



**SAINT MARY'S UNIVERSITY  
SCHOOL OF GRADUATE STUDIES**

**THE CHALLENGES AND PROSPECTS OF  
MOBILE AND AGENT BANKING IN  
ETHIOPIA**

**BY  
ELFAGID AREGAHEGNE (SGS/0084/2006)**

June, 2015  
Addis Ababa, Ethiopia

# **THE CHALLENGES AND PROSPECTS OF MOBILE AND AGENT BANKING IN ETHIOPIA**

BY  
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**A THESIS SUBMITTED TO ST. MARY'S  
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June, 2015  
Addis Ababa, Ethiopia

**SAINT MARY'S UNIVERSITY  
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June, 2015  
Addis Ababa, Ethiopia

## DECLARATION

I, the undersigned, declare that this thesis is my original work, prepared under the guidance of Abebaw Kassie (PhD, Assistant. Prof.) All sources of materials used for the thesis have been duly acknowledged. I further confirm that the thesis has not been submitted either in part or in full to any other higher learning institution for the purpose of earning any degree.

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Name

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Signature

**St. Mary's University, Addis Ababa June , 2015**

## **ENDORSEMENT**

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

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Advisor

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Signature

**St. Mary's University, Addis Ababa, June 2015**

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**Thank you, all!**

## **DEDICATION**

I dedicate my dissertation work to my beloved wife and little shining star Prince (Lolo) who are the alpha and omega for my reason of living. Had it not been for your understanding and support, this achievement would have never and ever happened.

## **ACRONYMS**

ATM	Automated Teller Machine
APR	Annual Progress Report
CBE	Commercial Bank of Ethiopia
CGAP	Consultative Group to Assist the Poor
FI	Financial Inclusion
GTP	Growth and Transformation Plan
ICT	Information Communication Technology
MAB	Mobile and Agent Banking
MFI	Micro Finance Institutions
MoFED	Ministry of Finance and Economic Development
M-Pesa	Mobile Money in Swahili
MNO	Mobile Network Operator
NGO	Non-Governmental Organizations
NBE	National Bank of Ethiopia
NGN	Next Generation Network
PEST	Political Economical Social Technological
POS	Point of Sale Terminal
SMS	Single Message System
SLA	Service Level Agreement
SPSS	Statistical Package for Social Studies
STK	SIM Tool Kit
TSP	Technology Service Provider
USSD	Unstructured Supplementary Service Data
WAP	Wireless Access Protocol

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## ABSTRACT

*This research work aims to investigate the prospect and challenges of Mobile and Agent Banking in light of fostering financial inclusion in Ethiopia hoping that the finding of the research will add value to various stakeholders for decision making as well as serving as an impetus for further research work in the field. It is a descriptive research design employing the mixed research approach whereby both qualitative and quantitative type of data was collected to explore the research question. The research work was delimited to relevant institutions having direct role and supporting role to the subject matter. Questionnaires with close and open ended questions were distributed and interviews were conducted with employees of these institutions. Additionally, the researcher tried to review various empirical and theoretical literatures in light of having an in-depth understanding on the subject matter to supplement the research construct. The research found out that Mobile and Agent banking serves as a successful propagator of financial inclusion entailing an immense opportunities towards enhancing accessibility to financial services to the unbanked/under banked of the society and serving as an additional revenue generating mechanism, cost reduction and increasing customer base for financial institutions. The findings of the research revealed that major challenges facing up the successful implementation of Mobile and Agent banking in Ethiopia were the infrastructural problem associated with ICT and road network, lack of appropriate agent banking channels and low level of financial literacy in the Country. In order to overcome the challenges and harness the opportunities, looking for an alternative approach is paramount in lieu of the existing Bank-Led model adopted by the National Bank of Ethiopia. Therefore, based on the findings of the research, it was recommended that the Mixed Model serves as a way out for Ethiopia mainly attributed to its fundamental role to alleviate the major challenges.*

***Key words: Mobile and Agent banking, Financial Inclusion, Unbanked, Mixed Model, Bank-LedModel***

# CHAPTER 1

## INTRODUCTION

### 1.1. Background of the Study

Africa's economies are continuing to expand and the outlook is promising, confirming its resilience to internal and external shocks and its role as a growth continent in the global economy. The African financial services sector is responding rapidly to the continent's economic reality. Although the majority of Africans remain locked out of the formal financial system, the growth projections for the sector are promising. Rising income levels are putting financial services within reach of many Africans for the first time (Winterboer, 2014).

The Ethiopian financial sector/policies have evolved through three stylized stages: first, financial repression and fostering state-led industrial and agricultural development through preferential credit (in the socialist regime); second, market-led development through liberalization and deregulation (post 1991); and third, financial inclusion through allowing private banks and MFIs (since second half of 1990s). Proclamation No. 84/1994 that allows the Ethiopian private sector to engage in the banking and insurance businesses and proclamation no. 40/1996 in 1996 that allows the establishment of MFIs mark the beginning of a new era in Ethiopia's financial sector and opened the opportunity for an inclusive financial sector in Ethiopia (Zewdu, 2014).

Currently, the Ethiopian financial sector consists of 3 public banks, 16 private banks, 14 private insurance companies, 1 public insurance company, 31 microfinance institutions and over 8,200 Saving and Credit Cooperatives (SACCOs) in both rural and urban areas. The ownership structure of microfinance institution is mixed, with the big micro finance institutions partially owned by regional states, some by NGO's and some by private owners. The government-owned Commercial Bank of Ethiopia (CBE) is the dominant commercial bank and accounts for 70% of total assets of banks as of May 2013 (IMF 2013:20). The balance, 30%, is accounted by the other 15 banks. Unlike many

government-owned commercial banks, CBE is relatively well run and profitable. Despite these developments, commercial banks are characterized by several problems in relation to access to and cost of finance. IMF staff report for the 2013 (IMF 2013:20-21) stated that ‘only 7.1 million have deposit accounts, i.e., less than 8% of Ethiopians have a bank account. World Bank has also identified bottlenecks for financial inclusion in the country. In its two times surveys, identified that access to finance is a major constraint for formal and informal sectors in the country. (Zewdu, 2014)

The Ethiopian government issued proclamation no. 40/1996 in 1996 that allowed the establishment of MFIs. Since then financial services to the unbanked have become a major area of interest for policy actors. The government takes financial inclusion as a policy objective and has been trying to build inclusive financial systems not only to address the previously excluded ones but also to mainstream financial institutions to reach out to the unbanked.

The above credentials towards financial inclusion reveals the fact that the result achieved so far is quite low despite all the efforts made by the Government. However, cognizant of the actual reality and armed with the understanding that *“The use of technology and innovative financial service delivery channels such as mobile devices and agents have significant contribution in deepening financial service accessibility to the wider section of the population at an affordable price”*(NBE Directive, 2012),the National Bank of Ethiopia (NBE) issued a directive on “Regulation of Mobile and Agent Banking Services”, Directive No.FIS/01/2012 which allows financial institutions to conduct the Mobile and Agent Banking Services.

(Wolela A.) The advent of e-banking in Ethiopia goes back to the late 2001, when the largest state owned, Commercial Bank of Ethiopia (CBE) introduced ATM to deliver service to the local users, CBE has had Visa membership since November 14, 2005. But due to lack of appropriate infrastructure it failed to real the fruit of its membership (Gemechu, 2012). Dashen Bank is a pioneer in implementing full-fledged electronic banking service back in May 2006 by bringing Visa international on board through issuing Visa branded debit cards

to its customers and acquiring international and local cards at its ATMs and Point of Sale Terminals (POS) terminals for cash withdrawal and making payments at merchant locations. As a staff member of the e-Banking Services Department in Dashen Bank since from the inception i.e. May 2006, the researcher witnesses the ups and downs that the Bank has gone through in the provision of electronic banking service particularly in Dashen Bank. Thus, the aforementioned scenarios are good practical exposure showing how challenging to Ethiopian banks to introduce technological based innovative products. Mobile and Agent Banking as part of the technological products will have its own challenges beyond the untapped market opportunities that stakeholder might envisage. Therefore, Mobile and Agent Banking in Ethiopia will inevitably operate in an environment which calls for exploration for its prospects and Challenges toward bringing financial inclusion.

With the underlying theme of witnessing the Mobile and Agent Banking service as a successful propagator for financial inclusion in Ethiopia, this research work under the title “*The Challenges and Prospects of Mobile and Agent Banking in Ethiopia*”, therefore, tried to make an in depth exploration on its potential challenges and prospects in the provision of Mobile and Agent Banking business in Ethiopia.

## **1.2. Statement of the Problem**

As the second highest populous nation in Africa, Ethiopia has the lowest financial inclusion rate (banked population) as compared to Sub-Saharan African Countries and yet having alarmingly increasing mobile penetration rate which can be used as tool for financial inclusion. The total number of bank branches reached 2,323 for an estimated population of 87,000,000 with branch-to-population ratio of 1:37,861.8. Commercial Bank branch (per 100,000 adults) ratio was 2.94 which is lower than Sub-Saharan Africa, 3.71 (*Birritu, February 2015*) and the banked population was less than 8.0%. (*IMF 2013:20-21*). The existing mobile penetration rate for Ethiopia is 38.4.0%(*Ethio-Telecom 5 year business plan, 2014/15-2018/19*) and upon implementing the “Next Generation Network” program, the Government envisaged to increase the penetration rate and reach a total of 45 million mobile phone subscribers by the year 2015. (*The Economist, 2013*)

The absence of formal banking to the population who live under low income category makes them vulnerable to traditional modes of parking their savings in land, buildings, bullions, etc which in turn has its own regressing effect towards capital formation in the Country. Besides, such population is exposed to the informal channels of credit like family, friends and moneylenders as a result of which entrepreneurial spirit of the masses to increase outputs and prosperity in the countryside would be compromised. Last but not least, a considerable amount of money that is meant to the poor does not actually reach to the intended parties as it passes through large system of government bureaucracy and is exposed to money leakage. Mobile and Agent Banking comes up as a remedial solution since it allows the Government to directly make cash transfer to beneficiaries through their mobile wallet accounts which in turn is expected to reduce government's subsidy bill (as it shall save that part of the subsidy that is leaked) and provide relief only to the real beneficiaries. *(Tashima et al, 2011)*

Agent banking represents a significant opportunity to reduce transaction costs such as travel for clients by bringing financial services to hard-to-reach and geographically dispersed areas. This is especially true in Africa where some areas are sparsely populated leaving long distances between the customer and the bank. Moreover, in these areas overall literacy levels are fairly low. Also, banks and other financial institutions often do not have sufficient incentive or capacity to establish formal branches in these areas. Obviously, the set-up of agent banking is less costly and more flexible than for traditional bank branches since it reduces the need to invest in staff and physical infrastructure. *(Barasa et al, 2013)*.

The above profound realities justifies for an efficient and affordable banking system that can reach out to all. Therefore, there must be a push for financial inclusion using alternative banking service such as Mobile and Agent Banking Service. On one hand, there is untapped market for financial institutions taking in to account the volume of unbanked population and the exploding number of mobile subscribers. On the other hand, there are various challenge coming through such as dependency on a single network provider where there is no redundancy in case of network failures; tight government regulation like limited e-float;

unavailability of super-agent concept to reach the last miles and strict due diligence policies by regulators; risks related to technology, fraud and theft; low financial literacy, etc.

Therefore, arming with contemporary studies as a spring board and making an in depth research on the prevailing Ethiopian reality, the researcher tried to suggest ways for decision makers to an approach that can be workable to the Ethiopian environment enabling to overcome the challenges and harness the opportunities entailing to the Service and thereby expedite financial inclusion in Ethiopia. The researcher strongly believes that, Ethiopia, with a country having government monopoly of the Telecom infrastructure and with crime index of 35.07 which is very low as compared to Sub-Saharan countries like South Africa=78.24, Nigeria=76.60 and Kenya=72.61 (*Crime index, 2015*), should not have adopted the Bank-Led model, which the Model is highly characterized by its risk mitigation aspect and having low success record in Africa as compared to the success record of the Telco-Led model in Africa(*Oyebode A.*). Other dimensions that lies somewhere in the middle between the Telco-Led Model and the Bank-Led model might work better to make financial inclusion a reality in Ethiopia within the earliest possible time. This study tried to reveal alternatives that can better facilitate the provision of Mobile and Agent Banking and thereby brings financial inclusion a reality in Ethiopia.

The problem here is: “What are the major challenges and opportunities of Mobile and Agent banking as a way out for financial inclusion?” This study, therefore, tried to investigate the problems towards the adoption of Mobile and Agent banking for financial inclusion in respect of overcoming the government myopia towards the adoption of Mobile and Agent Banking services and harnessing the opportunity so that all the major players in the field become beneficiary from such an emerging market. The fact that the study is relatively new and no research was conducted in the field justified for the reason why the research was conducted.

### **1.3. Basic Research Questions**

The major research questions to be addressed within the domain of the study are:

- i. What are the challenges for the provision of Mobile and Agent Banking service in respect of fostering financial inclusion in Ethiopia?
- ii. What are the opportunities that entails to the Mobile and Agent Banking service for the Government, Financial Institution, Technology Service Providers and the Community at large?

### **1.4. Objective of the Study**

#### **1.4.1. General Objective**

The general objective of the study is to identify the challenges and prospects of Mobile and Agent Banking service for financial inclusion in Ethiopia.

#### **1.4.2. Specific Objectives**

The specific objectives that this research work tries to materialize at the end of the study are:

1. To investigate the various aspect of potential and eminent challenges on infrastructure faced by stakeholders in due course of implementing Mobile and Agent banking business in Ethiopia.
2. To explore the multifaceted prospects of Mobile and Agent Banking to various stakeholders in terms of cost minimization, increasing revenue and poverty reduction.
3. To assess the prospects and challenges in light of the Political, Economic, Social and Technological environments in respect of implementing the Mobile and Agent Banking business in Ethiopia.
4. To investigate the pros and cons of the regulatory framework and adopted model by \towards the provision of Mobile and Agent Banking business in Ethiopia.
5. To examine the different risk implication that impacts the provision Mobile and Agent banking business.

