth of agency banking in the study area.*
- *To identify the relationship between organizational factors and the growth of Agency banking*
- *To distinguish the relationship between the value proposition of the agency banking product and that of the growth of agency banking.*

1.6 Significance of the Study

More importantly, this research shall be utilized as an input in improving the service for those banks which already starts agent banking operation. And also for those banks which are not yet commenced agent banking operation. In consequence, they can learn from the industry practice and the recommendation of this research output. The regulatory body would also be benefited from the result of this research in getting insights with the determinants that have relationship with the adoption of agent banking service. Furthermore, this research can be used as a gate to further studies on the subject matter for other researchers.

1.7 Delimitation/Scope of the Study

The research tried to identify factors affecting growth of agent banking operation in selected Ethiopian commercial banks. The study made on the data that obtained from all commercial banks that commenced the Agency banking service, before June 30, 2018. The study utilized purposive sampling and selected the Head office of the banks and used census to collect the required information. The research tried to look at the correlation/ association between the dependent /explained and independent /predictor variables identified. Since, the study uses non-probability sampling it could be subject to bias to generalize the output to the general population. Nonetheless, the researcher has taken this in to consideration and purposively selected experts for the study and deployed census to gather the required information.

2. Literature Review

This chapter reviews theoretical literature, empirical literature and indicating the research gap filled

2.1 Theoretical Literature Review

This chapter gives an overview of the factors affecting the growth of agency banking. This literature review has been obtained from the books, journals, NBE directives, e-sources, and from the writings of other academicians.

2.1.1 Definition of terms

“Agent banking” means the conduct of banking business on behalf of a financial institution through an agent using various service delivery channels as permitted under these directives;

“Cash in and cash out services” refers to the deposit and withdrawal of funds including payments by customers to/from their mobile account using a variety of options including bank-branch counters, automatic teller machines and authorized agent locations;

“Mobile banking” means performing banking activities which primarily consists of opening and maintaining mobile/regular accounts and accepting deposits; furthermore, it includes performing fund transfer or cash in and cash out services using mobile devices

The Alliance for Financial Inclusion Digital Financial Service has developed a guideline note to provide universal definitions of key digital financial services terms. Accordingly, for the sake of maintaining consistency in using definitions of basic terminologies of digital financial service, the researcher opts to use the definitions given by Alliance for Financial Inclusion, Guideline Note No. 17 issued on (Alliance for Financial Inclusion, 2016)

Branchless Banking

Banking beyond branches uses agents or other third-party intermediaries as the primary point of contact with customers and relies on technologies such as card-reading point of sale (POS) terminals, automated teller machines (ATMs) and near-field communications (NFC) and mobile phones to transmit transaction details.

Digital Channels

It refers to the internet, mobile phones (both Smartphone's and digital feature phones), ATMs, POS terminals, NFC-enabled devices, chips, electronically enabled cards, biometric devices, tablets, and any other digital system.

Digital Financial Services (DFS)

The broad range of financial services accessed and delivered through digital channels, including payments, credit, savings, remittances, and insurance.

Digital Financial Inclusion

“Digital financial inclusion” can be defined broadly as digital access to and use of formal financial services by excluded and underserved populations. Such services should be suited to customers' needs, and delivered responsibly, at a cost both affordable to customers and sustainable for providers. There are three key components of any such digital financial services: a digital transactional platform, retail agents, and the use by customers and agents of a device – most commonly a mobile phone – to transact via the platform.

Mobile Banking (M-Banking)

The use of a mobile phone to access banking services and execute financial transactions and this covers both transactional services, such as transferring funds, and non-transactional services, such as viewing financial information on a mobile phone.

Mobile Financial Services (MFS)

The use of a mobile phone to access financial services and execute financial transactions and this includes both transactional services, such as transferring funds to make a mobile payment, and non-transactional services, such as viewing financial information. Further Explanation Mobile financial services include mobile banking (M-Banking), mobile payments (m-payments), mobile money, mobile insurance, mobile credit, and mobile savings.

Electronic Money (E-Money)

A type of monetary value electronically stored and generally understood to have the following attributes: (i) issued upon receipt of funds in an amount no lesser in value than the value of the E-Money issued and in the same currency, (ii) stored on an electronic device, whether or not it is SIM enabled (e.g. a chip, pre-paid card, mobile phone, tablet, or any other computer system), (iii) accepted as a means of payment by parties other than the issuer and (iv) convertible into cash.

E-Float

The total outstanding value of E-Money issued by an E-Money issuer.

Agent

Any third party acting on behalf of a bank financial institution or a non-bank institution (including an E-Money issuer or other payment services provider) to deal directly with customers, under contractual agreement)

Balance and Transaction Limit

Limits placed on a financial services account, including E-Money accounts, such as limits on maximum balance, maximum transaction amounts and transaction frequency.

Mobile Network Operator (MNO) / Telco

A company that has a government-issued license to provide telecommunications services through mobile devices.

Financial Inclusion

Financial inclusion is provision of a broad range of high quality financial products, such as savings, insurance, credit, pensions, and payment, which are relevant, appropriate and affordable for the entire adult population, especially those low-income segments. (EFina, 2015)

Mobile Account

Mobile Account means an account maintained by a customer in a financial institution in which his/her mobile number /SIM card registered in a separate mobile banking platform and the transactions' (debits and credits) are effected by virtue of electronic fund transfer and which is used to conduct mobile banking activities (NBE, 2012)

Mobile Banking

Mobile banking means performing banking activities which primarily consists of opening and maintaining mobile/regular accounts and accepting deposits; furthermore, it includes performing fund transfer or cash in and cash out services using mobile devices (NBE, 2012)

Mobile and Agent Banking/ Agent Banking

Mobile and agent banking/Agent banking is a service outlet contracted by financial institution or mobile network operator to process client's transactions rather than a bank teller (Ivatury & Lyman, 2006)

Bank-Based Model

Agency financial services business model (bank-based-model) in which the bank is the primary driver of the product or service, typically taking the lead in marketing, branding, and managing the customer relationship

2.1.2 Meaning and Benefits of Agent Banking

Branchless banking is defined as the delivery of financial services outside conventional bank branches (Alliance for Financial Inclusion, 2016). Banking beyond branches uses agents or other third-party intermediaries as the primary point of contact with customers and relies on technologies such as card-reading point-of-sale (POS) terminals and mobile phones to transmit transaction details. Branchless banking has great potential to extend the distribution of financial services to poor people who are not reached by traditional bank branch networks; it lowers the cost of delivery, including costs both to banks of building and maintaining a delivery channel and to customers of accessing services (e.g., travel or queuing times). In Brazil, customers open bank accounts, make deposits and pay bills at lottery houses and small retail outlets. In the Philippines, urban migrants send money to their families in rural areas using mobile phones. Both of these

cases can be described as branchless banking. Branchless banking entails substantially all of the following elements:

- Use of technology, such as payment cards or mobile phones, to identify customers and record transactions electronically and, in some cases, to allow customers to initiate transactions remotely;
- Use of (exclusive or non-exclusive) third-party outlets, such as post offices and small retailers, that act as agents for financial services providers and that enable customers to perform functions that require their physical presence, such as cash handling and customer due diligence for account opening;
- Offer of at least basic cash deposit and withdrawal in addition to transactional or payment services;
- Backing of a government-recognized, deposit-taking institution, such as a formally licensed bank;

Structuring of the above so that customers can use these banking services on a regular basis (available during normal business hours) and without needing to go to bank branches at all, if that is what they choose (Gautam & Ignacio, 2008).

2.1.3 Global experience on Branchless Banking

The term branchless banking (BB) and mobile financial services (MFS) are often used interchangeably, even though there are important distinctions between the two. In MFS, mobile phones are used as the primary device to access financial services and execute transactions. BB, on the other hand, uses not only mobile phones, but also card reading point-of-sale (PoS) terminals to transmit transaction details. BB relies exclusively on the use of agents as the principal interface with customers. MFS does not specify a point of service, but relies primarily on agents when referring to financial inclusion. (CGAP, 2013)

To precisely explain, branchless banking is defined as the delivery of financial services outside conventional bank branches, often using agents and relying on information and communications technologies to transmit transaction details – typically card-reading point-of-sale (POS) terminals or mobile phones. It has the potential to radically reduce the cost of delivery and increase convenience for customers. Consequently, branchless banking can increase poor people's access to financial services if regulation (i) permits the use of a wide range of agents outside bank

branches, thereby increasing the number of service points, (ii) eases account opening (both on-site and remotely) while maintaining adequate security standards and (iii) permits a range of players to provide payment services and issue e-money (or other similar stored-value instruments), thereby enabling innovation from market actors with motivation to do so.

In countries across the globe, banks are increasingly using agents to provide financial services to customers. In Brazil, for example, banks use approximately 160,000 agents--many with multiple outlets--to provide financial services to all 5,564 Brazilian municipalities. In 2010, bank agents in Brazil handled 3.1 billion transactions (6 percent of all bank transactions), 2.85 billion of which involved the movement of funds. In Pakistan, there are approximately 17,500 bank agents. In the quarter ended September 2011, these agents handled 15.88 million transactions totaling Rs 58,710 million (US\$674 million) with an average transaction amount of Rs 2,700 (US\$42.53). These arrangements, which involve the use of both agents and technology to transmit transactions details, are often referred to as "branchless banking."

The use of bank agents has the potential to significantly increase financial access by poor and underserved populations to a range of formal financial services, including savings, payments and transfers, and insurance. In particular, agents can offer customers a convenient and affordable opportunity to cash-in and cash-out of an electronic payments system. (Kate, Denise, & Michael, 2011).

In March 2007, Kenya's largest mobile network operator, Safaricom (part of the Vodafone Group) launched M-PESA, an innovative payment service for the unbanked. "Pesa" is the Swahili word for cash; the "M" is for mobile. Within the first month Safaricom had registered over 20,000 M-PESA customers, well ahead of the targeted business plan. This rapid take-up is a clear sign that M-PESA fills a gap in the market. The product concept is very simple: an M-PESA customer can use his or her mobile phone to move money quickly, securely, and across great distances, directly to another mobile phone user. The customer does not need to have a bank account, but registers with Safaricom for an M-PESA account. Customers turn cash into e-money at Safaricom dealers, and then follow simple instructions on their phones to make payments through their M-PESA accounts; the system provides money transfers as banks do in the developed world. The account is very secure, PIN-protected, and supported with a 24/7 service provided by Safaricom and Vodafone Group. (Nick & Susie, 2007)

The project faced formidable financial, social, cultural, political, technological, and regulatory hurdles. A public-sector challenge grant helped subsidize the investment risk. To implement, Vodafone had to marry the incredibly divergent cultures of global telecommunications companies, banks, and microfinance institutions –and cope with their massive and often contradictory regulatory requirements. Finally, the project had to quickly train, support, and accommodate the needs of customers who were unbanked, unconnected, often semi-literate, and who faced routine challenges to their physical and financial security. We had no roadmap, but created solutions as we went and persevered when a pilot slated to take several months took almost two years. (Nick & Susie, 2007)

E-money as payments

Both banks and non-banks can issue e-money. In the case of non-bank issuers, however, regulators typically safeguard the cash collected in exchange for electronic value (the “e-float”) by requiring 100 percent to be placed in an account held at a fully prudentially regulated bank. This account is typically a pooled account held in trust (or the equivalent) for the benefit of e-money customers so as to isolate the funds from claims by issuer creditors (in the case of issuer bankruptcy, for example), although other approaches also exist. (Ehrbeck & Michael, 2011)

In developed countries, bank customers have access to several channels, each supporting a range of services. Bank cards offer convenient cash dispensing where ATM deployment is widespread. The Internet offers convenient access to more complex bill paying or remittance services. Checks can be deposited by mail. Telephone banking provides instant access to account balances and recent transaction histories. Customers also can do all of this with a more personal, higher touch service at a branch. The rapid growth in ICT that is being experienced in developing economies, especially in Africa, has triggered new innovations in all sectors, one of which is agency banking.