## **1.5. Significance of the Study**

Financial services can be provided profitably and sustainably to segments of the population that are poorer or more remote if we manage to drive financial services beyond banks' traditional "bricks-and-mortar" infrastructure and shifting them to a more scalable, variable-cost channel. (*Ignacio, 2009*)

In light of the above noble notion, the findings of the study will have practical importance through providing significant insight for decision makers at regulatory bodies and financial institution for zealous commitment towards expediting the implementation of branch less banking (Mobile and Agent Banking) through overcoming the challenges ahead. As the study pin points specific prospects and challenges from different perspectives, the study conducted is intended to pave the way for various stakeholders to devise appropriate strategy on alleviating the challenges and harnessing the opportunities entailed to the business. The research also serves as a ground for further studies and the finding of the study will initiate other researchers to perform a better and in-depth study on the area.

## **1.6. Scope and Limitation of the Study**

### **1.6.1. Scope of the Study**

The study was limited in scope subject to the major players in the arena of financial inclusion as well as Mobile and Agent Banking. Hence, from the Government side, the research was limited to NBE, MoFED and Ethio-Telecom; from the Financial Institution perspective, the research was limited to those banks that have already got a license from NBE on Mobile and Agent Banking i.e. DashenBank and United Bank and those Banks that are already on pipe line to get a license from NBE i.e. CBE, Awash Int'l Bank, Nib Int'l Bank and Wegagen Bank at the time when the research was kicked off. Belcash Technologies PLC and Addis Credit and Saving Association were included in the study from Technology Provider and Micro Finance Institutions but Addis Credit and Saving

Association was rejected due to low level of status of the institution on the subject matter of the research under consideration.

Accordingly, the study tried to address various issues across the board. NBE, as a regulatory arm of the Government towards monitoring financial institutions, is responsible behind crafting the regulatory framework on Mobile and Agent Banking business. To this extent, the prevailing legal framework was discussed whether the legal environment is conducive or not to bring about financial inclusion in Ethiopia. MoFED, serving as a main institution behind strategic economic and financial planning of the Ethiopian economy and authoring body behind the Growth and Transformation Plan (GTP), has indispensable role towards advancing such an emerging market for the benefit of the overall economic development of the Country. In this respect, the study tried to find out if there was a missing link within the GTP with respect to financial inclusion taking in to account its role for rural development which is one of the core agenda of the GTP in association with propelling the Country to resilient middle income status. In order to justify mobile and agent banking as a viable model for financial inclusion, availability of stable mobile network connectivity is vital. Thus, issues revolving around Ethio-Telecom like capacity, security and reliability with regard to ensuring consistent mobile network were discussed with responsible Ethio-Telecom staff.

The challenges and prospects of the business to financial institutions within the context of macro-environmental factors i.e. Political, Economical, Social and Technological (PEST) was also discussed within the scope of making financial inclusion a reality in Ethiopia. The other key players in the field are Technology Providers (TSPs) like Belcash Technologies PLC. As the technology is new to Ethiopia, there are no competent indigenous companies which can provide the necessary technological platform to run the business. Outsourcing the technology is one of the solutions for the problem but the financial regulation of the Country prohibits foreigners in investing in banking activities. The impact on absence of a regulation that allows foreigners to directly invest in the Mobile and Agent Banking business and lack of competency of local providers has shadowed on the prospect of the business and in this respect the researcher tried to pin point the challenges facing up TSPs.

The study was delimited to only respondents of selected institutions having expertise knowledge in association with the subject matter under consideration. The generalizability of the research findings is insignificant taking in to account the reasons that the study was delimited to the supply side of the business only with limited population size since the demand side (Agents and Customers) were not part of the study due to the infancy stage that the service is found at present.

### **1.6.2. Limitation of the Study**

The research is a descriptive study that was limited in scope and sample size. Had it been that banks started the Mobile and Agent Banking business earlier and there would have been real agents and registered users in the market, the study would be more comprehensive and inclusive. Due to time limitation, the study didn't encompass the "Development" and "Initiation and Expansion" concept application of Mixed Research Design, the geographical coverage was limited to Addis Ababa and the number of institutions selected for the study was also limited. Thus, the findings of this study may not give a real reflection of the Ethiopian scenario in respect of the provision of Mobile and Agent banking business for financial inclusion. However, given the aforementioned limitations the researcher tried to provide clear picture through making proper analysis of the different variables considered against the prospects and challenges and thereby other researchers may projectile to further studies based on the results found.

### **1.7. Organization of the Study**

The research paper is organized into five chapters. The first chapter deals with introductory part consisting of background of the study, statement of the problem, basic research questions, objective of the study, significance of the study, scope and limitation of the study and organization of the paper.

The second chapter reviews literatures related to the study. In this chapter various theoretical concepts that are related with Mobile and Agent Banking or Branch Less Banking, financial inclusion and other related topics were incorporated. (Samuel J., 2007) "*Your manuscript is*

*both good and original but the part that is good is not original and the part that is original is not good*". So, relevant theoretical and empirical studies to each specific topic were discussed and reviewed to capture emerging themes and compared with those that have been studied previously so as to make the research work "good" and maintain "originality"

Under the third chapter i.e. methods and design of the research; the research design, sampling and sampling techniques, the subjects/participant of the study; sources of the data, data collection tools/instruments employed; the procedures of data collection; and the methods of data analysis used were discussed.

The fourth chapter deals with the result and discussion part, data will be analyzed; the findings will be summarized and interpreted. And finally, the fifth chapter presents summaries of major findings, the conclusions and the possible recommendations.

## CHAPTER 2

### LITERATURE REVIEW

#### 2.1. Introduction

There are a lot of theories and research studies that explain Mobile and Agent Banking and its application towards financial inclusion. Although the literature covers a wide variety of such theories and studies, this review will focus on the basic theoretical reviews behind Mobile and Agent Banking as well as financial inclusion. Accordingly the review provides in depth theoretical insight including but not limited to the following. The definitions on Mobile Banking, Agent Banking and Financial inclusion, Models of Mobile and Agent Banking, Drivers of Mobile and Agent Banking, Challenges of Mobile and Agent Banking, Technology solutions for Mobile and Agent Banking and finally worldwide success stories of Mobile and Agent Banking. The review tries to encompass the various theories embedded in the subject matter to ensure that basic theories associated with the subject matter are well exhausted in respect of addressing the core essence of the subject matter.

#### 2.2. Financial Inclusion Defined

Financial inclusion is the delivery of banking services at an affordable cost to the vast sections of disadvantaged and low income groups. Unrestrained access to public goods and services is the sine qua non of an open and efficient society. As banking services are in the nature of public good, it is essential that availability of banking and payment services to the entire population without discrimination is the prime objective of the public policy. (V. Leeladhar, 2005).

#### 2.3. Mobile Banking and Agent Banking Defined

**Agent banking** is a kind of branch less banking which is significantly cheaper alternative to conventional branch-based banking that allows financial institutions and other commercial players to offer financial services outside traditional bank premises (Hassen, et al, 2011) whereas **Mobile Banking** refers to provision and availability of banking and financial

services with the help of mobile telecommunication devices. The scope of offered services may include facilities to conduct bank and stock market transactions, to administer accounts and to access customized information. In other words, mobile banking offers the possibility to use e-banking services via a mobile phone(*Bećirović, 2011*).

**Mobile and Agent Banking** means the conduct of banking business on behalf of a financial institution through an agent using various service delivery channels; so as to conduct various banking activities which primarily consists of opening and maintaining mobile/regular accounts and accepting deposits; performing fund transfer or cash in and cash out services using mobile devices.(*NBE Directive No.FIS/01/2012*).

#### **2.4. The Scope of Financial Inclusion**

The scope of financial inclusion can be expanded in two ways. One is through state-driven intervention by way of statutory enactments. (for instance the US example, the Community Reinvestment Act and making it a statutory right to have bank account in France). The other is through voluntary effort by the banking community itself for evolving various strategies to bring the large strata of the society within the ambit of the banking sector.

The difficulty in accessibility and the high cost of mainstream financial services act as a barrier to financial inclusion for many in the developing world. The convergence of banking services with mobile technologies means however that users are able to conduct banking services at any place and at any time through mobile banking services (*Tashima and Khumbula, 2011*). Mobile and Agent Banking services offers a potential solution for the millions of people in emerging markets that have access to a cell phone, yet remained excluded from the financial mainstream.

Despite the obvious potential benefits of mobile banking, questions remain about whether the targeted customers will adopt the relatively new technology at a scale sufficient to make it worth offering. Understanding adoption challenges by all stakeholders allows for the

providers of mobile and agent banking financial services to engineer their offerings in order to optimize uptake by consumers.

Policymakers, as well as mobile and agent banking service providers, must understand the needs of the consumer, including factors influencing the intention to use or adopt mobile banking in the low income economic segment. A clear understanding of these factors will enable mobile and agent banking service providers to develop suitable marketing strategies, business models, processes, awareness programs and pilot projects. This understanding will also guide policy makers in crafting policy suitable to encourage financial inclusion. *(Tashima and Khumbula, 2011)*

## **2.5. Models of Mobile and Agent Banking**

There are three widely practiced models to conduct the Mobile and Agent Banking business worldwide. These are: the Bank-Led Model, the Telco-Led (The Mobile Network Operator (MNO)-Led Model) and the Mixed Model.

The Bank-Led Model is the one which Banks are granted vested right to run the Mobile and Agent Banking business by the National Bank. The Regulation of Mobile and Agent Banking Services Directive No.FIS/01/2012 issued by National Bank of Ethiopia (NBE) clearly stated that Ethiopia has adopted the Bank Led Model. Accordingly, only commercial banks are allowed to provide the service in Ethiopia with prudent supervision by the National Bank of Ethiopia.

The other Model is the Telco-Led Model which is implemented by most successful countries in Mobile and Agent Banking business. However, the issue of fund protection is one of the most challenging in the non-bank led model: Non-bank issuers are taking funds from the public, MNOs are not regulated/supervised prudentially and what if the m-banking provider goes bankrupt, to whom claim presented. Unlike the Bank-Led model, the loose established mechanisms to protect users' funds make the risk of the Telco-Led model higher than the Bank-Led Model (Laurent, 2011).

However, completely detaching the Telco-Led Model from implementation in fear of the risk will delay the pace of penetration/implementation of financial inclusion in one country. In this regard, the third Model, the Mixed Approach, may strike the balance between risk and penetration.

For example, Nigeria is adopting the Bank-Led model while Kenya is implementing the Telco-led Model and currently Kenya has over 45,000 agents, (Oxford Policy Management, 2011). Therefore, the pace of addressing to the remote area through bank led model may not be as fast as the way the Telco-Led approach. However, the Bank-Led Model approach is better in managing the business and controlling the risk that may occur following availing the service at large scale to avoid complication of managing the risk.

## **2.6. Drivers of Mobile and Agent Banking**

Mobile and Agent Banking business increased income through commission; **bank agents** are usually awarded commissions whenever they perform transactions on behalf of the bank. Increased customer traffic brings additional benefits to the agent; the increased traffic brought about by customers performing banking activities also translates to more people getting to know your business hence more sales, the question comes at the initial stage there might not be sufficient number of customer who frequently visit the agent premises (*Chiteli, 2013*).

Customers are also one of the drivers of Mobile and Agent Banking business. Most financial institution closes their doors early, but with agents, for as long as the business premise remains open, you can do your transactions, and this gives flexible hours. This has proven to be very convenient especially for people who are busy during the day. The other benefits to customer are financial institution agents have proven to be cost-effective especially to people who live in rural areas that are far away from banks (*Veniard, 2010*).

Financial institutions have recorded an increase in their profits and Agent Banking is one of the main attributes to such huge profits. Banks are finding it cheaper to set up agents as

opposed to opening a branch where they will incur extra costs of staffing, rent, electricity etc. With Agent Banking, the agent incurs almost all the costs. Agent banking has made it possible for bank products and services to penetrate areas that at first seemed impossible. With Agent Banking banks have reached even the smallest of villages. With regards to wide customer base Bank agents are paid commissions when they sign up new customers and this has led to an increase in the number of customers for banks. Banks are finding it effective to increase their customer numbers in this manner as opposed to using sales people (*Lehman, 2010*).

(Wolela A., 2014) When financial institution do not have branches that are close to the customer, the customer is less likely to use and transact with their service. However, the emergence of new delivery models as a way to bank has played a key role to drastically change the economics of banking by the poor. By using retail points as agents, banking providers can offer banking services in a commercially viable way since they are able to reduce fixed costs and encourage entrepreneurs to use the service more often and in the process provide access to additional revenue sources (Kumar et al, 2006).

At the end, we can conclude that mobile banking is an efficient tool, which can be used to facilitate financial transactions, payment transactions as well as crediting transactions. In order to enable a wide use of mobile banking it has to be of easy usage and applicable to all types of mobile phones. And of course, it has to be cheap for all mobile subscribers. In this way, mobile banking can have a large acceptance. However, challenges have to be considered, such as technological acceptance, trust, traditional ways of conducting financial transactions and the massive use of cash in developing countries. Nevertheless, we think that mobile banking is able to enhance economic development by facilitating financial transactions. However, it has to be noted that mobile banking will not replace classic banking, but is only able to fulfill a niche, i.e. offering banking service to groups, who traditionally do not use a bank account. (Kumar et al, 2006).

The agent offers front-line customer service including physical space and operation of the POS device. The agent intermediates bank transactions through its balance sheet,

transforming cash in the-till into money-in-the-bank, and vice versa. This is actually not so different from the normal business of a store: transforming inventory into cash (or receivables) and back (i.e., store stocks goods, which ties up its working capital until the goods are sold). In the agent mechanism described, the store also ties up working capital, but in the form of cash-in the- till and balance-in-its-account rather than in the form of physical inventory. The agent needs to go to the bank from time to time to rebalance its cash in the till versus its money in the bank account. (Lyman, 2006)

The agent absorbs/provides excess liquidity from/to the community of bank customers and deposits that into/withdraws from the bank on their behalf. In effect, the community delegates the bothersome business of going to the bank to the agent. This delegation introduces economic efficiencies. By netting the community's overall net cash position (offsetting withdrawals against deposits), the total amount of cash that needs to be transported to/from the bank is reduced. And by pooling the cash requirements of all customers, the required number of trips to the bank is reduced.(Laurent, 2011)

According to (Berger, 1998), agent banks offer similar services as a real bank. This ranges from cash deposits and withdrawals, disbursement and repayment of loans, payment of salaries, pension, transfer of funds, and issuance of mini-bank statements, among others. Berger further argues that, the agent also facilitates new account opening, credit and debit card application, cheque book request, hence eliminating the need for the financial institutions to have branches all over. This is being replicated across the country, especially in rural areas.

The Government will be highly beneficial through the high rate of financial inclusion so that the government can benefit from effective utilization of resources. It enhances saving and growth in the economy thereby serves as a way out to combat poverty reduction. (*mFino, 2013*) The Kenyan situation remains an important case study in this regard. In Kenya, the Central Bank has already licensed four banks to carry out agent banking business and approved 8,809 agents. Many others are expected to be licensed in due course. This is

expected to deeply boost penetration of low cost banking services in the country.(Barasa, et al, 2013)

The MNO(the Mobile Network Operator) or Network Service Provider will be beneficial from different angles such as enabling the Operator to provide financial services for all subscriber segments (in the case of MNO Model), serves as a means for the creation of new services around its core distribution system, enhances the subscriber retention and serves as a new revenue stream as more and more subscribers join the service provider in need of the specific Mobile and Agent Banking Services.

## **2.7. Challenges of Mobile and Agent Banking**

When building, incentivizing, and managing a network of retail agents, banks must address the operational, legal, infrastructural, social, structural and economic challenges in a way that fosters a positive and consistent customer experience that will create and maintain trust in the system.

Managing the structure, as one of the challenges by financial institutions towards the provision of Mobile and Agent Banking, refers to the approach that financial institutions establish relationship with their agents. The relationship can be direct, indirect or hybrid. A direct relationship with banking agents is one in which a financial institution uses its own staff to identify and evaluate potential agents and then contract and manage them. An indirect relationship involves contracting an external management company to manage the entire process. There is also a hybrid approach in which a financial institution assumes responsibility for parts of the process, for example, selection and contracting, while a management company is contracted to oversee the day-to-day management of the agent networks, (*Mas, et al 2008*).

Building agent network is also a challenge which focuses on establishing effective agent with well-trained manpower; trusted by customers; strategically and conveniently located;

and properly incentivized to follow procedures, keep sufficient float on hand, and serve customers.

When agents provide a range of services (e.g., account opening, deposits, withdrawals, bill payments, etc.) they are able to generate transaction volume and balance liquidity. An agent must maintain adequate cash and e-money float balances to meet customer cash-in/cash-out requests. If too much cash is taken in, the agent may run out of e-float and not be able to accept more deposits. If there are too many withdrawals, the agent will accumulate e-float but run out of cash. In either case, customers will get discouraged if the agent cannot provide the services they need when they need them. In addition, a secure mechanism needs to be in place to transport cash needs to and from an agent (*Flaming et. el 2011*).

Availability and Quality of Infrastructure is one of the challenges which impact the Agent Banking business. Interruption in services of Telecommunications due to technical or non-technical issue and non-availability of any parallel system or alternative may cause disruption in service availability. Similarly, congestion in network may become a bottle neck in providing Quality of Service to Agent Banking user. The inconsistent availability of power supply in the country particularly in the rural area is one of the challenges for the implementation and continuous availability of Mobile and Agent Banking service. Therefore, Utility disruptions or software or hardware failures can cause a lack of service availability and information loss. Financial Institution without business continuity and disaster recovery planning may be on risk of non availability of services in case of catastrophic events, power breakdowns, fire etc and natural disasters (flooding, earthquake etc).

Agency Banking represents a significant opportunity to reduce transaction costs such as travel for clients by bringing financial services to hard-to-reach and geographically dispersed areas. This is especially true in Africa where some areas are sparsely populated leaving long distances between the customer and the bank. Obviously, the set-up of agent banks is less costly and more flexible than for traditional bank branches since it reduces the need to invest in staff and physical infrastructure. (Barasaet al, 2013)

(Gardner, 2000) contends that Agent Banking systems 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. Second, acquisition costs are lower for bank-enabled agents and bank wallets.

Agents require a lot of capital because they need to have enough cash on hand and electronic float for customers to withdraw and deposit on demand. Other costs also require upfront investment, though in much smaller amounts. Agents may need to acquire a business license, bring the look and feel of their store up to standards (paint, counter, etc.), or make security improvements beyond all this they need to keep a prepaid balance/Collateral at the bank premises (Flaming et al. 2011).

In the countries studied, the banks and non-banks involved undoubtedly devoted significant effort to researching the relevant laws and regulations before investing in agent-assisted branch-less banking approaches, and in most cases, they also consulted with regulatory authorities to understand better how authorities were likely to apply existing rules to the new model. But because regulators have had little experience with both models and are still adjusting existing rules to address them (or have yet to begin this process), some level of legal and regulatory uncertainty and ambiguity for both the banks and to a lesser extent also for retail agents remains (Makin, 2012).

Product Image in the Society and Social Issue is also another concern area for financial institutions when retail agents underpay-from or are robbed, banks' public image may suffer. Many operational risks mentioned (such as the loss of customer records or the leakage of confidential customer data) also can cause reputational risk, as can liquidity shortfalls in the retail agent's cash drawer. This and other mismanagement of the product image because the bad image on the public towards the new product refrain them to usage of the product (Laurer, 2011).

Managing the Risk has remained a challenge in association with technologically innovative products like Mobile and Agent Banking. Technological related risks are risks with regard to technology and could be characterized by unparalleled speed of transformation related to technological and customer service innovation, the nature of electronic network is open everywhere in the globe, the mobile banking application systems are integrated with the financial institutions legacy core application systems and with the hardware. And the necessary information technology service increases the financial institution dependency on the third parties.

Whereas Infrastructure and Software Application Risks are attributed to financial institution without laying down proper information business continuity plans, security policies and procedures will be in a haphazard condition of performing information security operations of Mobile and Agent Banking. This may result into serious IT operational risks like data backup issues, segregation of jobs, succession planning, capacity planning, and disaster recovery and business continuity. (*Chiteli, 2013*)

## **2.8. Mobile and Agent Banking Technology Solutions**

Currently, mobile and agent banking is implemented through three different technology solutions: browser-based applications, messaging based applications and client-based applications.

The browser-based application is essentially a Wireless Access Protocol (WAP)-based internet access. This requires a compatible mobile phone which is WAP enabled. The mobile phone is used to access banking portals through the internet. (*Brett, 2010*)

On the messaging based applications, the communication between the bank and the customer is carried out via text messages. For example, by using a registered mobile number, the customer sends a predefined command to the bank then uses text messages (SMS) to conduct transactions with the bank. An example of messaging-based applications is Unstructured Supplementary Service Data (USSD), which has compatibility with most mobile phones.

On client based applications, special software is installed in the mobile phone. An example of a client based application is what is called the Standard SIM Toolkit (STK).

## **2.9. Success Stories of Mobile and Agent Banking**

The following success stories witness the significant role of Mobile and Agent Banking towards fostering financial inclusion in the developing world.

G-Cash has transformed the Filipino way of doing things. It brings money into people's pockets faster by providing a quick, safe, and easy way to send and receive cash values, making it especially relevant for the majority of Filipinos who do not have bank accounts or credit cards. Now, the typical Filipino breadwinner working in the city can remit money to his family back in the countryside, at the speed of an SMS through G-Cash's domestic remittance service. G-Cash also helps build the economy. More than a new revenue stream, G-Cash expands the reach of its merchant partners by providing access to a wide market of 12 million subscribers. It provides true business mobility by facilitating transactions via the mobile phone. *(YCF Group, 2013)*

Thailand's True Money is a success story that merits closer attention. Launched in 2005, True Money is now used by 6 million customers, and the system processes over US\$900 million in electronic payments and 120 million transactions per year. *(YCF Group, 2013)*

It's tough to find a deployment that's reached Kenya's M-PESA-like scale: the most recent figures suggest that the Kenyan system now counts over 8.6 million customers and processes USD \$3.5 billion in P2P (Peer-to-Peer) transfers per year. *(YCF Group, 2013)*

## **2.10. Empirical Literature Review**

The researcher tried to review related researches works pertaining to the topic in order to demonstrate through understanding of the research topic. Based on the objectives and main findings of each research works under consideration, the review tries to make a link between the theoretical and empirical reviews in light of the underlying themes towards the provision

of mobile banking services; such as the various challenges posing to the business, the prospects towards the drivers of Mobile and Agent Banking services, the models employed by various countries and the success or failure factors behind such innovative banking services towards financial inclusion in such a way that addressing the concept behind the statement of the problem.

## **2.11. Prospects, Challenges and Financial Inclusion-International Aspect**

(Lehman, 2010) “Operational Management Challenges of Agent Banking System” has studied operational challenges of agent banking system in a global level focusing on the challenges on building agent network, managing of liquidity and managing of the channel. The study finds out that how building consistent customer experience is important towards bringing success in agent networking indicating the success of Safaricom-Kenya (M-PESA) and the failure of MTN Uganda that followed inconsistent customer experience. With respect to liquidity management the study finds out how managing liquidity plays fundamental role in ensuring system viability. In this regard the experience of Vodacom-Tanzania was taken as a real experience which allows Agent Aggregators who perform the task of agent recruitment, managing their floats and transporting cash to the agent. The aggregator receives a flat fee for each new agent and a percentage of the agent commissions which provides an incentive to sign up high-quality agents who will actively transact. From the perspective of channel management, the study finds out that outsourcing or using third parties for agent channel management is recommended since with the expansion of agent network, it would be difficult for providers to manage the business ad covers the “last mile” of the distribution chain.

Ahmed et al.(2011) “Problems and Prospects of Mobile Banking in Bangladesh” have studied the problems and prospects of Mobile Banking in Bangladeshi. The objectives of the study were to find out the prospect of mobile banking in Bangladesh, to detect problems of mobile banking in Bangladesh and to make suggestion on the basis of finding. For this research primary data were used and the study adopts with descriptive in nature. The study finds out that the Push-Pull m-banking service which is offered through SMS (Short Message Service)

can provide several banking services by sending SMS to bank server from any remote region in Bangladesh.

Fouzia and Subran (2010) “Push Pull Services Offering SMS Based m-banking System in Context of Bangladesh”. The objective of the study is to create an extraordinary opportunity for new mode of banking facility using mobile devices. The study found out that the Push Pull SMS banking service is an effective communication channel which saves time, provides multitasking opportunity, easy and familiar for the user and less costly and riskier system both for the user and the service providers.

Simeon and Bamidele (2012)“Cashless Banking in Nigeria: Challenges, Benefits and Policy implications”, have studied the challenges, benefits and policy implications towards the creations of cashless society in Nigeria and have found that the shift towards a cashless Nigeria seems to be beneficial though it comes with high level of concerns over security and management of cost savings resulting from its implementation. Its objective is to examine the implication of cashless banking with a view to exposing the possible challenges and prospects it poses to the Nigerian economy whilst employing aggregated approach. Vis-à-vis the rising doubts with regard to the effectiveness of various economic policies in achieving developmental goals of Nigeria, the study presented significant recommendations: availability of sufficient and well-functioning infrastructural facilities (notably electricity), harmonization of fiscal and monetary policy, regular assessment of the performance of cashless banking channels (individually and collectively), consideration of the present state and structure of the economy, redesign of monetary policy framework and greater efforts towards economic growth whilst managing inflation.

(Gichana, 2013) in Kenya has made a study on “Challenges of Agent Banking Experiences in Kenya” with the objective of determining the extent to which insecurity affects agent banking, investigating the extent to which capital availability affects agent banking, establishing the effect of liquidity/float related problems and how perceived credibility affects the agency banking. The study has found out the uptake of agent banking in Kenya has not been well appreciated by the target beneficiaries who include among others the micro and

small enterprises in the rural areas in Kenya who were expected to benefit from this technologically innovative service. The paper is based on a study conducted to reveal the challenges which are hindering the rural people of Kenya benefiting from agent banking. In as much as it has been witnessed that there is an increase in penetration of agent banking services clients have not fully made use of the available agents at their localities to cut down on transaction costs occasioned by travelling to traditional branches and also time wasted on queuing for services. The researcher also identified some of the factors hindering the well-functioning of agent banking despite mounting financial literacy, lack of mobile network services and float, lack of capital, issues of insecurity and fear of robbery. The study tried also to indicate the CGAP(2010) report that states the usage of semi-formal financial services in Kenya including m-banking platforms such as M-PESA increased from 8.1% in 2006 to 17.9% in 2009, while the proportion of the population with access to only informal financial services decreased from 35% to 26.8%. The share of the population excluded from any financial service decreased from 38.3% to 32.7%, these statistics suggest strong gains in financial inclusion coinciding with the introduction of M-PESA.

Mosoti et al.(2014)“An Investigation on Slow Adoption of Agent Banking Services in Kenya as Strategic Response by Commercial Banks” The objective of the study was to investigate on the factors influencing slow adoption of agent banking services by customers as a financial inclusion tool by commercial banks in Kenya. The study has found that costs charged due to use of Agent Banking services were high this is because they were much higher compared to normal bank charges such as ATM charges. Transport is also an issue for those areas where there is no wide network coverage, trustworthiness, security of transacting, infrastructure challenges such as system and power failure and liquidity concern were some of the challenges that contributed to the slow adoption of Agent Banking. The study also found out that other competing services offered by banks which are far much convenient, reliable, guarantees confidentiality and which operate for 24 hours such as ATMs, Internet Banking and Mobile Banking creates slow adoption of the Agent banking business.

(Bansal, 2014) “Perspective of Technology in achieving Financial Inclusion in Rural India” The objective of the study was to find out the contribution of ICT towards financial inclusion in India and analyze different applications of ICT which banks are adopting. This would directly or indirectly reflect the effectiveness of the financial institutions efforts to bring-in underprivileged people to the main stream financial inclusion system, especially in rural areas and support government growth in inclusive growth. The paper tried to magnify the role of mobile technology towards bridging the gap between the banked and unbanked in India considering the 811 million people with mobile phones but only 17% of them have a bank account. The research found out that the main reason for slow inclusion is the absence of appropriate delivery model and products which satisfy the financial need of low income families. Financial inclusion in true sense would mean not only to make people aware but encourage them to buy the financial products and services. The institutions must foresee the challenges lying ahead and take necessary steps to support the policies of inclusive growth. ICT may act as a tool to overcome those challenges and provides us a platform to reach customer directly.