Agency banking is the process of using an agent to deliver banking products to peripheral customers. According to the Central Bank of Kenya (2010), an agent is an entity that has been contracted by an institution and approved by the Central Bank of Kenya (CBK) to provide the services of the institution (a bank) on behalf of the institution. The types of entities which can act as agents in Kenya are limited liability partnerships, sole proprietorships, partnerships, societies, cooperative societies, state corporations, trusts, public entities and any other entity which the CBK may prescribe. In Kenya, the CBK bars faith-based organizations, not-for-profit organizations, Non-Governmental Organizations (NGOs), educational institutions, and Forex

bureaus from acting as agents. Individuals are also not expressly permitted to be agents but are often approved as informal sole proprietorships. For an agent to be registered, it must have been operating as a business for at least 18 months and not been classified as a deficient, doubtful, or non-performing borrower during the period. The principal institution must assess the moral, business, and professional suitability of an agent before such agent is registered. (Barasa & Mwirigi, 2013)

According to a banker (2011) Agency banking is not new in the world. It has been used very well in Latin America and Asia. There are few African countries that have taken up Agency banking. Agency banking has become an essential practice of financial institution in bringing their services closer to the people at the grass-root. Agency banking provide the opportunity for customers to access financial products and services at a location nearest to the customer, this breaking down certain barriers to financial inclusion such as cost and accessibility.

Latin America

According to Alliance for financial inclusion (2012) they did a study that compared the experiences of four Latin American countries that have implemented agent banking, namely Brazil, Colombia, Peru and Mexico. The study focused on Mexico as the most recent case. The study examined the differences in the agent banking model and the possible impact these differences had on access and usage of financial services. The examples of Brazil, Colombia and Peru demonstrated that agent banking has a significant potential to increase access to financial services to remote areas. Mexico has had a successful first year in implementing agent banking, when compared to its neighbors. The successes recorded in Brazil , Mexico, and Peru is worth a note. Brazil alone has more than 140,000 banking agents, making it the largest deployment of third party banking correspondents in the world.

Nigeria

Nigeria is actively promoting access to financial services to millions of unbanked and under banked throughout the nation. The regulator in Nigeria is developing policies and regulations that are creating access for more people through Micro finance banking, cash lite programs, mobile payment while reducing cost of entry for the unbanked population to gain access in a country of 70 M adult population under a total of addressable market of 140 M. There is no doubt that agency banking is adopted in Nigeria banking sectors (see European Journal 2013) and has proved to have essential role in increasing accessibility to banking services.

Kenya

In Kenya large number of the population is excluded from access to financial services in the financial sector with the situation being worse in rural areas. Most of the individuals in Kenya especially those living in rural or remote areas where infrastructural development is a problem, access to banking services has been a very disturbing problem. In the old times people used to travel for long distance so as to access financial services from banks and this was consuming most of their time and more spending on transport cost. According to Prof Njuguna Ndung'u, Governor of the CBK (2013) the aim of agent banking was to increase the level of formal financial inclusion in unserved and underserved areas. With the introduction of agency banking services in Kenya financial system, convenient and affordable banking services continue to be availed to the large masses without the mortar and brick branches. (Mwende, Dr.Julius, & Jared, October 2015)

2.1.4 Agent banking in Ethiopia

At the end 2017/18 FY, there were seventeen commercial banks operating in Ethiopia, of these sixteen are private commercial banks while the rest is state owned bank. Despite a rapid increase in the number of financial institutions since financial liberalization, the Ethiopian banking sector is still underdeveloped compared to the rest of the world. The Ethiopian banking industry as a whole had a network of 2,323 branches as at September 30, 2014, in which the number of population being served by a single branch was around 37,861.8. Commercial bank branch (per 100,000 adults) ratio in 2012 was 2.94 which is lower than Sub-Saharan Africa, 3.71 (World Bank, 2012). With urban skewed branch network it is hard to ensure efficient flow of financial resources and optimize the contributions of the entire financial system to the development processes.

The mobile banking development in Ethiopia is at its starting stage. Currently m banking practice in Ethiopia can be considered as accessing the core banking sector within the bank. Hence, only a customer of a given bank can access some banking services via his/her mobile phone. Moreover, there are only six commercial banks that have got license to operate mobile and agent banking services as per the Directives No. FIS /01/2012. As of December 2014 there are about 151,425 active number of mobile subscriber customers in these six banks. The mobile banking development in Ethiopia is not full-fledged in terms of exhaustively utilizing all the mobile services one can get.

Currently, of all the types of mobile banking services, most customers of the bank use notification or alarm inquiry Five 1 Micro-Finance Institutions (MFIs) render M-Birr mobile money service in their respective regional states. M-BIRR aims to develop a mobile banking services, allowing people to conduct basic financial transactions from their mobile phone, including sending and receiving money, paying bills, receiving salaries and other government or non-governmental, and repaying loans. (Asfaw, 2015)

The Ethiopian government has legalized a mobile and agent banking regulatory framework to permit the country's banks and microfinance institutions to offer various financial services through the use of mobile devices and agents as delivery channels effective 1 January 2013.

The development represents a significant effort to bring the current financial service accessibility level to a better position in Ethiopia, and is considered an important step that moves Alliance for Financial Inclusion (AFI) institution member National Bank of Ethiopia (NBE) closer toward achieving its Maya Declaration Commitment of strengthening the financial sector with an aim to establish a more accessible, effective and competitive financial system.

The bank originally made its Maya Declaration Commitment in 2011 at the Global Policy Forum (GPF) in Mexico. NBE has collaborated with AFI on knowledge exchange and the development of regulatory framework — specifically mobile and agent banking — in order to broaden access to finance. The bank remains committed to increased financial inclusion throughout the nation, as evidenced by its Growth and Transformation Plan that stipulates the current financial access level in the country was used significantly improved by the conclusion of the planned 2014-2015 period.

2.1.5 Regulation on Agent banking : Review of NBE directive and circular

The National Bank of Ethiopia was established in 1963 by Proclamation 206 of 1963 and began operation in January 1964. Since then the bank monitors and controls the financial sector of the country. Among the different directives FIS/01/2012 is Regulation of Mobile and Agent Banking Services. This directive enters into force as of the 1st day of January 2013. And it stipulates what is to be done and what is not in relation to agent banking activities.

Here below is shortly summarized the main articles in relation to agent banking operation that have a possibility to hinder the growth of agent banking.

No	Article	Content
1	5.1	The maximum balance that should be available in a mobile account of a person with a financial institution at any time shall not exceed Birr 25,000.
2	5.2	Daily mobile banking transaction that involves debiting of an account by a person with a financial institution shall not exceed Birr 6,000.
3	9.3.2 (iii)	The agent, as certified by police certificate from local police station, has no criminal record in matters related to finance, fraud, honesty or integrity and has a good/acceptable reputation;

Table 2: summary of NBE FIS/01/2012 directive table 2 1

Moreover, NBE transferred a circular on august 12, 2014 to all banks with circular number FIS/02/2014 which is depicted below as it is:

“Please be informed that mobile top-up is not financial service and thus financial institutions operating in Ethiopia are not allowed to offer it to their customers.

Meanwhile, limits on mobile banking transaction as per article 5 of directives No. FIS/01/2012 shall only apply to agent baking, and thus individual institutions shall set their own internal limits for mobile, internet and other electronic based transactions as of August 14,2014 “.

Thus, we can understand from this directive that financial institutions are prohibited from providing mobile top-up service.

2.1.6 The operational risks of using agents

As Gautam & Ignacio, (2008) argue there are two thorny problems for bankers and regulators considering branchless banking have been to ensure that customers are not defrauded by agents and that agents have sufficient cash on hand when customers want to make withdrawals. The concern is that customers was mistrusting the financial institution and even lose confidence in the banking sector if they are victims of fraud or if they cannot get money out of the agent. But preliminary unpublished ethnographic research in Kenya on M-Pesa suggests that a customer was doing neither: in several instances, M-Pesa customers continued to use agents for cash withdrawals that earlier had insufficient cash to dispense.

Moreover, they further explain this by anecdotal evidence suggests that customers' trust of Safaricom, the entity ultimately holding customers' funds, is what is leading them to continue using these agents. Although the evidence on how customers respond to cash shortfalls at agents is limited, by and large customers seem to appreciate there is no guarantee of cash availability. Indeed, the agent's key role is less about maintaining large cash balances to meet all eventualities, as much as undertaking trips to the bank on behalf of customers when liquidity runs out. Customers were understood that when cash runs out at an agent, all it requires is a trip by the agent to the bank to get more. And now only one person need make that trip rather than each customer of the bank. The open questions are how many trips to the branch were used required, and were agents being paid enough through commissions to make those trips. Also, how can cash be balanced to reduce the time between these trips in places far away from bank branches. In the end, branchless banking through agents may not be a solution for very remote locations until the predominance of cash is replaced by a predominance of electronic payments and transfers. We are still looking into how much customers save by making branchless banking transactions. But overall, poor and unbanked customers, in particular, have been accustomed to skipping work and traveling hours to open a bank account or make a withdrawal, and receiving altogether abysmal service from many of the formal financial services poor people use. In this context, local banking agents are well-known community members bringing low-cost, hitherto unavailable services to places where no services—utilities, mobile phone coverage, government services—work reliably.

2.1.7 Agent Banking Versus Bank Branches

(Gardner, 2005) contends that agent banking sectors are up to three times cheaper to operate than branches for two reasons. First, agent banking minimizes fixed costs by leveraging existing retail outlets and reducing the need for financial agent banks to invest in their own infrastructure. Although agent banking incurs higher variable costs from commissions to agents and communications, fixed costs per transaction for branches are significantly higher.

This argument is further supported by (Kitaka, 2001) who argues that setting up an agent costs 2 to 4 percent of the cost of a branch cashier. So even when functioning at maximum capacity, a branch cashier incurs more than 77 cents in fixed costs per transaction, compared to just 1 cent for a POS-enabled agent and 4 cents or less for a bank-enabled agent or bank wallet.

Second, acquisition costs are lower for bank-enabled agents and bank wallets. By using banking agents instead of payment cards, bank wallet and bank accounts linked to a bank wallet are able to acquire entrepreneurs at less than 70 percent of the cost of a branch or POS-enabled agent. He further argues that in some countries, bank wallets may benefit from lower-cost Know Your Customer (KYC) requirements, such as the limitation of requirements to provide photographs and photocopies of documents. In many developing countries, banks have expanded their network through trusted local “agents” or “correspondents” to offer their services. The sector has witnessed a rapid adoption in the last ten years. For instance, where as previously many banks focused on traditional banking, agents in a number of countries are now authorized to offer a many of the traditional products offered by banks. Banks have, therefore, moved up the ladder of product range to offer more sophisticated banking products such as bank supported insurance and asset financing products (Mwangi, 2001).

2.1.8 Value proposition

The term ‘ value proposition ‘ is used ubiquitously in business today and its original meaning has been dissipated in to vague sales and marketing notion that are a million miles away from its intended meaning and use. It is often used to mean benefits, offering, unique selling point (USP) or differentiation, and is also generally regarded as the preserve of sales and marketing and not linked to an organization’s strategy .

The value proposition approach to business strategy and operation is, effectively, the necessary re-evaluation and redesign that recognizes clients and their customers in a new and powerfully productive way. It recognizes that business need to generate profits to survive, but that there can be no business and no profit unless the client is recognized as a lead stakeholder with whom you need to form a collaborative goods and services on offer. But, it's different now; such behaviors are absolutely counterproductive. (Cindy, Helen, & David, 2009).

Furthermore, A value proposition can be presented as a business or marketing statement that a company uses to summarize why a consumer should buy a product or use a service. This statement, if worded compellingly, convinces a potential consumer that one particular product or service the company offers will add more value or better solve a problem for them than other similar offerings will. (Twin, 2019).

2.1.9 Major challenges in adoption of agent banking

(Sarita, 2012) identified five major challenges in addressing the issue of financial inclusion through Agency banking.

- **Regulatory Challenge**

As the various innovative financial service delivery channels allows services to be provided from anywhere in the world, there is a danger that banks was try to avoid regulation and supervision. What can regulators do? They can require even banks that provide their services from a remote location through the mobile network/ Internet to be licensed. Licensing would be particularly appropriate where supervision is weak, and cooperation between a virtual bank and the home supervisor is not adequate.

- **Legal Challenge**

Electronic banking carries sensitive legal risks for banks. Banks can potentially expand the geographical scope of their services faster through electronic banking than through traditional banks. In some cases, however, they might not be fully in line with jurisdictions of local laws and regulations to offer services, either with a license or without a license if one is not required.

- **Operational Challenge**

The reliance on new technology to provide services makes security and system availability the central operational risk of electronic banking. Security threats can come from inside or outside

the system, so banking regulators and supervisors must ensure that banks have appropriate practices in place to guarantee the confidentiality of data, as well as the integrity of the system and the data.

- **Reputational Challenge**

Breaches of security and disruptions to the system's availability can damage a bank's reputation. The more a bank relies on electronic delivery channels, the greater the potential for reputational risks.

- **Personal Information**

Electronic banking needs to collect personal information in order to do business, but if they don't follow local information collection laws, then there could be lawsuits and government penalties.

2.1.10 Digital Financial Services (DFSs) in Ethiopia

Digital Financial Services (DFSs) brings efficiency, easy access, affordable products and services facilitate traceability of transactions (to ensure healthy financial transactions of consumers) and hence attract demand for it from both supply and demand side. Innovation is not only about technology. Products and services should also be innovative to fit into the technology ecosystem. There should also be innovative ways of disseminating knowledge and skill of the financial products and services to the actual and potential customers. At present, digital financial services (DFSs) are proved to be the most efficient and effective way of promoting financial inclusion. This is due to the fact that products and services are becoming easily accessible, usable and affordable. As DFSs avoids or minimizes the human intervention, consumers, particularly low income and poor people feel comfortable to transact through digital means and also avoids long distance travel to get the service as it can be supported by mobile phones.

DFS is just emerging in Ethiopia. Banks, MFIs and Insurers have started offering products and services through digital means. Given the scale and potential the country endowed with, particularly in mobile money, DFSs is expected to boom in the near future. Mobile phones, beyond information exchange, can be used for financial transaction purposes. In this respect, the current and future potential for the development of ICT is expected to bring considerable growth and expansion in financial transactions. Banks, MFIs and Insurers, therefore, need to closely work

with MCIT/Ethio telecom to enhance, shift and transform their products and services to DFSs in line with best international practices and trends.

The emergence and use of such alternative digital financial services schemes would allow easy access to products and services and highly contribute to the reduction of cost of financial transactions per unit, in aggregate terms and at the national level. Besides, DFSs support and encourage service providers to offer competitive, quality and affordable financial products and services. Therefore, the use of different and alternative access points to financial services particularly that are supported by DFS would definitely promote financial inclusion.

DFS though it has its own advantage, it is not also free from risk. To minimize the risk (technological, dependency, operational, crime and others) stakeholders should come together and work on it. Operationally, it requires no or least network interruption of telecom services and power outage. To minimize actual and potential risks, to ensure sustainability, efficiency and stability, the oversight of DFSs should and need to be strong and effective. According to Findex Global Survey of 2014, Kenya is leading Sub-Saharan African countries having more than 75% inclusion level that has mainly been supported by the high mobile phone penetration and usage for financial transactions. Rwanda, Tanzania and Zambia are in the line, having 42%, 40% and 36% respectively. The average inclusion level of Sub-Saharan Africa (SSA) stood at 34%. Ethiopia is lagging behind its peers and even below the average having only 22% inclusion.. ((FIS), 2018).

2.1.11 Financial inclusion in Ethiopia

Conceptually, financial inclusion is destined to promoting access and usage of suitable (quality and affordable) financial products and services through addressing barriers and challenges to financial inclusion, particularly pertaining to marginalized (unbanked, underserved, poor people and low income) people and enterprises. As global practice indicates, financial inclusion is achieved through formulating and implementing a national financial inclusion strategy. In this process, engagement of key stakeholders and coordination of their efforts are critical to deal with a number of cross cutting issues that have been causing and contributing to financial exclusion. Financial inclusion in general terms is hoped to unlock the social and economic potentials and also expected to bring relative economic power, primarily to the low income and poor people through promoting investment in micro, small and medium enterprises (MSMEs) and agriculture sector that consequently promotes employment opportunities, rise in income and lead to healthy and responsible financial life. These eventually would help to alleviate poverty, improve living

standard and welfare of the society. Moreover, financial inclusion supports and contributes its part towards achieving sustainable development goals (SDGs). In the case of Ethiopia, 11 out of 17 SDG would be directly supported if financial inclusion strategy is implemented as planned.

There are a number of specific and detail measures that link to the headline targets of the financial inclusion. This can be stipulated as increase in the number of transaction (saving) accounts. There are two ways of measuring the headline target i.e., demand side and supply side. The former is purely based on national survey. According to Central Statistics Agency (CSA) survey of 2016, 22% of adults are reported to have accounts with regulated financial institutions. The National Financial Inclusion Strategy (NFIS) therefore, has targeted to increase the level to 60% by 2020. The supply side measures are carried out using secondary information gathered from financial institutions. The growth in all indicators, particularly in the recent past few years, are showing increasing trend. For example, In June 2017, the number of saving accounts (banks and MFIs) reached 43.8 million from what it was 32.9 million in June 2016. This has resulted in 86 accounts per 100 adults (Adult population as at June 2017 is estimated to be 51 million). ((FIS), 2018).

2.2 Theoretical Framework

There are different frameworks applied in the study of implementing a new financial technological innovation. In understanding factors that influence the adoption of agent banking mainly relies on considering the agency banking as a banking service developed as a result of technological innovation in the financial sector. Thus, the researcher in order to have comprehensive theoretical overview, it is tried to review theories that are believed to better explain the subject matter to be studied. There are a number of theories that are proposed to explain consumers' acceptance of new technologies and their intention to use. These included, but were not restricted to, the Theory of Diffusion of Innovations (DIT) (Rogers, 1995) that started in 1960, the Theory of Task-technology fit (TTF) (Goodhue, and Thompson, 1995), the Theory of Reasonable Action (TRA) (Fishbein and Ajzen, 1975), Theory of Planned Behavior (TPB) (Ajzen, 1975, 1991), Decomposed Theory of Planned Behaviour, (Taylor and Todd, 1995), the Technology Acceptance Model (TAM) (Davis, Bogozzi and Warshaw, 1979), Final version of Technology Acceptance Model (TAM) Venkatesh and Davis (1996), Technology Acceptance Model 2 (TAM2) Venkatesh and Davis (2000), Unified Theory of Acceptance and Use of Technology (UTAUT), Venkatesh, Morris, Davis and Davis (2003) and Technology Acceptance Model 3 (TAM3) Venkatesh and Bala (2007).

Accordingly, among the above mentioned theories, the researcher believed the Diffusion of Innovation Theory suits well with the research topic. Furthermore, many researchers used it in technology related studies to explain the meaning, nature, and challenges associated with it.

2.2.1. Diffusion of Innovation Theory

The process of adopting new innovations has been studied for over 30 years, and one of the most popular adoption models is described by (Rogers E. , 1995). Much research from a broad variety of disciplines has used the model as a framework. (Dooley, 1999) mentioned several of these disciplines as political science, public health, communications, history, economics, technology, and education, and defined Rogers' theory as a widely used theoretical framework in the area of technology diffusion and adoption. Rogers' diffusion of innovations theory is the most appropriate for investigating the adoption and diffusion of technology based services. In fact, much diffusion research involves technological innovations so usually used the word "technology" and "innovation" as synonyms.

Adoption is a decision of "full use of an innovation as the best course of action available" and rejection is a decision "not to adopt an innovation" Rogers defines diffusion as "the process in which an innovation is communicated thorough certain channels over time among the members of a social system". As expressed in this definition, innovation, communication channels, time, and social system are the four key components of the diffusion of innovations (Rogers E. , 2003) as explained here under.

2.2.2. Four Elements of Diffusion of Innovation Theory

- **Innovation**

Rogers offered the following description of an innovation: "An innovation is an idea, practice, or project that is perceived as new by an individual or other unit of adoption" (Rogers E. , 2003). An innovation may have been invented a long time ago, but if individuals perceive it as new, then it may still be an innovation for them. The newness characteristic of an adoption is more related to the three steps (knowledge, persuasion, and decision) of the innovation-decision process. Uncertainty is an important obstacle to the adoption of innovations. An innovation's consequences may create uncertainty: "Consequences are the changes that occur in an individual or a social system as a result of the adoption or rejection of an innovation" (Rogers E. , 2003). To reduce the uncertainty of adopting the innovation, individuals should be informed about its advantages and disadvantages to make them aware of all its consequences.

Moreover, Rogers claimed that consequences can be classified as desirable versus undesirable (functional or dysfunctional), direct versus indirect (immediate result or result of the immediate result), and anticipated versus unanticipated (recognized and intended or not).

- **Communication channel**

The second element of the diffusion of innovations process is communication channels. For (Rogers E. , 2003), communication is “a process in which participants create and share information with one another in order to reach a mutual understanding”. This communication occurs through channels between sources. Rogers states that “a source is an individual or an institution that originates a message. A channel is the means by which a message gets from the source to the receiver”. Rogers states that diffusion is a specific kind of communication and includes these communication elements: an innovation, two individuals or other units of adoption, and a communication channel. Mass media and interpersonal communication are two communication channels. While mass media channels include a mass medium such as TV, radio, or newspaper, interpersonal channels consist of a two-way communication between two or more individuals. On the other hand, “diffusion is a very social process that involves interpersonal communication relationships” (Rogers E., 2003). Thus, interpersonal channels are more powerful to create or change strong attitudes held by an individual. In interpersonal channels, the communication may have a characteristic of homophily, that is, “the degree to which two or more individuals who interact are similar in certain attributes, such as beliefs, education, socioeconomic status, and the like,” but the diffusion of innovations requires at least some degree of heterophily, which is “the degree to which two or more individuals who interact are different in certain attributes.” In fact, “one of the most distinctive problems in the diffusion of innovations is that the participants are usually quite heterophilous” (Rogers E. , 2003). Communication channels also can be categorized as localize channels and cosmopolite channels that communicate between an individual of the social system and outside sources. While interpersonal channels can be local or cosmopolite, almost all mass media channels are cosmopolite. Because of these communication channels’ characteristics, mass media channels and cosmopolite channels are more significant at the knowledge stage and localize channels and interpersonal channels are more important at the persuasion stage of the innovation-decision process (Rogers E. , 2003).