Anita et al. (2011) “Opportunities and Obstacles to Financial Inclusion” The objective of the survey is to provoke dialogue about what financial inclusion is and how to achieve it. It identifies the various pieces needed to complete the puzzle, in the confidence that those working toward financial inclusion can together take actions that will substantially reduce financial exclusion by the year 2020. The study proved that financial education and financial literacy plays unequivocal role towards financial inclusion. As Lindsay Gleason of ACCION writes, “Financial education is one of the best ways to empower the working poor (and, frankly, all of us) to take control over their financial lives, which has a ripple effect to all areas of their lives”.

## **2.12. Prospects, Challenges and Financial Inclusion-National Experience**

Most local Banks are under project stage to embark on Mobile and Agent Banking business following the issuance of the NBE Directive No. FIS/01/2012 on Mobile and Agent Banking business in Ethiopia. Dashen Bank has already got the license from NBE and under pilot test

stage and some are under process to submit request to NBE. So far only two Banks, United Bank and Lion Bank have announced very recently that they have already launched Mobile and Agent Banking service dubbed as “Hibir Wokil” and “Hello Cash”. As the business is very immature to conduct further researches, the researcher was unable to get adequate local research works in the field except a thesis paper by Abdulkadir Wolela(2014) submitted to St.Mary’s Univerity under the title “Prospects and Challenges on the Implementation of Mobile and Agent Banking in Ethiopia” and one research article posted on Birritu and written by Henok Arega(2015) under the title “Mobile Banking in Ethiopia: Challenges and Prospects” where the research article is limited to only the mobile banking aspect of the business.

(Wolela A., 2014) “Prospects and Challenges on the Implementation of Mobile and Agent Banking in Ethiopia” The objective of the study was to investigate prospect and challenges of Mobile and Agent banking in Ethiopia based on structural, organizational, infrastructural, economic, social and legal aspects. It was exploratory type of research design and data was collected through conducting interviews with key informants from different stakeholders such as selected Financial Institutions, Technology providers, NBE and Ethio Telecom. Data were discussed with narrative method of qualitative data analysis. The researcher found out that the challenges revolve around on: having competitive price with the traditional banking offerings, improper articulation of organizational structure, infrastructure issues like Telecom, Power and road, failure to realize interoperability among financial institutions and financial literacy level of the society. Moreover, the research identified that the strangest regulatory framework drafted by NBE has missing and ambiguous articles which casted shadow on the provision of Mobile and Agent Banking in Ethiopia. The research recommended the Mixed Model approach for Agent Banking business in Ethiopia and the requirement of experience sharing with countries following similar model with Ethiopia for the successful implementation of Mobile and Agent Banking.

(Henok A., 2015) “Mobile Banking in Ethiopia: Challenges and Prospect” The researcher used exploratory research design since the development of m-banking in Ethiopia is a new

phenomenon. The study found out major challenges such as regulatory challenge where financial institutions are facing challenges on timely approval of new product, the lack of interoperability in the banking system which is very important to support multiple payment mechanisms and the limit set to mobile money (e-wallet account) is too small for both commercial banks and MFIs; hence it should be left to financial institutions to determine in accordance with their risk appetite. Additionally, the research found out that poor network quality, low financial literacy level and lack of customization of mobile applications in local language were found to be challenges for the provision of Mobile banking service in Ethiopia. From the prospect aspect of the business, Henok found out that m-banking service in Ethiopia is endowed with huge potential as the sector remains untapped and the continual increase in per capital income of the nation can also be considered as another potential for banks to reap the full benefit derived from m-banking.

### **2.13. Summary of Literature Review**

The above literature review unequivocally witnesses that Mobile and Agent Banking is a way out for financial inclusion on account of the success stories in various parts of the world. Accordingly, the business will have bright prospect to the dominant players in the field including but not limited to government institutions, financial institutions, agents and customers. For the government, it is a tool for poverty alleviation mechanism through encouraging savings and mobilizing resources nationwide for various government expenditures. It will also provide an opportunity for financial institution and Agents as additional revenue stream and enhance their customer base. Registered and non-registered users will also enjoy the benefit of banking through making their life much easier. Notwithstanding, there are various problems or challenges which come across the journey that should be tackled to leverage the existing technology for the benefit of the society at large. Researchers in the field investigated the various challenges or problems and came up with findings that pave the way to overcome the various challenges across the board.

Lehman found out that operational challenges with respect to building agent network, managing of liquidity and managing of the channel can be tackled through building

consistent customer experience, using agent aggregators and outsourcing, respectively. From the technology perspective, Ahmed et al and Fouzia et al, both research studies focusing on the Bangladesh scenario, had similar assertion that the push pull m-banking service which is offered through SMS (Short Message Service) is a preferred option for financial inclusion since it requires only sending SMS to bank server from any remote region in Bangladesh attributed to its benefits of saving time, multitasking opportunity and easiness and familiarity of the application.

Simeon et al with their study focusing on the policy implication towards creating cashless society in Nigeria, they highlighted the importance of establishing harmonized fiscal and monetary policy together with establishing infrastructural facility and conducting individual and collective assessment of performance of cash less banking channels. Gichana in the study paper that tried to determine the extent to which insecurity affects agent banking in Kenya, found out that capital availability, liquidity/float related problems and perceived credibility, financial literacy, lack of mobile network services and fear of robbery affects the agency banking experience in Kenya. In a similar study, Mososti, found out the impact of competing services offered by banks and their relatively lower costs than Agent Banking services contributes to the slow adoption of Agent Banking.

Bansal tried to investigate the perspective of Technology in achieving financial inclusion in India and found out that the application of ICT banks are adopting directly or indirectly reflect on their effectiveness for financial inclusion. The research identified the importance of appropriate delivery model and products which satisfy the financial need of low income families and working on awareness creation and encourage them to buy the financial products and services for effective implementation of financial inclusion. Quoting what Lindsay Gleason writes, “Financial education is one of the best ways to empower the working poor (and, frankly, all of us) to take control over their financial lives, which has a ripple effect to all areas of their lives”, Anita et al reinforced Bansal’s findings through emphasizing the unequivocal role that education and financial literacy can play towards financial inclusion.

(Wolela A., 2014) “Prospects and Challenges on the Implementation of Mobile and Agent Banking in Ethiopia” found out that the challenges revolve around on: having competitive price with the traditional banking offerings, improper articulation of organizational structure, infrastructure issues like Telecom, Power and road, failure to realize interoperability among financial institutions, financial literacy level of the society and the strangest regulatory framework drafted by NBE. The research recommended the Mixed Model approach for Agent Banking business in Ethiopia and the requirement of experience sharing with countries following similar model with Ethiopia for the successful implementation of Mobile and Agent Banking.

(Arega H., 2015) “Mobile Banking in Ethiopia: Challenges and Prospect” found out major challenges such as regulatory challenge, the lack of interoperability in the banking system and the limit set to mobile money (e-wallet account). Additionally, the research found out that poor network quality, low financial literacy level and lack of customization of mobile applications in local language were found to be challenges. From the prospect aspect, Henok found out that there is huge potential as the sector remains untapped and the continual increase in per capital income of the nation can also be considered as another potential for banks to reap the full benefit derived from m-banking.

In the Ethiopian context, the business is at its infant stage and banks are under implementation stage since the issuance of the NBE directive on Mobile and Agent banking service in 2012 except two banks who recently announced the launching of the service i.e. United Bank and Lion Bank. Accordingly, there is quite literature gap and little local research works have been conducted in the field except the research works by Abdulkadir (2014) and \Henok (2015) mentioned above. Therefore, this research work is expected to contribute its part in bridging the gap towards the literature on the Mobile and Agent Banking business in Ethiopia through identifying the basic challenges and prospects in order to devise appropriate Mobile and Agent \Banking model suitable for the Ethiopian business environment. In all the literatures that the researcher dealt with do not actually address how to decide on the best model for each country based on the different variables which

stakeholders might come across the board upon implementation of the Mobile and Agent Banking business.

## CHAPTER 3

### METHODOLOGY

#### 3.1. Introduction

This section contains five major components; the first part discussed the research design, the second part presented issues related to data collection methods and sources and the third part described the sampling technique. Finally, the fourth and the fifth part discussed the data collection procedure and the data analysis and presentation method respectively.

#### 3.2. Research Design

In conducting the research, the researcher used descriptive research design using mixed research approach whereby both qualitative and quantitative approaches were profoundly employed to answer the research questions i.e. *what are the challenges for the provision of Mobile and Agent banking business in Ethiopia? and what are the opportunities that entails to the Mobile and Agent Banking service for the Government, Financial Institution Technology Service providers and the Community at large?* In light of enhancing the generalizability and credibility of the research findings, the basic elements of the Mixed Methods Research design i.e. Triangulation, Complementarity and Development of the research ideas justifies for the appropriateness of the research design selected to address the research questions and problem for this particular research.

(Hesse-Biber N., 2010) A mixed methods research employs both qualitative and quantitative studies concurrently where its range of application varies for different reasons. One of the most cited reason is *Triangulation* which refers to the use of more than one method while studying the same research question in order to “examine the same dimension of a research problem”(Jick, 1979, p. 602). The researcher is looking for a convergence of the data collected by all methods in a study to enhance the credibility of the research findings. *Complementarity* is also another concern area which allows the researcher to gain a fuller understanding of the research problem and/or to clarify a given research result. This is accomplished by utilizing both quantitative and qualitative data and not just the numerical or

narrative explanation alone to understand the social story in its entirety. Another wing of aid for mixed methods research is *Development* which allows the researcher in the development of a research by creating a synergistic effect, whereby the “results from one method help to develop or inform the other method” (Greene et al., 1989, p. 259). For example, statistical data collected from a quantitative method can often shape interview questions for the qualitative portion of one’s study. Other points of applications are *Initiation and Expansion* where such an approach is applicable when a researcher would like to initiate a new study in case a study’s findings may raise questions or contradictions that will require clarification in the former case; and when there is an intention to “extend the breadth and range of the inquiry” (Greene et al., 1989, p. 259) in the later case leading to detail findings which helps enable future research endeavours and allows researchers to continuously employ different and mixed methods in their pursuit of new or modified research questions.

(Howe, 2004, p. 54; see also Howe, 2003). Howe notes that a qualitative approach “actively engages stakeholder participation” and ensures that “all relevant voices are heard. Qualitative approaches promote listening between researchers and the researched in order to get at “deeper, more genuine expressions of beliefs and values to foster a more accurate description of views held” and gather a more complex understanding of social life. Additionally, qualitative approaches, because of their exploratory and theory-generating nature, tend to be oriented toward discovery of new phenomena and ways of understanding.

As the product/service under consideration is new to the Ethiopian market, more emphasis was given to the qualitative aspect so that the researcher would be in a position to clarify ambiguous situations or discover ideas that may be potential opportunities and Challenges. The findings obtained in the quantitative study corroborated the findings in the qualitative study.

From the quantitative study aspect, descriptive study was employed at determining the prospects and challenges of Mobile and Agent Banking towards fostering financial inclusion in Ethiopia. A survey design was employed by use of questionnaires and was sent to the respondents.

### 3.3. Data Collection Methods and Sources

Qualitative data consist of words and observations, not numbers, as with all data, analysis and interpretation are required to bring order and understanding. This requires creativity, discipline and a systematic approach. There is no single or best way, and any of the following may produce narrative data that require analysis Open-end questions and written comments on questionnaires, testimonial, individual interviews. Discussion group or focus group interviews, logs, journals and diaries, observations, documents, reports and news articles, stories and case studies (Powell and Renner, 2003)

Any time a researcher or decision-maker needs to gain greater insight into a particular problem, he or she is likely to question knowledgeable individuals about it. This is usually done through an informal, free-flowing conversation with anyone who is believed to be able to shed light on the question both within the organization and outside, and it is common in the qualitative research methods.

In a similar manner in this research the researcher employed similar approach of structured and unstructured key informant in depth interview by identifying professionals in the field. Accordingly the researcher interviewed one individual from each institution indicated in 3.4 below except with the financial institutions who were treated with questionnaires. To maintain the convenience and save the time of the interviewer and the interviewee, the interview question for some institutions were provided in advance in written form. Moreover, the researcher referred to NBE directive number FIS/01/2012 and periodical publications and bulletins for respective organizations. Therefore, the researcher gathered data both from primary and secondary sources.

Besides, the researcher used questionnaires and collected primary data from six financial institutions. Considering the study area and objective, the questionnaire for the study was adapted from Wari (2011) "*Factors Influencing the Adoption of Agent Banking Innovation among Commercial Banks in Kenya.*" The questionnaires have three parts having demographic data or general information about the institution and the respondent and the

second part with open ended questions and the last part with closed ended questions. The closed ended questions are rated on a five-point Likert type scales ranging from '1' "Strongly Disagree" to '5' "Strongly Agree". The target respondents were professional experts who are in charge of the Mobile and Agent banking business in each of the financial institutions whose respective positions ranges from lower management level to senior management level.

### **3.4. Sampling Technique and Size**

Given the small size of the population, the type of research design adopted, the novelty of the research study and the limited number of the dominant players in the field, the under mentioned rationale can justify for the sampling technique and size to be employed for the study.

Sampling, as it relates to research, refers to the selection of individuals, units, and/or settings to be studied. Whereas quantitative studies strive for random sampling, qualitative studies often use purposeful or criterion-based sampling, that is, a sample that has the characteristics relevant to the research question(s). The goal of qualitative research can be stated as "in-depth understanding", (Lacey & Luff, 2001)

When you decide size for sample in qualitative researches, it is important to keep in mind that there is no one direct rules. However, we have to consider the sample sizes that reach saturation or redundancy. In other words, you might conduct interviews, and after eleventh one, realize that there are no new concepts emerging. And, in the second place large enough sample in order to assess an appropriate amount of diversity. Qualitative research typically starts with a specific group type thus the goal is credibility, not representativeness or the ability to generalize, (Nastasi, 2004)

*Sampling in qualitative research has had a hard time. On the one hand, it has been long neglected by many qualitative researchers as a mere positivistic worry; on the other hand, it has been undervalued by survey researchers because of the use of non-probability methods. Qualitative researchers often maintain that qualitative research does not need to*

*sample or to consider a seriously sampling issues, arguing that the most theoretically significant and important studies in field research (accomplished by Goulder, Dalton, Becker, Goffman, Garfinkel Cicourel, Dudnow and so on) Were based on opportunistic samples. This argument may lead to the idea that thinking about issues of sampling, representativeness and generalizability is a waste of time. However, defining sampling units clearly before choosing cases is essential in order to avoid mess and empirically shallow research (Gobo 2001pp 405).*

Regardless of the strategy or strategies adopted for a study, and/or the sample size you plan for, you need to provide a rationale for your choices by articulating the expected benefits and weaknesses of any strategy/sample size you choose. A key component of any qualitative research design is flexibility. Accordingly, if you choose a qualitative research design, you must have high tolerance for ambiguity.

In light of the above theories, more appropriate approach of sampling technique for the research is non-probability sampling. The researcher selected units that were convenient, close at hand, easy to reach and currently active in the Mobile and Agent banking business. As it is new product for the Ethiopian market, the researcher considered institutions that have the exposure/experience and expertise so far in this business which can generate significant contribution for the research. Thus, the total number of respondent in the field or related fields that directly or indirectly involves in Mobile and Agent Business such as TSPs(Belcash), Regulators (NBE), Policy Makers(MoFED) and Network Service Providers (Ethio-Telecom) from various sectors mentioned below were thirty seven i.e. 33 respondents out of the total 36 questionnaires distributed and 4 respondents out the four institutions approached for the interview questions.

(Howe, 2004) noted above, for active engagement of stakeholder participation and ensuring that all relevant voices are heard, the sample was taken from various institutions such as financial institutions, government and regulatory bodies, network and technology service providers.

Accordingly, from the banking sector, Dashen Bank, Commercial Bank of Ethiopia, Nib International Bank, United Bank, Wegagen Bank and Awash International Bank were part of the study. Addis Credit and Saving Association was included from MFIs but later on rejected since Mobile and Agent Banking has not been well conceptualized by the institution. As the sole regulatory body of all financial institutions, National Bank of Ethiopia (NBE) was part of the study and in light of grasping the government's view towards the subject matter under consideration, one of the ministerial offices i.e. the Ministry of Finance and Economic Development was included in the study. Last but not least, Ethio-Telecom, the giant monopoly of the network provider and Bellcash Technologies PLC (well established technology provider for Mobile and Agent Banking solution) were also part of the study.

### **3.5. Data Collection Procedure**

The study used both primary and secondary sources for data collection. As the study is mixed research type, the primary sources used were both qualitative and quantitative data. Qualitative data were collected from the interview and open ended questions and quantitative data were collected from the Likert Scale Type closed ended questions. The closed ended questions, embedded with the open ended questions were distributed to respondents from financial institutions. The Likert type questions were used for identifying the challenges and prospects of the subject matter while the result observed from the open ended questions was used to complement the result found from the Likert scale type questions. The qualitative data were collected from the in-depth interview made with employees of NBE, MoFED, Ethio-Telecom and Belcash with the objective of triangulating and complementing of the research result found out from the closed ended questions.

The researcher collected back thirty (33) responses from a total of thirty six (36) questionnaires distributed to six banks namely Commercial Bank of Ethiopia (CBE), Dashen Bank S.C, United Bank S.C., Wegagen Bank S.C, NIB International Bank and Awash International Bank S.C., which represents 91.6% response rate, thus enabling meaningful data analysis. One MFI namely, Addis Credit and Saving Association was rejected due to its insignificant contribution to the study since the Mobile and Agent Banking was not

formally institutionalized and only one respondent replied from the total of the five questionnaires distributed. As a result, in respect of maintaining the targeted number of respondents and the targeted response rate, the researcher decided to distribute more questionnaires to the biggest financial institution i.e. CBE considering its better capacity in human resource building as compared to other banks.

On the other hand data was collected in the form of interviewing professional from various institutions namely National Bank of Ethiopia, Ethio Telecom, Ministry of Finance and Economic Development and Belcash Technologies PLC. Relevant professionals were communicated from each respective institution even though the level of awareness varies among institutions.

The appropriateness of the data collection instrument for Likert type and open ended questions was attested by similar research work by Wari (2011) "*Factors Influencing the Adoption of Agent Banking Innovation among Commercial Banks in Kenya.*" The descriptive nature of the study under consideration justified for the appropriateness of the instrument for data collection used for the study. The secondary sources were used to supplement ideas and views obtained from the primary source with the findings from the primary source.

### **3.6. Methods of Data Analysis and Presentation**

With qualitative data analysis, the mass of words generated by interviews or observational data needs to be described and summarized. The question may require the researchers to seek relationships between various themes that have been identified, or to relate behavior or ideas implications for policy or practice may be derived from the data, or interpretation sought of puzzling findings from previous studies. (Lacey and Luff, 2001)

The qualitative type of data analysis technique was used based on the data gathered from experts of various institutions mentioned above with narration and systematic summary. Analyzing qualitative data typically involves immersing oneself in the data to become familiar with it, then looking for patterns and themes, searching for various relationships

between data that help the researchers to understand what they have, then visually displaying the information and writing it up (Westbrook, 1994).

Accordingly, face to face interview was conducted with each interviewee based on the specific question developed pertaining to each respective institution. Data obtained from the interview, observations and feelings were analyzed in the following manner/stages.

At documentation of the data and the process of data collection stage, notes were jotted down during an interview and the original comments, observations, and feelings were constructed. Next, at organization/categorization of the data into concepts stage, important concepts were identified and refined. Comments on similar themes were grouped together and analyzed systematically. Then the connection of data was done to show how one concept may influence the other in which the core essence of the subject matter was examined followed by corroboration/legitimization, by evaluating alternative explanations. Finally, conclusions and findings were drawn.

The quantitative aspect of the study was used to analyze the research data where frequency tables, percentages, arithmetic mean, standard deviation and bar charts were used using the SPSS tool. The arithmetic mean is a measure of central tendency which may be used to represent data in an entire population. Taking the average value of the score point i.e. 3.00 (neutral), as point of reference, mean value greater than 3.5 was meant that higher values were concentrated around the mean which implied consensus of the respondents on “agree” options for respective variable. On the contrary, mean value less than 3.5 meant that lower values were concentrated around the mean and there was general consensus by respondents on “disagree” option (Mann, P.S., 1995). Standard Deviation is widely used to measure the variability in statistics and probability theory. It shows how much variation there is from the mean. A low standard deviation i.e. having value less than one indicates that the data points tend to be very close to the mean and there was general consensus by the respondents on the various variables under consideration whereas high standard deviation i.e. having value greater than one indicates that the data is spread out over a large range of values which

means there were varied options among respondents regarding the specific variables considered. (Mann, P.S.,1995).

Parallel Mixed Method Design were employed for data analysis where qualitative and quantitative data were collected and analyzed and the findings from each study were compared and linked to the subject matter under consideration.

## CHAPTER FOUR

### RESULTS AND DISCUSSION

#### **4.1. Introduction**

The study focuses primarily on assessing the challenges and prospects of the Mobile and Agent Banking business through addressing the major players or stakeholders in respect of the Ethiopian Mobile and Agent Banking business paradigm. Considering that the Mobile and Agent Banking business is just at its grass root level in Ethiopia, the research tried to address all major players in the field either in the form of questionnaires or interviews. As a result the study is inclined to census as almost all institutions and their respective responsible employees who are directly engaged in the Mobile and Agent Banking service were addressed by the study.

The presentation, analysis and interpretation of the interviews and questionnaires were done simultaneously whereby the findings obtained from the interviews were presented in parallel by substantiating against the results obtained from the questionnaires. And finally a summarized analysis was done for both the challenges and prospects. Section 4.2 part of the discussion consists of demographic information on bank's profile which shows the frequency of respondents to which bank respondents belong, the branch network, bank's year of service in business and the number of employees belonging to respondents' bank by using tables. Section 4.3 depicts the demographic information on respondents profile by using tables providing information on position of respondents, respondents' year of service in their respective banks and respondents' year of service in their current position.

The third part of the analysis presents in section 4.4. It presents the frequency of survey responses on challenges of Mobile and Agent Banking according to the five-point Likert Scale. Accordingly, all the 10 variables under challenges were analyzed and interpreted using various statistical procedures such as mean, mode, standard deviation, with the help of SPSS V. 20.0 tool. The calculated figures on each variable were ranked to identify the variables with the most challenging factor to the one with the least challenging factor. And, section 4.5 shows the prospects of Mobile and Agent Banking where interpretation and

analysis of data was done for each variable under prospect in a similar fashion like the one done for the challenges above.

## 4.2. Banks' Profiles

This section shows the demographic details of financial institutions based on the respondents response to the question asked to indicate the name of the institution in the questionnaire, branch network and the years of operations of their institutions since establishment and the respective number of employees available in each organization. The results are illustrated in the subsequent tables below. Banks' profile was asked with the intention of associating the overall profile of each bank with the subject matter of the study under consideration.

**Table 1: Name of Institution of the Respondents**

		Frequency	Percent	Valid Percent
Valid	Awash	3	9.1	9.1
	CBE	11	33.3	33.3
	Dashen	5	15.2	15.2
	NIB	4	12.1	12.1
	United	5	15.2	15.2
	Wegagen	5	15.2	15.2
	<b>Total</b>	<b>33</b>	<b>100.0</b>	<b>100.0</b>

The above data shows that six banks were involved in the study and 5 questionnaires were distributed for each bank except CBE where 11 questionnaires were distributed for the reasons mentioned earlier. All the banks stated above have already laid down the foundation for the Mobile and Agent Banking. Among them two of the Banks have already started recruitment of Agents very recently.

**Table 2: Branch Network**

Bank Name	Frequency/ No. of respondents	No of Branches	Percentage share
United	5	100	6.3%
Wegagen	5	110	6.9%
NIB	4	120	7.5%
Dashen	5	154	9.6%
Awash	3	185	11.6%
CBE	11	930	58.2%
<b>Total</b>	<b>33</b>	<b>1,599</b>	<b>100.0%</b>

As per the above table, there is quite big gap between the number of branches opened by private banks and CBE. The cumulative share of private banks is less than by half of that of the CBE. The average number of branches for private banks is 127 which means each private bank should expand its branch network at least by 7 times to compete the giant CBE in terms of reaching out those unbanked or the under banked. This shows how branch network expansion would be very costly for private banks and the low costly alternate channels like Mobile and Agent Banking can serve as a way out to overcome the challenge on branch expansion and thereby reaching the unbanked.

**Table 3: Number of Employees in respective Institutions**

Institution Name	Average Number of Employees
Commercial Bank of Ethiopia	18,818
Awash International Bank	5,200
Dashen Bank	4,520
Nib International B	2,875
United Bank	2,180
Wegagen Bank	2,000

The above table shows that respondents' bank have employees ranging from 2,000 up to 18,818. This can show to what extent banks are investing on human resources which has its own repercussion on branch expansion strategy of banks. Thus, Mobile and Agent Banking has just evolved as a way out as one strategic approach to reduce the investment cost in human resources associated with branch expansion.

### 4.3. Respondents' Profiles

This section shows the demographic details of the respondents. The respondents were asked to indicate their position in the bank, the year of service in their respective and at their current positions respectively. The results are portrayed in the tables below.

*Table 4: Position of respondents*

		Frequency	Percent	Valid Percent
Valid	Top Management	3	9.1	10.7
	Middle Mgt.	12	36.4	42.9
	Lower Mgt.	13	39.4	46.4
	Total	28	84.8	100.0
Missing		5	15.2	
Total		33	100.0	

The above table depicts that 10.7% of the respondents were at top management position and 42.9% and 46.4% of them were at middle and lower management position, respectively. This portrays the fact that the knowledge on Mobile and Agent Banking has been better inculcated by lower and middle management level than top management level. This shows that operational activities are getting to cascade down from top management to lower management such that the necessary operational framework and infrastructure for Mobile and Agent Banking were established. Top Management are engaged in policy making activities and the operational aspect of the business is usually managed by lower management level.

The result obtained from the open ended question that was asked to respondents to explain how Mobile and Agent Banking is structured in their respective institutions further strengthened the result obtained on the respondent profile above. In most banks, Mobile and Agent Banking is structured under one dedicated Division work unit being accountable to the Electron Banking Department Manager or Deputy Manager. There are employees accountable to the Division who performs various operational activities of the Mobile and Agent Banking work unit.

**Table 5: Respondents' Year of Service in the Bank**

Year of Service	Frequency	Percent	Valid Percent	Cumulative Percent	
Valid	2-5	11	33.3	34.4	34.4
	6-10	5	15.2	15.6	50.0
	11-15	15	45.5	46.9	96.9
	>16	1	3.0	3.1	100.0
	Total	32	97.0	100.0	
Missing	1	3.0			
Total	33	100.0			

The above table shows that that 50% of the employees had served between 2 and 10 years and the rest had served their respective institutions above 10 years. This portrayed the fact that employees engaged with the Mobile and Agent Banking service had enough experience in the banking sector and adequate attention given staff assignment in related to this new venture so as to make the business up and run smoothly

**Table 6: Respondents' Year of Service in their Current Position**

	Frequency	Percent	Valid Percent	Cumulative Percent	
Valid	0.16	2	6.1	6.3	6.3
	1.00	5	15.2	15.6	21.9
	1.50	1	3.0	3.1	25.0
	2.00	14	42.4	43.8	68.8
	3.00	5	15.2	15.6	84.4
	4.00	1	3.0	3.1	87.5
	5.00	1	3.0	3.1	90.6
	6.00	3	9.1	9.4	100.0

The mean for “year of service of respondents in their current position” i.e. 2.4 years showed that the Mobile and Agent Banking business in Ethiopia is relatively new i.e. employees might be transferred either from their former positions in their bank or hired as new employees from outside of the bank just to fill the vacant positions for such new product line for financial institutions. Further elaborating the result, more than 68.8% of the respondents had served their company just for less than 2 years with their current positions associated

with the Mobile and Agent Banking business. And the rest of the employees had served their company for between 2 and 6 years.

#### 4.4. Challenges of Mobile and Agent Banking

A total of 10 questions on challenges of Mobile and Agent Banking were asked to indicate the extent to which each respondent agrees to corresponding closed ended statements rated on a five-point Likert type scales ranging from ‘1’ “Strongly Disagree” to ‘5’ “Strongly Agree”. The summary of the results for all the variables under the research study and the result with respect to each statement is indicated below. Accordingly, the researcher tried to interpret the Mean and the Standard Deviation of the data points. The researcher tried to triangulate and complement the result obtained from the interview and open ended questions with the results obtained from the Likert type statements pertaining to similar variables whenever appropriate.