- **Time**

According to (Rogers E. 2003), the time aspect is ignored in most behavioral research. He argues that including the time dimension in diffusion research illustrates one of its strengths. The innovation-diffusion process, adopter categorization, and rate of adoptions all include a time dimension.

- **Social System**

The social system is the last element in the diffusion process. (Rogers E. , 2003) defined the social system as “a set of interrelated units engaged in joint problem solving to accomplish a common goal” Since diffusion of innovations takes place in the social system, it is influenced by the social structure of the social system. Structure is “the patterned arrangements of the units in a system. He further claimed that the nature of the social system affects individuals’ innovativeness, which is the main criterion for categorizing adopters.

2.2.3. The five Attributes of innovations

Rogers noted that although there is a lot of diffusion research on the characteristics of the adopter categories, there is a lack of research on the effects of the perceived characteristics of innovations on the rate of adoption. (Rogers E. , 2003) defined the rate of adoption as “the relative speed with which an innovation is adopted by members of a social system” For instance, the number of individuals who adopted the innovation for a period of time can be measured as the rate of adoption of the innovation. The perceived attributes of an innovation are significant predictors of the rate of adoption. Rogers reported that 49-77% of the variance in the rate of adoption of innovations is explained by these five attributes. Attributes of innovations includes five characteristics of innovations, Relative advantage, Compatibility, Complexity, Trialability, and Observability. Each of the attributes is explained here under.

- **Relative advantage**

This is the degree to which an innovation is perceived as better than the idea it supersedes by a particular group of users, measured in terms that matter to those users, like economic advantage, social prestige, convenience, or satisfaction. The greater the perceived relative advantage of an innovation, the more rapid its rate of adoption is likely to be. There are no absolute rules for what constitutes “relative advantage”. It depends on the particular perceptions and needs of the user group. However, for Rogers, relative advantage is the strongest predictor of the rate of adoption of an innovation.

- **Compatibility with existing values and practices**

In some diffusion research, relative advantage and compatibility were viewed as similar, although they are conceptually different. Rogers (2003) stated that “compatibility is the degree to which an innovation is perceived as consistent with the existing values, past experiences, and needs of potential adopters”. A lack of compatibility in IT with individual needs may negatively affect the individual’s IT use (Mckenzie, 2001). In her literature review, (Hoerup, 2001) describes that each innovation influences teachers’ opinions, beliefs, values, and views about teaching. If an innovation is compatible with an individual’s needs, then uncertainty was decrease and the rate of adoption of the innovation was increase. In general, it is the degree to which an innovation is perceived as being consistent with the values, past experiences, and needs of potential adopters. An idea that is incompatible with their values, norms or practices was not be adopted as rapidly as an innovation that is compatible.

- **Simplicity and ease of use /Complexity**

Rogers defined complexity as “the degree to which an innovation is perceived as relatively difficult to understand and use”. As Rogers stated, opposite to the other attributes, complexity is negatively correlated with the rate of adoption. Thus, excessive complexity of an innovation is an important obstacle in its adoption. A technological innovation might confront faculty members with the challenge of changing their teaching methodology to integrate the technological innovation into their instruction (Parisot, 1997) , so it might have different levels of complexity. If hardware and software are user-friendly, then they might be adopted successfully for the delivery of course materials (Martin, 2003). Generally, it describes the degree to which an innovation is perceived as difficult to understand and use. New ideas that are simpler to understand are adopted more rapidly than innovations that require the adopter to develop new skills and understandings.

- **Trialability**

This is the degree to which an innovation can be experimented with on a limited basis. An innovation that is trial able represents less uncertainty to the individual who is considering it. According to him “Trial ability is the degree to which an innovation may be experimented with on a limited basis”. Also, Trial ability is positively correlated with the rate of adoption. The more an innovation is tried, the faster its adoption is. An innovation may be changed or modified by the potential adopter. Increased reinvention may create faster adoption of the

innovation. For the adoption of an innovation, another important factor is the vicarious trial, which is especially helpful for later adopters. However, Rogers stated that earlier adopters see the Trial ability attribute of innovations as more important than later adopters.

- **Observability**

The easier it is for individuals to see the results of an innovation, the more likely they are to adopt it. Visible results lower uncertainty and also stimulate peer discussion of a new idea, as friends and neighbours of an adopter often request information about it. According to Everett Rogers, these five qualities determine between 49 and 77 percent of the variation in the adoption of new products. In summary, (Rogers E. , 1995) argued that innovations offering more relative advantage, compatibility, simplicity, Trialability, and Observability was used adopted faster than other innovations. Rogers does caution, “getting a new idea adopted, even when it has obvious advantages, is difficult”, so the availability of all of these variables of innovations speed up the innovation-diffusion process.

2.2.4. Rate of adoption

The rate of adoption is defined as the relative speed at which participants adopt an innovation. Rate is usually measured by the length of time required for a certain percentage of the members of a social system to adopt an innovation. The rates of adoption for innovations are determined by an individual’s adopter category. In general, individuals who first adopt an innovation require a shorter adoption period (adoption process) when compared to late adopters. Within the adoption curve at some point the innovation reaches critical mass. This is when the number of individual adopters ensures that the innovation is self-sustaining.

2.2.5. Adoption strategies

Rogers outlines several strategies in order to help an innovation reach this stage, including when an innovation adopted by a highly respected individual within a social network and creating an instinctive desire for a specific innovation. Another strategy includes injecting an innovation into a group of individuals who would readily use said technology, as well as providing positive reactions and benefits for early adopters.

2.2.6. THEORETICAL FRAMEWORK OF THE STUDY

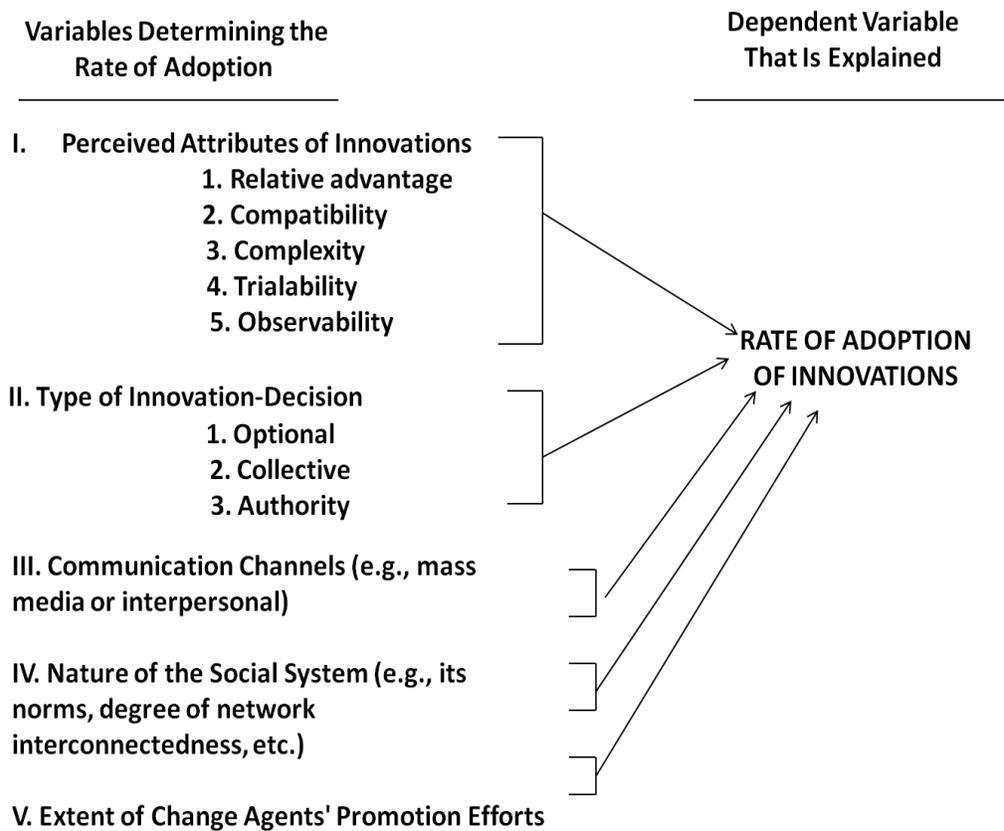


Figure 1 : (Rogers E., 2003) Variables Determining the Rate of Adoption of Innovations

2.3. CONCEPTUAL FRAMEWORK OF THE STUDY

Independent /Explanatory variables

Dependent /Explained variable

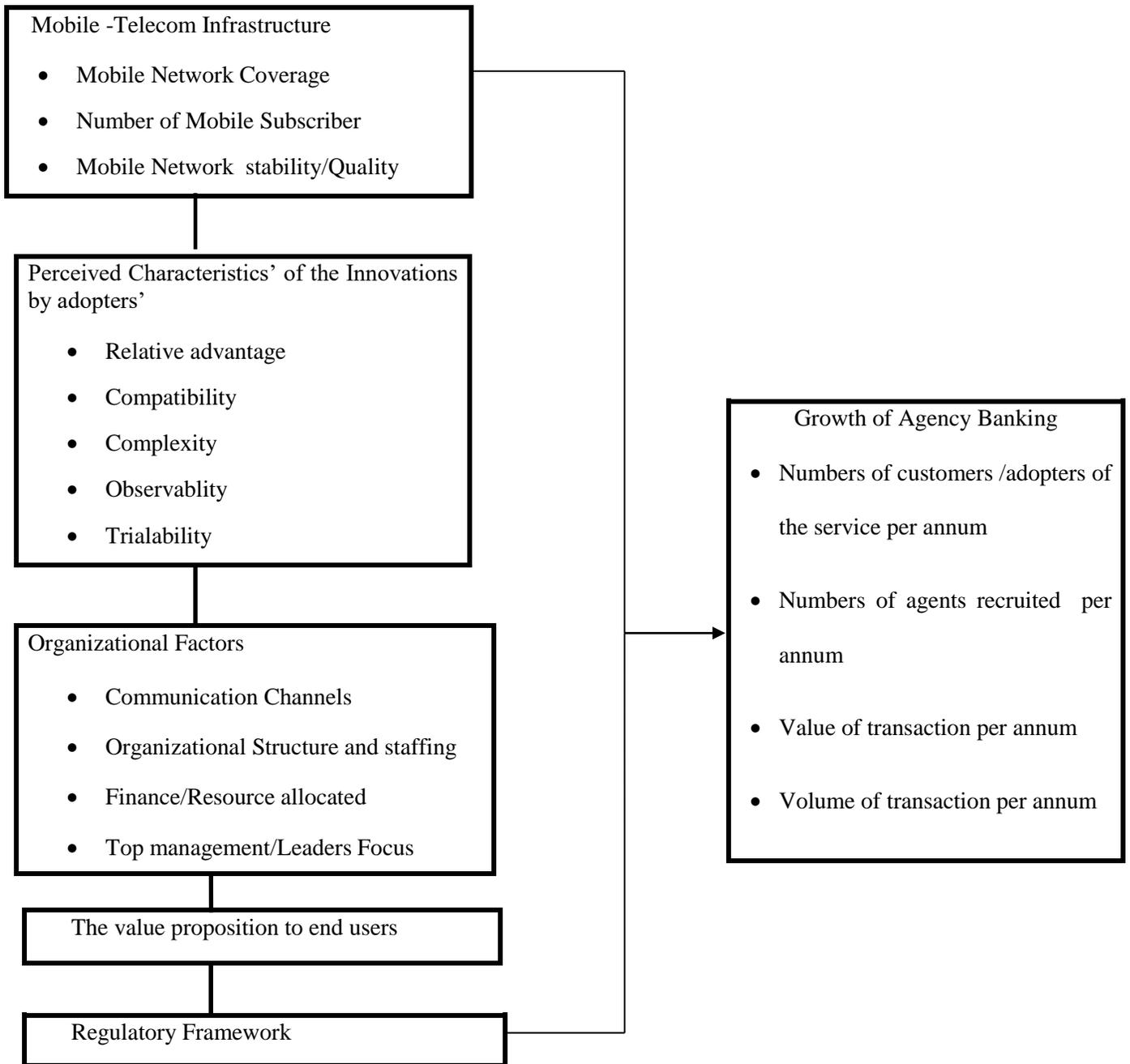


Figure 1 Source: (Rogers E., 2003) Variables Determining Adoption of Innovations with some modification by the Researcher

2.4 Empirical Literature Review

Some related studies were conducted by different researchers in different parts of the world but the researcher could not find sufficient researches on factors affecting the growth of agency banking in Ethiopia. But, a few researches have been conducted on the subject area across the world and in Ethiopia. From which, a research on Research Journal of Finance and Accounting conducted by Henok Araga (Henok, 2015) on Financial Inclusion through Mobile Banking: Challenges and Prospects and the research revealed that from the data obtained via interview Ethiopian mobile banking service did not face as such significant problem in terms of operational challenge. There have not been observed any security problem while delivering m-banking services. With regard to operational risk, none of the commercial banks hitherto have encountered severe operational risk which impedes their operation. Regarding network quality all CBs that launched m-banking service have not faced dysfunctional problem while delivering the service.

However, regarding regulatory challenge it was found out that the regulatory body face challenges on timely approval of new products. Moreover the researcher identifies the Ethiopian banking sector lacks interoperability where the same infrastructure can be used to support multiple payment mechanisms and thereby reap the benefit derived from economies of scale. And regarding management of agent the researcher also there are only two parties involved in agent banking business, viz, financial institutions and retail agents. However, the experience of M-PESA reveals that there is an aggregator between service provider and retail agents, which is often called Super Agent. Instead of dealing with spate of retail agents, financial institutions, the likes of CBs, can deal with few super agents. In addition to the aforementioned once the researcher also identifies other challenges namely poor network quality, low level of financial literacy level and language barriers to execute financial transaction has been identified.

On the other hand on neighboring Kenya a research on International Journal of Academic Research in Business and Social Sciences by (Fred, August 2013) the researcher adopted a census survey design challenges of agent banking experiences in Kenya facing equity agent banking in West Pokot district and found out the following findings according to the research most of the agents are college leavers and those who have completed secondary school education. It was found out that there are no university graduates who have invested in the agency business, this is because individuals with this level of qualifications have found other formal jobs, and hence not self-employed. And in county side areas some agents and customers have fears of banking at the

agent locations. Poor roads and mobile phone networks have also contributed to the fear as there can be no communication between the police and customers in case of a robbery. The researcher also points out other challenges related to network, liquidity of the customer to transact and credibility (trust) affect agency banking operations.

(Musau & Jagongo, 2015) made a study on Analysis of the Utilization of Agency Banking, in Kenyan Commercial Banks established that liquidity availability, agency regulation, agency infrastructure cost and security was a major influence on banks performance. The study also recommended that banks should give more attention to security and find better ways of vetting their agents. Despite much international attention and enthusiasm from many development organizations and private businesses, agency banking does not provide a fit-for-all solution of financial inclusion, (Ivatury & Pickens, 2008). Admittedly, the development of any agency banking sector takes quite long time and preparation as it implies analyzing and taking action regarding the business case of each stakeholder, the customer value proposition, and the local legal and regulatory environment (Sungti J, 2013).

Chapter Three: Research design and methods

3.1 Overview

The study used quantitative research approach. Quantitative research design is used in situations where there are predetermined instrument based questions, performance data, attitude data, observational data. (Creswell, 2003).

3.2 Population of the Study

The population for this study constituted data of banks that provide agent banking service in Ethiopia. Currently, there is one government and sixteen privately owned commercial banking institutions as of June 30, 2018. Out of these, only nine commercial banks commercially launched the Agent banking service including CBE. Thus, the population of the study was used all the commercial banks commercially launched the Agent banking service before June 30, 2018.

Name of Bank	Start of operation	Number of experts in HQ	Brand of the service
Dashen Bank S.C	2014	8	Amole
United Bank S.C	2015	6	Hibir Agent
Lion International Bank S.C	2015	12	Hellocash
Cooperative Bank of Oromia S.C	2015	4	Hellocash
Oromia International Bank S.C	2017	6	OroAgent
Abay International Bank S.C	2017	8	Abay Bedeje
Commercial Bank Of Ethiopia	2018	15	CBE- BIRR
Awash Bank S.C	2016	4	Awash Agent
Wegagen Bank S.C	2018	7	Hellocash
Total	-	70	

Table 3 Showing banks that start agent banking operation before June 2018 FY and experts in agent HQ

3.3 Sampling Techniques

The study used a type of non-probability sampling called purposive sampling technique for primary data and deployed census to gather the required information of the study. The rationale behind the selection of this sampling technique is its advantages on providing representative samples. A purposive sample, also referred to as a judgmental or expert sample, is a type of non-probability sample. The main objective of a purposive sample is to produce a sample that can be logically assumed to be representative of the population

As per NBE directive, FIS/01/2012 under article 10 sub-article 10.1 says “ Financial institutions shall have a dedicated unit at head office level that is responsible for coordinating mobile and agent banking services and centrally maintaining mobile and agent banking service related information”. To this end, the researcher strongly believes that the head office expert/organ is where proper and relevant information about agent banking can be got.

Besides, the secondary data of the study collected about relevant information of the bank’s performance from annual reports they prepared for national bank, and report prepared by the national bank that presents about their status on nationwide.

3.4 Sources of Data

The study used in both primary data and secondary data in its construction. Primary data was used collected through questionnaire. This method of data collection was used to collect all the required information. To extract as much information as possible, the researcher used secondary data collected from reports of National Bank of Ethiopia and annual reports of the banks.

The questionnaires were structured in close-ended questions by which the respondents were asked to indicate their level of agreement using a five Likert rating scale measurement where: Strongly Agree (SA) = 5; Agree (A) = 4; Neutral (N) =3, Disagree (D) = 2; and Strongly Disagree (SD) = 1; The use of a Likert scale is to make it easier for respondents to answer question in a simple way. The questionnaire has three sections where section one sought about the demographic profile of the participants and that of section two sought about the explanatory variables whereas the last one is about explained variables. In addition, there was an extra space left over for interested respondents to give explicit information.

3.5 Variable specification

3.5.1 Explained variable

The research aimed to examine affecting factors in the growth of agent banking; hence the growth of agency banking is explained or dependent variable.

3.5.2 Explanatory Variables

The very essence of this research was to identify the factors affecting the growth of agent banking operation. Thus, the study used Mobile-Telecom Infrastructure (X_1), Perceived characteristics of users (X_2), Organizational factors (X_3), Regulatory framework (X_4), Value proposition to end user (X_5) as independent variables.

3.6 Data Analysis Strategies

A research design in which more than one predictor variable is used to predict a single outcome variable is analyzed through multiple regressions. Multiple regressions is a statistical technique, based on correlation coefficients among variables, that allows predicting a single outcome variable from more than one predictor variable. The use of multiple regression analysis shows an important advantage for Correlation research designs (Aiken & West, 1991).

Thus, to see the effect of independent variables on dependent variables the study used standard multiple- regression model. In standard multiple regressions, all the independent (or predictor) variables entered into the equation simultaneously. A standardized multiple regression analysis for growth of Agency banking as the dependent variable was used conducted against Mobile-Telecom Infrastructure (X_1), Perceived characteristics of users (X_2), Organizational factors (X_3), Regulatory framework (X_4), Value proposition to end user (X_5) as independent variables to determine whether the independent variables explain the dependent variable (growth of agency banking).

The regression equation assumes the following expression:

$$Y = \beta_0 + \beta_1 MTI + \beta_2 PCU + \beta_3 Org_f + \beta_4 Reg_f + \beta_5 Vp_uaa + \epsilon$$

Where:

Y = Growth of agency banking

β_0 = constant/ the intercept represents the growth of Agency banking influenced by other factors which are not specified as independent variables by the researcher.

MTI: Mobile-Telecom Infrastructure

PCU: Perceived characteristics of users

Org_f: Organizational factors

Reg_f: Regulatory framework

Vp_uaa: Value proposition for agents/end users

$\beta_1, \beta_2, \beta_3, \beta_4$ and β_5 coefficient indicating the various levels of importance

ϵ - Represent the error term

The study used Stata version 13 to conduct the regression analysis and produce some other statistics results.

Chapter Four: Data Presentation, Analysis, and Interpretation

4.1 Introduction

This study was designed to determine the relationship of growth of agent banking and selected determinate factors in selected Ethiopian commercial banks. The results derived from the collected data were presented and analyzed in this chapter. In general, the chapter demonstrated the response rate, a background of respondents and results of the study about the adoption of agency banking as per the stated objectives.

4.2 Response Rate

The field survey result indicated that from the 70 questionnaires distributed to the study banks and 60 filled and returned.

4.3 Reliability Analysis

To test reliability Cronbach's alpha is among the most common measures. It is most commonly used when multiple Likert questions in a survey/questionnaire used a scale and it helps to determine if the scale is reliable. The reason for conducting a reliability analysis for each variable was to assess the internal consistency and reliability of each item for the scale used in this study. (Hair, Anderson & Tatham, 2010) argue that Cronbach's alpha above 0.7 is considered acceptable, and Cronbach's alpha value above 0.8 has a preferable internal consistency. Cronbach's alpha coefficients in this study can be shown below generated from Stata 13 software.

Test scale = mean(unstandardized items)

Average interitem covariance: 4.707269
 Number of items in the scale: 6
 Scale reliability coefficient: 0.7077

Item	Obs	Sign	item-test	item-rest	average	alpha
			correlation	correlation	interitem correlation	
GAB	60	+	0.8062	0.6788	0.2328	0.6027
MTI	60	+	0.5118	0.2820	0.3463	0.7259
PCU	60	+	0.6125	0.4079	0.3075	0.6894
Org_f	60	+	0.6240	0.4230	0.3030	0.6849
Reg_f	60	+	0.6154	0.4117	0.3063	0.6883
Vp_uua	60	+	0.6867	0.5068	0.2789	0.6591
Test scale					0.2958	0.7159

Therefore, the scale can be considered acceptable with our sample.