**Table 7: Statistical Summary on Challenges of Mobile and Agent Banking Services**

	N		Mean	Std. Deviation
	Valid	Missing		
Proximity and accessibility to a bank branch....	32	1	3.97	0.933
Existing regulatory guidelines...	31	2	3.61	0.955
Education level/financial literacy of agents	33	0	4.12	0.927
Existing Model adopted by the NBE...	31	2	3.74	0.855
Risk of physical security...	33	0	3.33	1.08
Risk of logical security...	32	1	3.38	1.07
ICT infrastructure and the road infrastructure...	33	0	4.58	0.561
Credit risk, operational risk, liquidity risk and reputational Risk...	33	0	4.06	0.747
Competing services offered by banks...	32	1	4.06	0.801
Appropriate Agent Banking channels ...	32	1	4.19	0.859

a. Multiple modes exist. The smallest value is shown

Table 7 shows the consolidated statistical results on the variables under challenge including the number of frequencies, the Mean, and Standard Deviation of the data points. The “Valid” column shows the number of respondents who provided answer for each corresponding variables. On the other hand, the “Missing” column depicted the variables which were not answered by respondents. The mean tried to tell the average where the data points fall for each specific variable while the standard deviation column showed the variability of the data points for each variable under consideration.

**Table 8: Challenge L10I: Proximity and accessibility to a bank branch by the retail agent impacts Mobile and Agent Banking success**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	3	9.1	9.4	9.4
	Neutral	5	15.2	15.6	25.0
	Agree	14	42.4	43.8	68.8
	Strongly Agree	10	30.3	31.3	100.0
	Total	32	97.0	100.0	
Missing System		1	3.0		
Total		33	100.0		

Table 8 above shows the degree to which respondents agree to the statement saying “Proximity and accessibility to a bank branch by retail agent impacts Mobile and Agent Banking success”. Out of the total of 33 respondents, 32 of them answered to the above statement and out of which 43.8 % of them agreed to the statement. As indicated in table 7 the standard deviation is 0.933 which is less than one and implied that the data points tended to be very close to the mean i.e. 3.97 and there was general consensus by the respondents for this specific variable under consideration. Therefore, retail agents’ proximity and accessibility to a bank branch can be considered as one success factor for Mobile and Agent Banking business.

Some respondents from financial institution and NBE shared the above idea by referring to the existing road infrastructural problem which impedes agents’ accessibility to financial institution. Agent banking requires a generally good infrastructure in terms of road network,

communication and information technology. Considerations should be made for areas that are hard to reach due to a poor fixed infrastructure and poor transport system. One of the interview questions asked to MoFED experts was to explain the government strategy to ensure financial inclusion to the excluded. They all referred to the GTP where the government is working intensively on road development. By the end of the GTP period i.e. June 2015, the government envisages to build total road length of 97,517 km from where it was in 2011, at the beginning of the GTP i.e. 34,663.

**Table 9: ChallengeL11:Existing regulatory guidelines on Mobile and Agency Banking services positively supports the Mobile and Agent Banking business in Ethiopia.**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	5	15.2	16.1	16.1
	Neutral	7	21.2	22.6	38.7
	Agree	14	42.4	45.2	83.9
	Strongly Agree	5	15.2	16.1	100.0
	Total	31	93.9	100.0	
Missing System		2	6.1		
Total		33	100.0		

Table 9 above portrayed the degree to which respondents agree to the statement saying “Existing regulatory guidelines on Mobile and Agency Banking services positively supports the Mobile and Agent Banking business in Ethiopia”. Out of the total of 33 respondents, 31 of them answered to the above statement with missing value of only 2. As indicated in table 8, the standard deviation was 0.955 which was less than one and implied that the data points tended to be very close to the mean i.e. 3.61 and there was general consensus by the respondents for this specific variable under consideration. Therefore, the majority of the respondents asserted that existing regulatory guidelines on Mobile and Agent Banking services positively supports the Mobile and Agent Banking business in Ethiopia.

Among all the variables statements posed to respondents under challenges of Mobile and Agent Banking, this specific variable had the highest frequency of “Disagree” i.e. 16.1%. This implied that respondents assumed the regulatory guidelines are having more

threat as compared to the other variables. The result obtained from the open ended questions and interview sessions made with institutions such as Ethio Telecom, National Bank of Ethiopia, Ministry of Finance and Economic Development and Belcash Technologies PLC witnessed the above fact that the regulatory guidelines impacts the provision of Mobile and Agent banking in Ethiopia. All stated that at this introductory stage of the business, the existing regulatory guidelines positively supports the Mobile and Agent banking business in Ethiopia though the guidelines needs to be amended in the areas of agent networking, agent due diligence and user daily transaction limit when the business starts to grow in the future.

Contrary to the result found above, respondents from financial institution, NBE and Belcash criticized the under mentioned points of the directive on Mobile and Agent Banking for corrective action to be taken for successful provision of Mobile and Agent banking.

The Model adopted NBE is a bank led model and as a result the business is monopolized by financial institutions only which some bankers criticized that other parties should have been involved in the delivery of the service. Lack of an aggregator or super agent concept in which super agents are allowed to recruit sub-agents was also mentioned as a drawback of the regulation where otherwise reaching the last miles and bringing financial inclusion would be a nightmare in Ethiopia. The directive lacks also articles that should enforce financial institutions to enter in to a written contract and Service Level Agreement (SLA) with third party Technology Service Providers (TSPs) and Ethio-Telecom where the contracts or agreements shall clearly state the role and responsibility of each party towards the provision of Mobile and Agent Banking service so as to attach accountability of each party involving in the business.

The directive lacks to consider business related transactions since the existing daily transaction and deposit limits are ETB 6,000.00 and ETB 25,000.00 respectively which is inadequate limit for business transactions. It is more appropriate for transactions and deposits to be made for non-business transactions at individual level. There are also stringent due diligence procedures which need to be less regulated. For instance, Agents are required to submit audited financial statements of their business and needs to have registered

business. Banks are also obliged to bear the liability for any illegal activity induced by the agent.

**Table 10: ChallengeL12:Education level/financial literacy of agents and customers has direct impact on Mobile and Agent Banking.**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	1	3.0	3.0	3.0
	Neutral	6	18.2	18.2	21.2
	Agree	13	39.4	39.4	60.6
	Strongly Agree	13	39.4	39.4	100.0
	Total	33	100.0	100.0	

With respect to the statement saying “Education level/financial literacy of agents and customers has direct impact on Mobile and Agent Banking”, all respondents i.e. 33 of them expressed their level of agreement and out of which 39.4% of them agreed and 39.4% of them strongly agreed to the impact of such specific variable on Mobile and Agent Banking. As portrayed in table 8 above the standard deviation was 0.927 which had a value less than one and inferring that the data points tended to be very close to the mean i.e. 4.12 and there was general consensus by the respondents for such specific variable under consideration. Therefore, 78.8% of the respondents counted on financial literacy of agents and customers as one driving factor for the success of Mobile and Agent Banking business in Ethiopia.

**Table 11.ChallengeL13:Existing Model adopted by the National Bank of Ethiopia positively supports the fostering of financial inclusion in Ethiopia.**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	2	6.1	6.5	6.5
	Neutral	10	30.3	32.3	38.7
	Agree	13	39.4	41.9	80.6
	Strongly Agree	6	18.2	19.4	100.0
	Total	31	93.9	100.0	
Missing	System	2	6.1		
Total		33	100.0		

Table 11 above shows the degree to which respondents agree to the statement saying “Existing Model adopted by the National Bank of Ethiopia positively supports the fostering of financial inclusion in Ethiopia”. Out of the total of 33 respondents, 31 of them provided answer to the above statement and out of which 41.9% of the respondents were agreed while 19.4% of them were strongly agreed to the statement. Referring to table 7 above, the standard deviation was calculated at 0.855 which was less than one and implied that the data points tended to be very close to the mean i.e. 3.74 and meaning that there was general consensus by the respondents that the existing Model (The Bank Led Model) adopted by the National Bank of Ethiopia (NBE) supports the fostering of financial inclusion in Ethiopia.

From the open ended questions asked to respondents to choose the appropriate model for Mobile and Agent Banking in Ethiopia among the models under choice i.e. the Bank Led Model, Telco-Led Model and Mixed Model, 26 of the respondents replied out of the total population. Among which nearly 58.0% of them choose the Bank Led Model and the remaining 42.0% of them chose the Mixed Model (hybrid of Bank Led and Telco Model) and no respondent chose the Telco Model. Thus, the result obtained from both type of questions were similar which signified that the Bank Led model is the appropriate model for Ethiopia.

The major reasons for those respondents who chose the Bank Led Model were the opportunity it entails for banks to enhance revenue, increase customer base and reduce branch expansion cost, the better handling of close supervision of agents and their liquidity management and the trust that the society put upon Banks for financial related transactions other than any other institutions. The result found from the interview discussion with NBE and Ethio-Telecom witnessed same from the potential risk mitigation point of view and the limited capability of Ethio-Telecom to run such huge business. Belcash, as a technology provider, preferred the Bank-Led model due to the capability of banks to manage liquidity of agents and from the specialization of duty perspective that banking product shall be handled by banking institution and telecom services for telecom companies.

Sizable number of respondents i.e.42.0% chose the Mixed Model with the condition that multi network service providers being available in Ethiopia since the capacity of Ethio Telecom is limited. Otherwise, existing service quality provided by Ethio Telecom would be compromised if additional new line of business is owned by Ethio Telecom. Respondents from financial institutions cited the absence of bank interoperability as one reason behind the Mixed Model without which banks could not maximize their limited resource to reach out the unbanked or under banked society. Whereas the involvement of telecom institutions through the Mixed Model enables to reach the underserved society and thereby fostering of financial inclusion at large scale due to the ubiquity of Ethio telecom in every corner of the society.

**Table 12. ChallengeL15I:In Ethiopia, physical security threat (e.g.robbery) has an impact on the provision of MAB service**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	1	3.0	3.0	3.0
	Disagree	7	21.2	21.2	24.2
	Neutral	10	30.3	30.3	54.5
	Agree	10	30.3	30.3	84.8
	Strongly Agree	5	15.2	15.2	100.0
	Total	33	100.0	100.0	

Table 12 depicted the degree to which respondents agree to the statement saying “Physical security threat (e.g. robbery) has an impact on the provision of MAB service in Ethiopia”. Out of the total of 33 respondents, all provided answer to the above statement and out of which 54.5% of the respondents were either neutral, disagreed or strongly disagreed while the remaining 45.5% of the respondents were agreed and strongly agreed to the statement. Referring to table 7 above, the standard deviation was calculated at 1.08 which is greater than one and implied that the data was extended out over a large range of values which means there were varied options among respondents regarding this specific variable considered. The data points tended to be very close to the mean i.e. 3.33 and meaning that more of smaller values were concentrated around the mean. Therefore, there was general consensus by the respondents that the physical security threat (e.g. robbery, theft and fraud) does not have an impact on the provision of Mobile and Agent Banking service in Ethiopia.

Physical security can pose a challenge with regard to security of cash and even the people managing and working with agents with specific security challenges such as robbery, theft and fraud, Ethiopia remains a safe haven for investment due to the low crime rate as compared to other African countries.

**Table 13.ChallengeL16I:In Ethiopia, logical security threat (e.g.system breach,cracking etc) has an impact on the provision of MAB services**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	2	6.1	6.3	6.3
	Disagree	4	12.1	12.5	18.8
	Neutral	10	30.3	31.3	50.0
	Agree	12	36.4	37.5	87.5
	Strongly Agree	4	12.1	12.5	100.0
	Total	32	97.0	100.0	
Missing System		1	3.0		
Total		33	100.0		

Table 13 portrayed the degree to which respondents agree to the statement saying “Logical security threat (e.g. system breach, cracking, etc) has an impact on the provision of Mobile and Agent Banking service in Ethiopia”. Out of the total of 33 respondents, 32 of them answered to the above statement and out of which 50.1% of the respondents were either neutral, disagreed or strongly disagreed while the remaining of the respondents were agreed and strongly agreed to the statement. Referring to table 8 above, the standard deviation was calculated at 1.07 which is greater than one and implied that the data was extended out over a large range of values which means there were varied options among respondents regarding this specific variable considered. The data points tended to be very close to the mean i.e. 3.38 and meaning that more of smaller values were concentrated around the mean. Therefore, there was general consensus by the respondents that the logical security threat does not have an impact on the provision of Mobile and Agent Banking service in Ethiopia. The result obtained could be further consolidated by the following graph showing the histogram analysis and the normality curve of the data points of this particular variable.

As logical security risk is associated with technological risk, this question was posed to the technology provider, Belcash technology PLC, who complemented the result found above in the short run since banks have already set-up their firewall system to protect any intrusion into their system. However, in the long, banks should be able to devise mechanisms to protect eminent technological threats through enhancing their internal controlling system, educating the public on usage and entering Service Level Agreement with the network provider, etc.

**Table 14.ChallengeL6I:The level of development of ICT infrastructure and the road network significantly impacts Mobile and Agent Banking business**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Neutral	1	3.0	3.0	3.0
	Agree	12	36.4	36.4	39.4
	Strongly Agree	20	60.6	60.6	100.0
	Total	33	100.0	100.0	

Table 15 shows the frequency distribution showing respondents level of agreement to the statement saying “The level of development of ICT infrastructure and the road network significantly impacts Mobile and Agent Banking business”. Out of the total of 33 respondents, all of them answered to the above statement and out of which 60.6% of the respondents were strongly disagreed, 36.4% was agreed and only one respondent i.e. 3.0% of the total population was neutral. Referring to table 8above, the standard deviation was calculated at 0.561 which was less than one and implied that the data points tended to be very close to themean i.e. 4.58and higher values such as strongly agreed and agreed were concentrated around the mean value denoting that there was very strong consensus by the respondents that the level of development of ICT infrastructure and the road network significantly impacts Mobile and Agent Banking business in Ethiopia.

As a promising nation trying hard for extrication from the quagmire of poverty, we feel it how the development of infrastructure is affecting our daily life. The government should take the leading role to mobilize its resources to bring about radical change in the

development of ICT and road infrastructures. Otherwise, the provision of Mobile and Agent Banking would be journey to nowhere unless infrastructural development becomes the upfront agenda of the Government as the business is highly leveraged by ICT and road infrastructure.

**Table 15. ChallengeL71:Managing credit risk, operational risk, liquidity risk and reputation risk greatly influences Mobile and Agent Banking**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	1	3.0	3.0	3.0
	Neutral	5	15.2	15.2	18.2
	Agree	18	54.5	54.5	72.7
	Strongly Agree	9	27.3	27.3	100.0
	Total	33	100.0	100.0	

Table 17 summarizes the frequency distribution showing respondents level of agreement to the statement saying “Managing credit risk, operational risk, liquidity risk and reputation risk greatly influences Mobile and Agent Banking”. Out of the total 33 respondents, all of them answered to the above statement and out of which 54.5% of the respondents were agreed, 27.3% was strongly agreed and 15.2% was neutral. Referring to table 8 above, the standard deviation was calculated at 0.747 which is less than one and implied that the data points tended to be very close to the mean i.e. 4.06 and higher values such as strongly agreed and agreed were concentrated around the mean value denoting that there was strong consensus by the respondents that managing credit risk, operational risk, liquidity risk and reputation risk greatly influences Mobile and Agent Banking business in Ethiopia.

**Table 16. ChallengeL81:Competing services offered by banks influences the adoption of MAB**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	1	3.0	3.1	3.1
	Neutral	6	18.2	18.8	21.9
	Agree	15	45.5	46.9	68.8
	Strongly Agree	10	30.3	31.3	100.0
	Total	32	97.0	100.0	
Missing System		1	3.0		
Total		33	100.0		

Table 17 depicted the degree to which respondents agree to the statement saying “Competing services offered by banks influences the adoption of Mobile and Agent Banking”. Out of the total of 33 respondents, 32 of them replied to the above statement and out of which 46.9% of the respondents were agreed to the statement, 31.3% of the respondents were strongly agreed, 18.8% of them was neutral and the rest was disagreed to the statement. In aggregate 88.2% were agreed and strongly agreed which means that higher values were concentrated to the mean value i.e. 4.06. Referring to table 8 above, the standard deviation was calculated at 0.801 which was less than one and implied that the data points tended to be very close to the mean i.e. 4.06 and higher values such as strongly agreed and agreed were concentrated around the mean value denoting that there was strong consensus by the respondents that the managing credit risk, operational risk, liquidity risk and reputation risk greatly influences Mobile and Agent Banking business in Ethiopia.

**Table 17. ChallengeL9I:Availability of appropriate Agent Banking channels influences the adoption of Mobile and Agent Banking**

		Frequency	Percent	Valid Percent	Cumulative %
Valid	Strongly Disagree	1	3.0	3.1	3.1
	Neutral	3	9.1	9.4	12.5
	Agree	16	48.5	50.0	62.5
	Strongly Agree	12	36.4	37.5	100.0
	Total	32	97.0	100.0	
Missing System		1	3.0		
Total		33	100.0		

The data stipulated in the above table showed the degree to which respondents agree to the statement saying “Availability of appropriate agent banking channels influences the adoption of Mobile and Agent Banking”. Out of the total of 33 respondents, 32 of them replied to the above statement and out of which 50.0% of the respondents were agreed to the statement, 36.4% of the respondents were strongly agreed, 9.4% of them was neutral and the rest was disagreed to the statement. In aggregate, 87.5% were agreed and strongly agreed which means that higher values were concentrated to the mean value i.e. 4.19. Referring to table 4.4.1 above, the standard deviation was calculated at 0.859 which is less than one and

implied that the data points tended to be very close to the mean i.e. 4.19. Higher values such as strongly agreed and agreed were concentrated around the mean value denoting that there was strong consensus by the respondents that availability of appropriate Agent Banking channels influences the adoption of Mobile and Agent Banking.

(Barasa and Mwirigi, 2013) According to Podpiera (2008) agency banking does improve the economics for these institutions compared with branches, especially for high-transaction, low-balance accounts that are common among poor users. This view is supported by many other writers and researchers. The following types of agent banking delivery channels as adopted from Kithaka (2001) can be cited to show how Agent Banking delivery channels influences the successful adoption of the service by all. POS-enabled bank agent- this is an agent managed by a bank that uses a payment card to identify entrepreneurs. Banking agent-enabled agent- this is an agent that is often managed by a telecom, uses a cell phone to identify entrepreneurs, and provides store-of-value accounts called bank wallets that are backed by bank deposits. Entrepreneurs can use bank wallets to send, receive, and store electronic monetary value. Bank-provided account linked to a bank wallet- This is a bank account that is linked to a bank wallet. The bank does not manage the agent and pays a fee to the telecom for deposits and withdrawals.

#### 4.5. Summary of the Challenges Discussed Above

**Table 18: Summary of the challenges ranked by mean**

Variable code	Mean	Mean Rank	Std. Deviation
ICT infrastructure and the road infrastructure....( <i>ChallengeL6I</i> )	4.58	1	0.561
Appropriate Agent Banking channels ...( <i>ChallengeL9I</i> )	4.19	2	0.859
Education level/financial literacy of agents...(ChaL12I)	4.12	3	0.927
Credit risk, operational risk, liquidity risk and reputational Risk....( <i>ChallengeL7I</i> )	4.06	4	0.747
Competing services offered by banks...(ChallengeL8I)	4.06	5	0.801
Proximity and accessibility to a bank branch...(ChalL10I)	3.97	6	0.933

Existing Model adopted by the NBE...(ChallengeL13I)	3.74	7	0.855
Existing regulatory guidelines...(ChallengeL11I)	3.61	8	0.955
Risk of logical security...(ChallengeL16I)	3.38	9	1.07
Risk of physical security...(ChallengeL15I)	3.33	10	1.08

*Note: \*Please refer to the aforementioned frequency tables for the meaning of the variable codes*

Table 19 provides the summarized result for the Mean, Mean Rank and Standard Deviation, extracted from the table 7 indicated above. The Data was sorted by the mean in descending order showing rank from 1 to 10.

Accordingly, as a challenge the level of development of ICT infrastructure and the road network could have impacted Mobile and Agent Banking business, ranked highest with a mean score of 4.58. Most of the respondents believed that the existing infrastructural development in the Country, especially in relation to telecom and road networks will have significant impact on the provision of the Mobile and Agent banking business in Ethiopia since the business requires a generally good infrastructure in terms of road network, communication and information technology. Unless there is a transformation in infrastructural development in Ethiopia, Mobile and Agent banking would not serve its purpose as a successful propagator for financial inclusion.

The FDRE Growth and Transformation Plan (GTP) Annual Progress Report for F.Y 2012/13 issued by Ministry of Finance and Economic Development in 2014 stated that road development is one of the strategic infrastructure development agenda of the Government. The report stated that by the end of the GDP period i.e. 2014/2015, the federal, regional and Woreda roads total road length will be 97,517 km. (*MoFED's Annual Progress Report, February 2014, pp47*). As compared to the base year road coverage i.e. 48,800km in 2009/10 there will be great stride in the development of the road sector which the mobile and Agent banking business will be benefited and which shall be further strengthened in the 2<sup>nd</sup> GTP plan to be crafted ahead.

(*MoFED's Annual Progress Report, February 2014, pp53-54*) As one part of the grand objectives of the government, Ethio-telecom has set ambitious targets in customer acquisition, customer satisfaction and provision of quality services to customers. With the completion of Next Generation Network (NGN) project, the number of mobile subscribers will be 40 million by 2014/15 and mobile coverage will be 45%. The Enterprise Resource Planning (ERP), National Network Operating Center (NNOC), call center and billing and the Telecom Expansion Program (TEP) will be completed by the end of the GTP and the combined effect of all will drastically increase network capacity and improve network quality of services. The rural telecom access within 5 km radius increased from 74% in 2011/12 to 84% in 2012/13 and envisaged for universal telecom connectivity of 100.00% coverage by the end of the GTP. Therefore, with the successful completion of the GTP with the intended quality of service, Mobile and Agent Banking will serve its purpose as a tool for financial inclusion.

The top second challenge stated by respondents as major challenge was the availability of appropriate Agent Banking channels towards influencing the adoption of Mobile and Agent Banking having a mean score of 4.19. Availability of agent channels is vital in ensuring a wide reach by banks particularly in rural areas as there are fewer delivery channels compared to urban areas.

Ranked 3<sup>rd</sup> was the challenge on education level/financial literacy of agents and customers towards the provision of Mobile and Agent Banking business in Ethiopia with mean score 4.12. Let alone the adaptability to new technology, in a country like Ethiopia where the adult literacy rate (only read and write in Amharic) is only 39.0% (*unicef, 2013*) and the rate of technology adoption is low, this factor is a challenge for financial inclusion in Ethiopia.

Ranked fourth were the risk implication of Mobile and Agent Banking on managing credit risk, operational risk, liquidity risk and reputation risk towards influencing Mobile and Agent Banking and the influence of competing services offered by banks on the adoption of Mobile and Agent Banking both having equal mean value of 4.06. As entrusting retail agents is riskier than tellers of conventional banking, close monitoring is required on

consumer protection, anti-money laundering and financing of terrorism activities. The time lag between collection from customers and depositing the same to the bank by the retail agents generates credit risk. There are chances of customer or retail agents committing fraud ,loss of bank's equipment or other property from a retail agent's premises, data leaks or data loss from hacker attacks, inadequate physical or electronic security or poor back-up systems.(Wairi, 2011). Competing services provided by banks are also challenges for Mobile and Agent Banking especially for the population of urban areas where conventional banking services are easily available.

Proximity and accessibility to a bank branch by the retail agents, existing regulatory guidelines, existing Model adopted by the National Bank of Ethiopia were ranked 6<sup>th</sup>, 7<sup>th</sup> and 8<sup>th</sup> which had mean score values of 3.97, 3.74 and 3.61 respectively. Meaning that these factors play meaningful roles towards the fostering of financial inclusion in Ethiopia and due attention should be given by respective organs to mitigate the challenges under each factor.

Physical security threat such as robbery and logical security threat such as system breach, and cracking were at the bottom row ranked 9<sup>th</sup> and 10<sup>th</sup> which had mean score values of 3.38 and 3.33 respectively. Meaning that as lower data points were concentrated around the mean values, physical and logical security may not be potential challenges towards the provision of Mobile and Agent Banking in the current Ethiopian context.

Further consolidating the above statements by looking at the standard deviations, out of the 10 challenges, 8 had a standard deviation of less than 1, indicating a general consensus by respondents on the factors influencing adoption of agent banking. Two factors namely, logical security threat and physical security threat towards the provision of Mobile and Agent Banking had a standard deviation greater than 1 indicating varied opinions on their influence on fostering of Mobile and Agent Banking in Ethiopia.

#### 4.6. Prospects of Mobile and Agent Banking

A total of 7 questions on “Prospects” of Mobile and Agent Banking were asked to indicate the extent to which each respondent agrees to corresponding closed ended statements rated on a five-point Likert type scales ranging from ‘1’ “Strongly Disagree” to ‘5’ “Strongly Agree”. The summary of the results for all statements or variables under the research study and the result with respect to each statement is indicated below. Accordingly, the researcher tried to interpret the Mean and the Standard Deviation of the data points. The researcher tried to triangulate and complement the result obtained from the interview and open ended questions with the results obtained from the Likert type statements pertaining to similar variables. The researcher also tried to associate other literatures findings with respective variables under consideration when found appropriate.

**Table 19. Summary of Statistics for Variables under Prospects of Mobile and Agent Banking**

	N		Mean	Std. Dev.
	Valid	Missing		
Additional rev. stream, reduces costs, increase customer base	33	0	4.45	0.794
Conducive PEST environment	33	0	4.12	0.696
Enhancing accessibility	33	0	4.82	0.392
Compatibility with existing services	33	0	4.18	0.808
User friendliness	33	0	3.85	0.755
Additional rev. ,reduces costs, increase customer base	33	0	4.09	0.805
Profitability, sustainability, scalable and variable cost	32	1	4.19	0.821

a. Multiple modes exist. The smallest value is shown

Table 19 shows the consolidated statistical results on the variables under the prospects of Mobile and Agent Banking including the number of frequencies, the Mean and Standard Deviation of the data points. The “Valid” column shows the number of respondents who provided answer for each corresponding variables. On the other hand, the “Missing” column depicted the variables which were not answered by respondents. The mean and mode tried to tell the averages where the data points fall for each specific variable while the standard deviation column showed the variability of the data points for each variable under consideration.

**Table 20. Prospect L14I:Mobile and Agent banking is an additional revenue stream, reduces costs, increase your customer base**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	1	3.0	3.0	3.0
	Agree	14	42.4	42.4	45.5
	Strongly Agree	18	54.5	54.5	100.0
	Total	33	100.0	100.0	

Table 20.above shows the degree to which respondents agree to the statement saying “Mobile and Agent banking is an additional revenue stream, reduces costs, increase your customer base”. Out of the total of 33 respondents, 54.5% of them were “strongly agreed”, 42.4% of them were “agreed” and only 3.0% of them were strongly disagreed with 0.0% value for both “disagree” and “neutral”. As indicated in table 21, the standard deviation was 0.794 which was less than 1.0 and implied that the data points tended to be very close to the mean i.e. 4.45 and higher values are concentrated around the mean which was meant that means there was strong consensus by the respondents that Mobile and Agent Banking serves as an additional revenue stream, reduces costs and increase customer base for financial institutions. Some empirical researches prove the above reality.

Gardner (2000) contends that agent banking systems 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.

In terms of revenue streaming, Belcash Technologies noted that technology service providers would be beneficial since it opens new business opportunity by selling the Mobile and Agent Banking platform to financial institution and deal with transactional based revenue sharing scheme. With the advent of this technology, Belcash now provides value added counseling services to customers such as Hello Doctor (For medical cases), Hello Lawyer(for low

related cases), Hello Gebeya (for market related cases) and Hello Jobs(for job seekers). This helped the company to increase its customer base and thereby generates additional revenue.