Table 4 I: Cronbach's alpha result

4.4 Demographic Information of the Respondents

The respondents of the survey questionnaire have different personal information. The demographic profile of respondents participated in the study are shown in the table below.

	Frequency	Percent
Male	42	70.0
Female	18	30.0
Total	60	100.0
	Frequency	Percent
18-30	30	50.0
31-40	24	40.0
41-50	5	8.3
>51	1	1.7
Total	60	100.0
	Frequency	Percent
Diploma holder	1	1.7
First Degree	40	66.7
Masters Degree	19	31.7
Total	60	100.0
	Frequency	Percent
Less than 2 years	12	20.0
2-5 years	23	38.3
5-10 years	18	30.0
Greater than 10 years	6	10.0
5.00	1	1.7
Total	60	100.0

Table 5: Demographic profile of respondents'

From the output shown above, we know that there are 42 males (70 per cent) and 30 females (30 per cent) in the sample, giving a total of 60 respondents. Majority of the respondents' that constitutes 40 or 66.7 % educational preparation is first degree. As can also be seen 50 percent are below 30 years of age. With regard to the respondents work experience 23 out of 60 have 2-5 years of experience that is 38.3 % of the total sample. Thus, it can be said that the sample included peoples that have different educational status running from diploma to master's level,

age level and various years of work experience, which helps to have a balanced mix of respondents.

4 .5 Regression Analysis

Multiple regressions are used to explore the predictive ability of a set of independent variables on one continuous dependent measure. Multiple regressions allow to compare the predictive ability of particular independent variables and to find the best set of variables to predict a dependent variable. Multiple regression allow to study how several independent variables act together to determine the value of a dependent variable. The coefficients in the regression equation quantify the nature of these dependencies. Moreover, it computes the standard errors associated with each of these regression coefficients to quantify the precision with depth which we estimate how the different proposed independent variable. (Stanton & Bryan, 1990). Regression analysis is a conceptually simple method for investigating functional relationships among variables. The relationship is expressed in the form of an equation or a model connecting the response or dependent variable and one or more explanatory or predictor variables. This analysis part focused on a standardized multiple regression models to test the significance of the model and independent variables in explaining the dependent variables. Mobile Telecom Infrastructure, Perceived Characteristics' of Adopters/customers, Organizational Factors and Legal Frame work were taken as independent/Predictor variables while adoption of agent banking as dependent/explained variable in this multiple regression model. For all 95% confidence interval was used as hypothesis test.

Variable	Obs	Mean	Std. Dev.	Min	Max
GAB	60	14.63333	3.799941	4	20
MTI	60	15.36667	3.1994	6	20
PCU	60	33.96667	5.339227	9	42
Org_f	60	31	4.376362	23	40
Reg_f	60	13.01667	3.505403	4	20
Vp_uaa	60	21.83333	3.687665	13	30

Table 6: Summary of variables

4.6 Testing of Multiple linear regression assumptions

4.6.1 Multivariate Normality

These all refer to various aspects of the distribution of scores and the nature of the underlying relationship between the variables; these assumptions can be checked from the residuals scatter plots or other statistical outputs which are generated as part of the multiple regressions procedure and explanatory variables.

Residuals are the differences between the obtained and the predicted dependent variable (DV) scores. The residuals scatter plots or bell shaped histogram allow to check: Normality: the residuals should be normally distributed about the predicted dependent variable scores. Linearity: the residuals should have a straight-line relationship with predicted DV scores; and Homoscedasticity: the variance of the residuals about predicted dependable variable scores should be the same for all predicted scores, (Pallant, 2000). Outliers, Normality, Linearity, Homoscedasticity, and Independence of Residuals assumptions

can be checked by inspecting the residuals scatter plot , testing of serial correlation in residuals and the Normal Probability Plot of the regression standardized residuals that were requested as part of the analysis (Pallant , 2005).

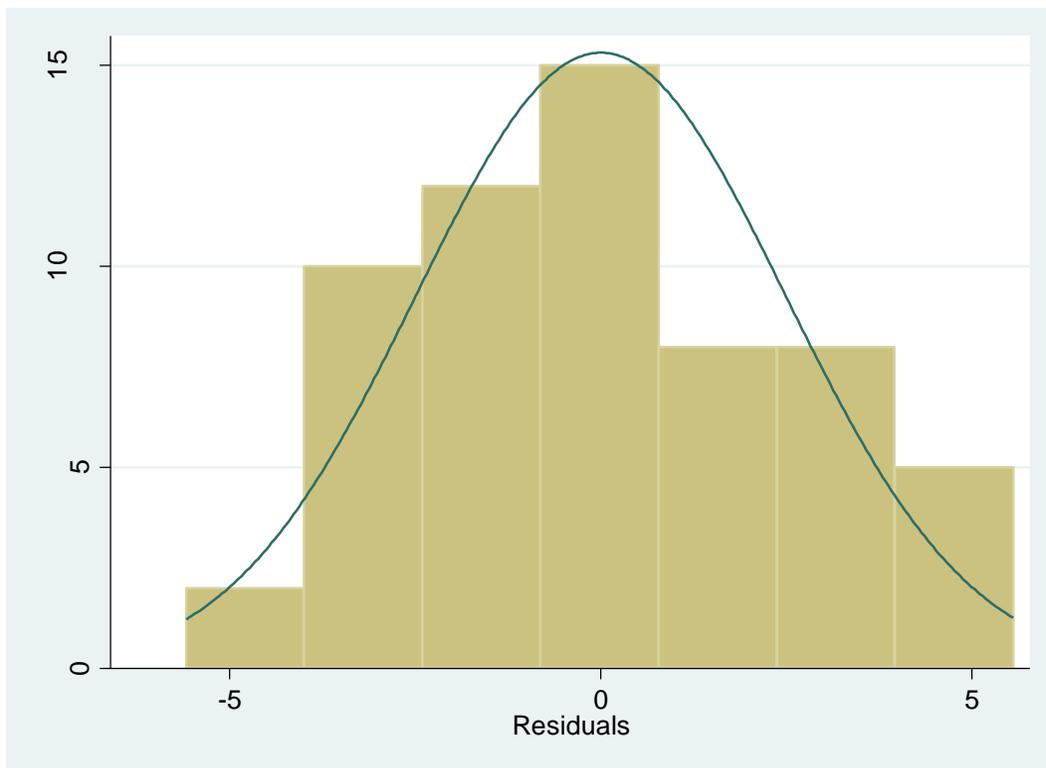


Figure 2: Histogram of Residuals

In the Normal distribution, the Histogram should have a bell shape likewise the above residual.

This can be further be strength by seeing the skewness of residuals.

Skewness/Kurtosis tests for Normality					
Variable	Obs	Pr (Skewness)	Pr (Kurtosis)	joint	
				adj chi2 (2)	Prob>chi2
resid	60	0.4363	0.4254	1.29	0.5252

Table 7: Skewness / Kurtosis test for normality

Here in above skewness and kurtosis table it can be seen that approximately the graph neither skewed to the right nor the left and it's a good indication that residuals are normally distributed. To better digest we can test whether there is serial correlation of residuals in the model or not. For this using STATA and the result is shown in the below figure:

```
. runtest resid
N(resid <= -.1722562238574028) = 30
N(resid > -.1722562238574028) = 30
      obs = 60
      N(runs) = 24
      z = -1.82
      Prob>|z| = .07
```

Table 8.: Runtest of residuals

Here as can be seen in the runtest of residuals the probability is >0.05 which is an indication of non existence of significance relationship among them. And graphically, as can be shown below the lines have an ups and down continuous flow meaning the residuals have a normal distribution. And can be concluded from all the statistical results shown there is no statistically significant evidence of serial correlation of residuals in this model.

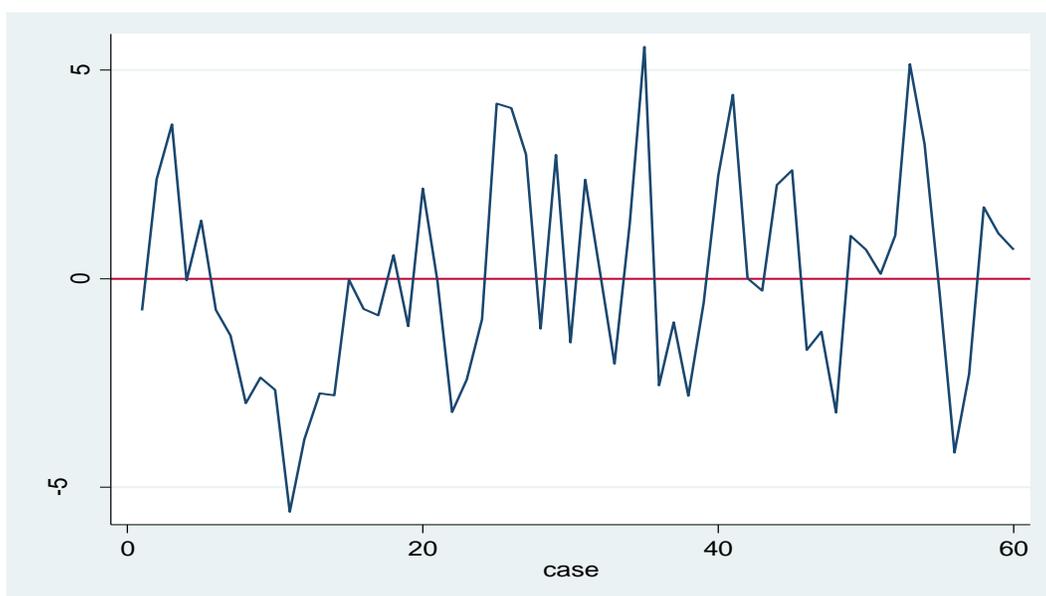


Figure 3: Serial correlation of residuals graph

4.6.2 Multicollinearity Assumption testing

Multiple linear regression assumes that there is no multicollinearity in the data. Multicollinearity occurs when the independent variables are too highly correlated with each other.

```
. collin MTI PCU Org_f Reg_f Vp_uaa
(obs=60)

Collinearity Diagnostics
```

Variable	VIF	SQRT VIF	Tolerance	R- Squared
MTI	1.09	1.05	0.9141	0.0859
PCU	1.17	1.08	0.8517	0.1483
Org_f	1.25	1.12	0.8024	0.1976
Reg_f	1.23	1.11	0.8136	0.1864
Vp_uaa	1.23	1.11	0.8138	0.1862
Mean VIF	1.19			

	Eigenval	Cond Index
1	5.8769	1.0000
2	0.0494	10.9052
3	0.0329	13.3718
4	0.0188	17.6805
5	0.0137	20.7270
6	0.0084	26.4845

```
Condition Number      26.4845
Eigenvalues & Cond Index computed from scaled raw sscp (w/ intercept)
Det(correlation matrix)  0.6075
```

Table 9: Multicollinearity diagnostic test

As it can be seen from the above STATA collinearity test Coefficients the results of two values are given: Tolerance and VIF. Tolerance is an indicator of how much of the variability of the specified independent is not explained by the other independent variables in the model. If this value is very small (less than .10), it indicates that the multiple correlation with other variables is high, suggesting the possibility of multicollinearity.

The other value given is the VIF (Variance inflation factor), which is just the inverse of the Tolerance value (1 divided by Tolerance).

VIF values above 10 would be a concern here, indicating multicollinearity (Tabachnick, & Fidell, 2001). The tolerance value for each independent variable is above .8, which is not less than .10; therefore, multicollinearity assumption is not violated. This is also supported by the VIF value, which is all below 1.12.

This is well below the cut-off of 10. These results are also supported by the Pearson's correlation coefficient of correlation matrix. According to Tabachnick and Fidell (2001), suggest bivariate correlation of 0.7 and above is an indication that variables are highly correlated or it shows existence of multicollinearity among the variables and hence requires considering omitting one of the variables or forming a composite variable from the scores of the two. However, in the result, shows that the correlation between the independent variables is 0.6, which in turn confirms no multicollinearity problem existed among the variables of the study.

4.6.3 Checking for linearity

When we do multiple linear regressions, we assume that the relationship between the response variable and the predictors is linear. This is the assumption of linearity. We see from the below figure generated from STATA using graph command that the relation between response variable and the predictors is not too far off from being linear in all cases.

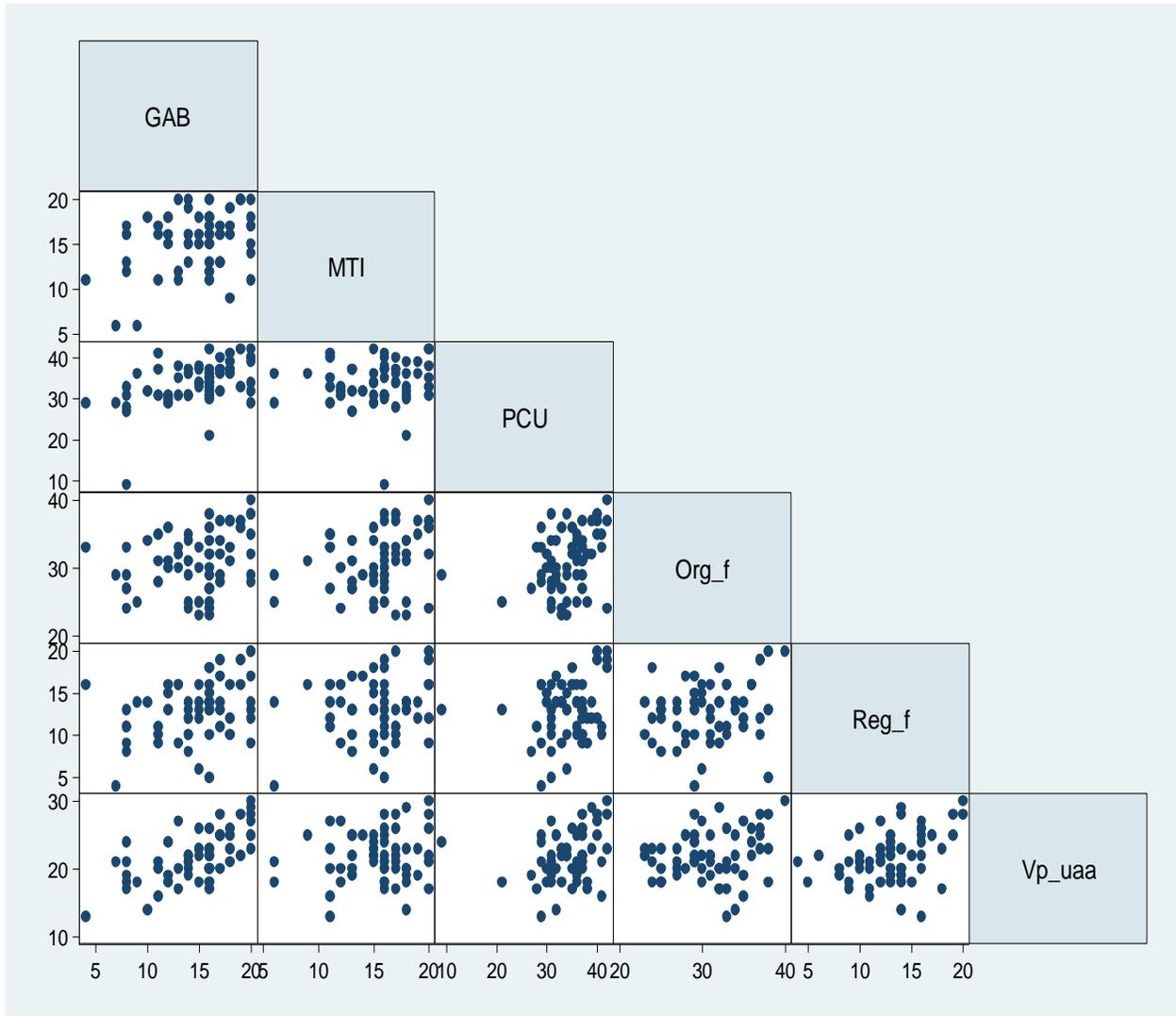


Figure 4: Graph showing linearity and outliers

4.7 Correlation Analysis

Correlation analysis is used to describe the strength and direction of the linear relationship between two variables. This gives an indication of both the direction (positive or negative) and the strength of the relationship. For this the researcher uses Pearson correlation or Pearson's correlation. It is a measure of the strength and direction of association that exists between two continuous variables. The Pearson correlation generates a coefficient called the Pearson correlation coefficient, denoted as r .

A Pearson's correlation attempts to draw a line of best fit through the data of two variables, and the Pearson correlation coefficient, r , indicates how far away all these data points are to this line of best fit (i.e., how well the data points fit this new model/line of best fit). Its value can range from -1 for a perfect negative linear relationship to +1 for a perfect positive linear relationship. A value of 0 (zero) indicates no relationship between two variables.

A negative coefficient indicated a negative relationship between the variables correlated; in which case an increase in one variable would result into a decrease in the other variable and vice versa. A positive coefficient on the other hand indicates a positive relationship in the variables; meaning that changes in the variables move together. An increase in one variable would therefore result into an increase in the other variable and vice versa. In view of this, pair wise correlation analysis was performed and the result along with its interpretation is presented here under.

The magnitude of the Pearson correlation coefficient determines the strength of the correlation. Although there are no hard-and-fast rules for assigning strength of association to particular values, some general guidelines are provided by Cohen (1988):

Coefficient Value	Strength of Association
$0.1 < r < .3$	small correlation
$0.3 < r < .5$	medium/moderate correlation
$ r > .5$	large/strong correlation

Where $|r|$ means the absolute value of r (e.g., $|r| > .5$ means $r > .5$ and $r < -.5$).

Table 10: Cohen Pearson's coefficient association table

As per the correlation table below the correlation coefficients value that explains the relationship between growth of agent banking with Organizational Factors, Perceived Characteristic of Adopters/Customers, Mobile Telecom Infrastructure, Regulatory Framework and Value proposition to end users/agents is investigated using pair wise Correlation Coefficient.

```
. pwcorr GAB MTI PCU Org_f Reg_f Vp_uaa, sig star(0.5)
```

	GAB	MTI	PCU	Org_f	Reg_f	Vp_uaa
GAB	1.0000					
MTI	0.3403* 0.0078	1.0000				
PCU	0.4797* 0.0001	0.0702 0.5941	1.0000			
Org_f	0.3098* 0.0160	0.2736* 0.0344	0.3141* 0.0145	1.0000		
Reg_f	0.3415* 0.0076	0.1612* 0.2187	0.2264* 0.0819	0.2718* 0.0357	1.0000	
Vp_uaa	0.6378* 0.0000	0.1288* 0.3266	0.2717* 0.0357	0.2374* 0.0678	0.3726* 0.0034	1.0000

Table 11: STATA Pairwise correlation output summary

A Pearson's correlation was run to assess the relationship between growth of agent banking operation and the selected explanatory variables discussed above. There was a moderate positive correlation between the four variables namely Mobile telecom infrastructure, perceived characteristics of users, organizational factors & regulatory framework at $r(58) = .34, 0.479, 0.309, 0.341$ with $p < .05$

4.8 Regression Model summary and Hypothesis Testing

The regression model summary tells us about how much variance of dependent variable is explained by the predictors' variables that are included in the model (Pallant, 2005).

```
. regress GAB MTI PCU Org_f Reg_f Vp_uaa
```

Source	SS	df	MS			
Model	487.073421	5	97.4146841	Number of obs =	60	
Residual	364.859913	54	6.75666505	F(5, 54) =	14.42	
Total	851.933333	59	14.439548	Prob > F =	0.0000	
				R-squared =	0.5717	
				Adj R-squared =	0.5321	
				Root MSE =	2.5994	

GAB	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
MTI	.28858	.1106298	2.61	0.012	.0667806	.5103793
PCU	.2221686	.0686794	3.23	0.002	.0844747	.3598624
Org_f	.0130145	.0863213	0.15	0.881	-.1600493	.1860783
Reg_f	.0434379	.1070274	0.41	0.686	-.171139	.2580149
Vp_uaa	.5185391	.101727	5.10	0.000	.3145887	.7224896
_cons	-9.637808	3.216778	-3.00	0.004	-16.08706	-3.188557

Table 12: STATA regression output summary

As clearly shown on the above table, P value for F test is 0, that is the null hypotheses of R^2 of all variable together is zero can be rejected with our alternative hypotheses since its less than 0.05. It's an indication of that it's a good model to work with. On the other hand the value of Adjusted R Square is 0.53 or 53%. This value describes 53% variation on the dependent/explained variable (Growth of agent banking) is due to the independent /explanatory variables (Mobile Telecom Infrastructure, Perceived Characteristic of Adopters/Customers, Organizational Factors, Regulatory Framework, & value proposition to end users / agents) that are included in the models.

On the other hand, the remaining 47% (unexplained variation) is due to the variables that are not included in the model and hence it is error term. Yet, from the magnitude of the coefficients it can be seen that there is a positive relationship among all explanatory variables and growth of agent banking. Looking at P values organizational factors and regulatory frameworks are not statistically significant at 95% confidence level. Taking for instance value

proposition a one percent variation on this variable will result in 51 % variation in the dependent variable which is the highest of all the rest explanatory variables.

The lowest variation results from regulatory frame work and organizational factors having 4.3 % and 1.3 % effect on the growth of agent banking when they vary in on percent. In the contrary mobile telecom infrastructure and perceived characteristics of users change in one percent will cause approximately 29 % and 22 % variation respectively in the growth of agent banking operation.

The hypothesis test is conducted based on the above regression output of significance level of P of each explanatory variable as follows:

H_0 : Mobile-Telecom infrastructure has no significant effect on the Growth of Agent banking.

H_A : Mobile Telecom Infrastructure has significant effect on Growth of agent banking.

Seeing from the above regression output of P value of MTI ($0.012 < 0.05$). Thus, this is an enough statistical evidence to conclude that mobile telecom infrastructure has an effect in the growth of agent banking operation. Inconsequence, we reject the null hypothesis.

It implies that, when the mobile telecom infrastructure has got increased in terms of mobile network accessibility, network quality and number of subscribers' boosts, the rate of adoption of agent banking also increases and vice versa.

H_0 : Perceived characteristic of adopters'/users has no significant effect on the growth of Agent banking.

H_A : Perceived characteristic of adopters'/users has significant effect on the Growth of Agent banking.

Likewise the above hypothesis tests P value of PCU (0.002) is < 0.05 . Hence, we can reject the null hypothesis with the founded enough statistical evidence and conclude that PCU has an effect on the growth of agent banking. Seeing from the magnitude of this independent variable also that when PCU changes in by 1 % it will create a variation in 22 % of growth of agent banking that is actually moving on the same direction.

In the theoretical framework used for this research which is discussed in chapter two also says “ the degree to which an innovation is perceived as easy, the faster the rate of its adoption and vice versa “.Rogers (2003) The result supports the argument by that the perceived attributes of an innovation are significant predictors of the rate of adoption.

H₀: An organizational factor has no significant effect on the Growth of Agent banking.

H_A: An organizational factor has significant effect on the Growth of Agent banking

Here we can see that the P value for organizational factors (0.881) is > 0.05. Meaning we cannot reject the null hypothesis saying an organizational factors has no significant effect on the growth of agent banking operation. One thing we have to stress here is that the hypothesis test is based on significant effect, this explanatory variable has an effect on the growth of agent banking and it has shown in the correlation test also that there is indeed medium/ moderate correlation among them. But, the regression summary shows that there the effect is not significant.

Iacovou, (1995) and Grover (1993) also argued that organizations influenced by a number of factors, like firm size, top management support and financial and human resources in their preference to adopt technological innovation. But the effect of this to the growth of agent banking operation is not significant.

H₀: Regulatory frame work has no significant effect on the Growth of Agent banking.

H_A: Regulatory frame work has significant effect on the Growth of Agent banking.

As can be seen from the regression summary table of P value of Reg_f is > 0.05. This is enough statistical evidence not to reject the null hypothesis and therefore we can say regulatory frame work has no significant effect on the growth of agent banking operation. Nonetheless, likewise organizational factor variable this also has a medium/ moderate correlation with the growth of agent banking operation but the relationship is no significant as we concluded above.

H_0 : Value proposition to end users/agents has no significant effect on the Growth of Agent banking.

H_A : Value proposition to end users/agents has significant effect on the Growth of Agent banking.

The P value of Vp_uaa (0.00) is less than 0.05 which is indeed statistically significant. Due to this we reject the null hypothesis saying this independent variable has no effect on the growth of agent banking operation. Moreover, fascinatingly the as can be seen from the correlation table value proposition has the highest correlation with growth of agent banking unlike the others. In addition, based on Cohen (1998) guideline discussed above this is the highest correlation ever seen in this study. One of the research questions of this research was to identify factor which has the highest effect on the growth of agent banking. Seeing from the magnitude of the coefficient a one percent variation in value proposition will result in 51 variations in the growth of agent banking operation on the same direction.

Chapter Five: Summary, Conclusion and Recommendation

5.1 Introduction

This final chapter presents summary of the finding, conclusion from the finding, recommendation and gives suggestion for further research.

5.2 Summary

Technology has significantly changed the landscape for providing financial services. A number of new information and commercial technologies and applications have been explored in the past and mobile and agent banking technology is one of them. In this respect, deploying mobile technology in accessing financial service integrated with agents has created the new face of banking business. The agent banking service would help Banks to leapfrog the need for expensive branch networks to deliver savings and other products to their existing and new customers as well. It immensely helps the banks' in putting a tab over to specific overheads and operating cost. It also increases the banks' competitive advantage and result in opening of better prospects and new avenues for resource mobilization. It is agreeable that the outreach and delivery capabilities of mobile and agent banking enabled bank, is significantly better than the network of physical (brick and mortar) bank branches. Agent banking service is a recent practice in Ethiopian Banking industry, holding great opportunity for banks in extending their services effectively and efficiently.

Currently, the banking service in Ethiopia is more of branch based and its transformation to branchless banking through adoption of agent banking is triggered by the large number of mobile subscriber and vast coverage of the mobile network quality, however it is adversely affected by the poor network quality and frequent interruption. The customers perception about the service ease of use and security aspects' also affecting the rapid adoption of agent banking, although; the effort of banks in creating the right perception in order to boost the rate of adoption by the public via investing sufficient finance for human capacity building and marketing and promotion is found to be minimal. The tight and conservative regulation for mobile and agent banking operation, is also adversely affecting the rate of adoption of agent banking.

5.3 Conclusion

The study was made to identify determinant factors affecting growth of agent banking by commercial banks in Ethiopia. From, the result of the regression analysis conducted, it is concluded that three independent variables out of five (Mobile Telecom Infrastructure, Perceived Characteristic of users & Value proposition to end users/ agents) are statistically significant in predicting/explaining the growth of agency banking.

Besides, based on the correlation analysis result, it is revealed that there is a moderate positive correlation between growth of agent banking and Mobile Telecom Infrastructure and strong positive correlation between Perceived Characteristic of Adopters/Customers and value proposition to end users/ agents. It is also noted that the mobile telecom infrastructure across the country and the increment of the mobile subscriber from time to time positively affected the adoption of the service while poor network quality still adversely affecting the adoption of the agent banking service.

Moreover, one of the fascinating result from this research is that value proposition is highly affects and correlate with the growth of agent banking more than the rest explanatory variables. Value proposition refers to a business or marketing statement that a company uses to summarize why a consumer should buy a product or use a service. This statement convinces a potential consumer that one particular product or service was add more value or better solve a problem than other similar offerings was .

5.4 Recommendation

Following the above conclusion and research outcome the researcher recommends the following measures:

1. Banks should try to add more features in their agent banking sector to create value proposition. There may include but not limited to:
 - 1.1. Third party integration (API): Integration with business organizations including government bureaus so as it will permits banks to develop different user cases. Moreover, they shall focus on custom applications that connect directly with the third-party software so that banks can add features or improve upon business processes which ultimately play an evitable role in creating value proposition.
 - 1.2. Aggressively working to make e-money as a convenient payment option in small businesses like ordinary shops, supermarkets and most importantly in utility payment.
 - 1.3. On the other hand, banks should have to ensure the deployment of agent banking platform/technology to be easy to use and understand by majority of the society, customized in local context and free of security risk. Mobile and agent banking service is at its infant stage in Ethiopia. Thus, Banks' in order to boost the rate of adoption of the service, it is necessary to conduct consistent awareness creating marketing and promotion campaign to persuade the public about the benefits of the service and to encourage the public to use this service.

2. Support from the government :

2.1 The government (Ethio-telecom) should support especially in expanding the telecom and ICT infrastructure in rural and remote parts of the country and improving quality of mobile network is crucial in adopting and expanding the service in all corners of the country.

2.2 The government should be open to private banks and should give them the chance to be part of the digitalization of the finance sector of the country. For instance, utility payment should be commenced by both the government and private banks without any discrimination.

5.5 Indication for Further Research Areas

The research tried to identify factors affecting the growth of agent banking in the selected Ethiopian commercial banks. The research tried to look at the correlation/ association between the dependent /explained and independent /predictor variables identified. Nonetheless, from the goodness of fit of the model of R^2 is .57 meaning the researcher due to different reasons didn't consider 43 % possible variation causes that probably has an effect on the growth of agent banking. Thus, another researcher should / better to consider another possible explanatory variable when conducting similar research. Yet, in a wide scope, a researcher can assess the growth /adoption of agent banking operation by considering agents, end users, and bank staff.

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Appendix A: Questionnaire



COLLEGE OF BUSINESS AND ECONOMICS
MBA PROGRAM

Dear Sir/Madam,

This questionnaire is designed to collect information from head office staff of selected banks for the study I am carrying out on the topic: “**Factors Affecting the Growth of Agent Banking Operation in Selected Ethiopian Commercial Banks**”, which is required for partial fulfillment of MBA program I am attending in Addis Ababa University.

The questionnaire should take approximately **15 minutes** to complete. Your responses are completely anonymous and utilized for academic consumption only.

I would like to value for your precious time, honest and detailed responses in advance.

Please indicate the following by putting **(X)** on the spaces in front of the response options:

Section I: Demographic Information

1. Gender: Male Female
2. Age: 18-30 31-40 41-50 >51
3. Educational level: Diploma holder
First Degree
Masters Degree
Above Masters

4. Total service year within the current organization

Less than 2 years 2-5years 5-10years Greater than 10 years

Section II

SA – Strongly Agree

A - Agree

N- Neutral

D – Disagree

SD – Strongly Disagree

Questionnaires Related with determinants of Growth of Agent Banking. Please indicate by putting (X).

Determinate Factors		SA	A	N	D	SD
Please indicate level of your choice.		5	4	3	2	1
I.	Mobile -Telecom Infrastructure					
1.	Low mobile network access is a challenge for delivering agent banking service in Ethiopia					
2.	The current geographical coverage of mobile network affects the growth of agency banking service					
3	The mobile network quality affects the growth of agency banking					
4	The mobile subscriber numbers affect the growth of agency banking service					
II	Perceived Characteristic of Users					
5	Agent banking service is perceived by customers as having Convenience advantage					
6	Agency Banking services understood by customers as it is secured;					
7	Agent banking service is technologically easy to use					
8	Agent banking service is perceived as relatively easy to understand					
9	Agent banking service is easy for individuals to see its benefits objectively					
10	From the bank perspective it is easy to use Agency Banking to accomplish banking tasks					
11	Customers of your bank fear risk to use Agency Banking					
		SA	A	N	D	SD

12	Lack of confidence with the security aspects considered as barrier for the adoption of Agency Banking					
13	Lack of technological trust is considered as barriers for the adoption of agency banking					
III	Organizational Factors					
14	Existence of a dedicated organizational structure for agent banking affects the growth of agency banking service					
15	Existence of skilled personnel (technical and managerial skill)in digital financial service in an organization particularly in agency banking affects the growth of the service					
16	The growth of agency banking is affected by the depth of marketing and promotional activities conducted by the financial institution					
17	Top management commitment / involvement in the expansion of the service have an influence on the growth of agent banking					
18	Number of branches across geographical distribution affects the growth of agency banking					
19	Using Agency Banking increases costs of the bank to provide banking service					
20	Agency banking requires significant financial investment for(marketing expense to raise awareness about the benefits of the service to the public					
21	Lack of internal technical and managerial skills on how to adopt technologically innovative products affects' adoption of the service					
IV	Regulatory Framework					
22	The National bank of Ethiopia and other government bodies regulation towards agency banking is encouraging for commercial banks to expand the agency banking service					
23	The KYC requirement to register/open new customer account as set by mobile and agent banking directive positively affects on the growth of agency banking					
24	The transaction limit as set by mobile and agent banking directive encourages the use of agency banking					
25	The due diligence requirement to recruit new agent as set by(the mobile and agent banking directive encourages banks to expand their agent distribution					

		SA	A	N	D	SD
V. Value Proposition to Agents & end Users						
26	Agent banking service reduce the cost of banking for end users					
27	Agent banking has more features in adding service (payment, top-up, international remittance etc).					
28	Customers are self-was ing to open agent banking account					
29	The agent gets reasonably fair amount of commission for doing agent banking operation					
30	Your bank agents are optimistic about the agent banking operation					
31	Your bank agent believe that they was stay longer in the business because they are getting attractive compensation					
Part II						
VI. Growth of Agent Banking						
32	The number of adopters /customers increasing annually					
33	The number of agents is getting increase from year to year					
34	The value of the agent banking transaction is consistently increasing					
35	The volume of the agent banking transaction is consistently increasing					

It was used very important if you have any other constructive information that you may like to provide in relation to this research topic. Please specify