**Table 21. Prospect L17D:Mobile and Agent Banking (MAB) can make Financial Inclusion (FI) a reality in Ethiopia given the prevailing business environment i.e. Political, Economical, Social and Technical (PEST)**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Neutral	6	18.2	18.2	18.2
	Agree	17	51.5	51.5	69.7
	Strongly Agree	10	30.3	30.3	100.0
	Total	33	100.0	100.0	

The above table depicts that the degree to which respondents agree to the statement saying “Mobile and Agent Banking can make FI a reality in Ethiopia given the prevailing business environment i.e. PEST. From the total respondents 51.5% of them were agreed, 30.3% were strongly agreed and 18.2% of them were neutral. The standard deviation was 0.696 which implied that the data points tended to be very close to the mean i.e. 4.12 and higher values are concentrated around the mean meaning there was strong consensus by the respondents that the prevailing Political, Economical, Social and Technical environments in Ethiopia is conducive to make Financial Inclusion a reality through Mobile and Agent Banking.

The same question was also asked to interviewees of National Bank of Ethiopia, Ministry of Finance and Economic Development, Ethio-Telecom and Belcash where most agreed that the business environment is conducive taking into account the economic growth and stability in the Country and the five years aggressive economic development program by the Government i.e. the GTP. However, some admitted that there are infrastructural hurdles such as network and accessibility problems which impact the expansion of innovative banking products like Mobile and Agent Banking and due attention shall be given by respective stakeholders.

**Table 22. ProspectL1I: Mobile and Agent Banking will enhance access to the bank's services by both existing and new customers**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	6	18.2	18.2	18.2
	Strongly Agree	27	81.8	81.8	100.0
	Total	33	100.0	100.0	

The above table depicts that the extent to which respondents agrees to the statement saying “Mobile and Agent Banking will enhance access to the bank's services by both existing and new customers”. All respondents were either agreed or disagreed where 81.8% of them were strongly disagreed and 18.2% of them were agreed to the above statement. The standard deviation was only 0.392 which implied that the data points tended to be very close to the mean i.e. 4.82 and higher values were concentrated around the mean. There was strong consensus by the respondents that Mobile and Agent Banking will enhance access to the bank's services by both existing and new customers.

**Table 23. ProspectL2I: Mobile and Agent Banking services are compatible with the bank's existing service offerings**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	1	3.0	3.0	3.0
	Neutral	5	15.2	15.2	18.2
	Agree	14	42.4	42.4	60.6
	Strongly Agree	13	39.4	39.4	100.0
	Total	33	100.0	100.0	

Respondent from financial institution were asked the degree to which they were agreed on the statement saying that Mobile and Agent Banking services are compatible with the bank’s existing service offerings. This question was meant to survey if the banking services offered using the Mobile and Agent Banking can serve equally the one offered by the conventional banking services and transactional exchange from both ends is possible. This helped to know how reliable is Mobile and Agent Banking service in terms of replacing the services offered by banks. Accordingly, 42.4% of them were agreed, 39.4% of them were strongly agreed,

15.2% of them were neutral and 3.0% of them were disagreed to the statement. The calculated standard deviation and mean were 0.808 and 4.18 respectively. This was meant that which accounted for 81.8% (42.4%+39.4%) were concentrated around the mean and further the standard deviation (0.808) implied that there was strong consensus among respondents for the statement under consideration.

Therefore, most of existing services offered by conventional banking such as loan processing, sending and receiving of money, cash deposit and withdrawal can be done by the Mobile and Agent Banking platform and transaction initiated from one end say normal account at banks can be entertained at agents or customers with mobile wallet account. A customer having normal bank account can easily transfer money to someone else with mobile-wallet account or any non-registered customers without mobile wallet account.

**Table 24. ProspectL3I: Mobile and Agent banking is easy to understand and use**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	2	6.1	6.1	6.1
	Neutral	6	18.2	18.2	24.2
	Agree	20	60.6	60.6	84.8
	Strongly Agree	5	15.2	15.2	100.0
	Total	33	100.0	100.0	

In terms of usage, this statement tried to address the extent of how user friendliness is the Mobile and Agent Banking service by users as easiness to understand and use is paramount for product acceptance. Faisal I. (2013) in Ghana showed that one of the main rejection factors in using mobile banking technology by customers is lack of knowledge and learning. (Birritu ,February 2015). Thus, making the product user friendliness is a way out to overcome such rejection factor. The survey specific to the above statement showed that 60.6% of the respondents were agreed, 15.2% were strongly agreed, 18.2% were neutral and 6.1% of them were disagreed. The mean and the standard deviation was 3.85 and 0.755 where the mean was close to the mode i.e. the highest value and the standard deviation was less than one meaning that there is consensus among respondents that Mobile and Agent Banking is easy to understand and use.

Based on the interview made with Ethio-Telecom, the technology solutions currently available in Ethiopia are Web based, SMS based (USSD) and Client based (STK). The USSD (Unstructured Supplementary Service Data) sends a predefined command to the bank then uses text messages (SMS) to conduct transactions with the bank. The availability of USSD technology for banks intact with the above findings since customers use predefined short codes to conduct transactions which is easy to understand and use. According to the experience in remote Mexico, there is an option of using Interactive Voice Recording (IVR) technology that uses satellites linked to local radio stations to initiate financial transaction at remote areas where agents or banks are not accessible. Such technology is even more preferable for financially illiterate in the countryside or very remote areas as it uses voice only communication to initiate transactions using mobile phones (*Peter Caines, CGAP.org*)

**Table 25. ProspectL4I:High Mobile penetration and high population growth rates, poverty reduction for the government, additional revenue stream for service providers and overall cost reduction are the main drivers for MAB business in Ethiopia.**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	1	3.0	3.0	3.0
	Neutral	6	18.2	18.2	21.2
	Agree	15	45.5	45.5	66.7
	Strongly Agree	11	33.3	33.3	100.0
	Total	33	100.0	100.0	

The degree of respondents to the prospect of the above driving factors stated above to respective stakeholders showed that 45.5% of them were agreed, 11.0% of them were strongly agreed and 18.2% of them were disagreed having mean value of 4.09 and standard deviation of 0.805. The highest modes showed that higher values were concentrated around the mean and standard deviation was less than 1.0 where both results implied that there was general consensus among respondents for the specific variables under consideration. Thus, Mobile and Agent Banking business in Ethiopia is highly favored by high rate of population growth and mobile penetration rate and thereby it is an opportunity for the Government to finance its flagship projects by supporting saving and investment growth. It is a means for additional revenue for stakeholders and is a least cost approach for providing financial

service to the majority of the population. A glimpse below on the empirical research finding by other researchers asserted the finding.

(Wolela A., 2014) Local financial institutions have recorded an increase in their profits and Agent Banking is one of the main attributes to such huge profits. Banks are finding it cheaper to set up agents as opposed to opening a branch where they will incur extra costs of staffing, rent, electricity etc. With Agent Banking, the agent incurs almost all the costs. Increased product penetration Agent Banking has made it possible for bank products and services to penetrate areas that at first seemed impossible. With Agent Banking banks have reached even the smallest of villages. With regards to wide customer base Bank agents are paid commissions when they sign up new customers and this has led to an increase in the number of customers for banks. Banks are finding it effective to increase their customer base in this manner as opposed to using sales people (Lehman, 2010).

**Table 26. ProspectL5I:Financial services can be provided profitably and sustainably to the unbanked/under banked if banks shifts from the traditional “bricks-and-mortar” infrastructure to more scalable, variable-cost channel.**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	1	3.0	3.1	3.1
	Neutral	5	15.2	15.6	18.8
	Agree	13	39.4	40.6	59.4
	Strongly Agree	13	39.4	40.6	100.0
	Total	32	97.0	100.0	
Missing System		1	3.0		
Total		33	100.0		

Respondents were asked if banks using alternate channels like Mobile and Agent banking can provide financial services profitably and sustainably if they shift to the traditional “brick and mortar” infrastructure. Accordingly 40.6% of them were strongly agreed and same percentage of the respondents was also agreed and 15.6% of them were agreed and only 3.1% of them were disagreed. The mean value of the above data set was 4.19 which meant that higher values that account for 81.2%(39.4% x 2) were concentrated around the mean. The calculated value of the standard deviation was 0.821 and less than 1.00 which implied

The Ethiopian Banking industry as a whole had a network of 2,323 branches as of September 30, 2014 (Birritu, February 2015) where such status is too far behind to meet the demand of the existing unbanked population size in Ethiopia. The bricks and mortar approach requires expensive investment and not economically feasible for financial institution. Otherwise, financial inclusion would be a nightmare in Ethiopia unless banks should make strategic shift to alternative channels like Mobile and Agent Banking. Thus, respondents’ reflection supported such idea and that is why several banks are now trying to manage to get on board of the Mobile and Agent banking business.

#### 4.7. Summary of the Prospects Discussed Above

**Table 27:**Summary of the challenges ranked by mean

<b>Variables</b>	<b>Mean</b>	<b>Mean Rank</b>	<b>Std. Deviation</b>
Enhance Access*.... <i>Prospect L11</i>	4.82	1	0.392
Revenue. generating, cost reduction, increase customer base.... <i>Prospect L14I</i>	4.45	2	0.794
Profitability, sustainability, scalability and variable cost... <i>Prospect L5I</i>	4.19	3	0.821
Compatibility with existing servcs... <i>Prospect L2I</i>	4.18	4	0.808
Conducive PESTenv’t.... <i>Prospect L17I</i>	4.12	5	0.696
High mobile penetration & population rates, poverty reduction, and cost minim... <i>Prospect L4I</i>	4.09	6	0.805
User friendliness.... <i>Prospect L3I</i>	3.85	7	0.755

*Note: \*Please refer to the aforementioned frequency tables for the variable coding*

Table 27 shows the summarized result for the Mean, the Mean Rank and Standard Deviation. The Data was sorted by the mean in descending order showing rank in prospect from 1 to 7. Among all the variables under prospect, the variable with the highest mean score was “Mobile and Agent Banking enhances access to the bank's services by both existing and new customers” having mean value of 4.82. For most respondents, accessibility to bank service by both existing and new customers was the critical concern behind the Mobile and Agent

Banking business in Ethiopia. In light of advancing the motif of financial inclusion in Ethiopia, Mobile and Agent banking plays underpinning role to inundate access to finance through mobile phones. Taking in to account the gap on the demand and supply side on financial access and the untapped potential market ahead, strategic implementation of the Mobile and Agent Banking service will pave the way to enhance access to financial service and thereby brings financial inclusion in Ethiopia.

The second most ranked opportunity/prospect that respondents agreed upon was the statement saying “Mobile and Agent Banking service is an additional revenue stream, reduces costs and increase your customer base” having mean value of 4.45. Next to the opportunity entailed towards accessibility, Mobile and Agent banking as a means of cost minimization strategy with concomitant advantage on revenue generation and increase in customer base was considered by respondents as the second most pressing prospect for banks.

The 3<sup>rd</sup> and 4<sup>th</sup> ranked prospects having mean value of 4.19 and 4.18 were “Financial services can be provided profitably and sustainably to the unbanked/under banked if banks shifts from the traditional “bricks-and-mortar” infrastructure to more scalable, variable-cost channel” and “Mobile and Agent Banking services are compatible with the bank's existing service offerings” respectively. The harmonization of the service with the existing bank service offerings and the rendering of financial services to the unbanked/under banked in a profitable and sustainable way as an alternative channel of the conventional banking service can serve as an impetus for the provision of Mobile and Agent Banking service in Ethiopia.

Ranked 5<sup>th</sup>, 6<sup>th</sup> and 7<sup>th</sup> werethe prospects stated as “Mobile and Agent banking can make Financial Inclusion a reality in Ethiopia given the prevailing business environment i.e. PEST”, “Mobile penetration and high population growth rates, poverty reduction for the government, additional revenue stream for service providers and overall cost reduction are the main drivers for Mobile and Agent Banking business in Ethiopia ”and “Mobile and Agent banking is easy to understand and use”, respectively. All respondents asserted that the existing business environment is conducive in light of employing the existing driving

factors taking in to advantage the user friendliness feature of the technology.

The respective values of the standard deviations for each variable clearly portrayed that all variables had standard deviation values less than 1.0, indicating that there was general consensus by respondents that the provision of Mobile and Agent banking entails opportunities which shall be well harnessed to maximize stakeholders' benefit from such emerging market in Ethiopia.

## CHAPTER 5

### SUMMARY, CONCLUSION AND RECOMMENDATION

#### 5.1 Summary of Major Findings

The objective the study was to identify the challenges and prospects of Mobile and Agent Banking service for financial inclusion in Ethiopia through investigating the various aspects of potential and eminent challenges facing financial institutions, agents and users in due course of implementing Mobile and Agent banking business in Ethiopia as well as exploring its multi-dimensional prospects to various stakeholders as a new frontier for financial inclusion in Ethiopia. Accordingly, this part of the research summarizes the major findings of the study from the challenge and prospect perspectives.

The study found out the following challenges influencing the provision of Mobile and Agent banking for financial inclusion being prioritized based on the degree of influence in the context of Ethiopian business environment. The most influential challenge was the level of development of ICT infrastructure and the road network which significantly impacts the Mobile and Agent Banking business in Ethiopia. Most of the respondents believed that the existing infrastructural development in the Country, especially in relation to telecom and road networks will have significant impact on the provision of the Mobile and Agent banking business in Ethiopia since the business requires a generally good infrastructure in terms of road network, communication and information technology.

The second most pressing challenge that the research spotted out on influencing financial inclusion was the availability of appropriate Agent Banking channels. Availability of agent channels is vital in ensuring a wide reach by banks particularly in rural areas as there are fewer delivery channels compared to urban areas. The challenge on education level/financial literacy of agents and customers was ranked on the 3<sup>rd</sup> place. Let alone the adaptability to new technology, in a country like Ethiopia where the adult literacy rate(only read and write in Amharic) is only 39.0% (*Unicef, 2013*) and the rate of new technology adoption is low, this factor will remain a challenge for financial inclusion in Ethiopia. Next on the rows were

both the risk implication on managing credit risk, operational risk, liquidity risk and reputation risk and the influence of competing services offered by banks which demands for due consideration by stakeholders on risk mitigation mechanisms as well as availing competitive price to overcome the influence of competing services by banks. Proximity and accessibility to a bank branch by the retail agents, existing regulatory guidelines and the existing Model adopted by the National Bank of Ethiopia were considered at the 6<sup>th</sup>, 7<sup>th</sup> and 8<sup>th</sup> level in terms of influencing the Mobile and Agent Banking business for financial inclusion.

Contrary to the above findings, the research found that physical security threat such as robbery and logical security threat such as system breach and cracking were found at the bottom indicating that there were significantly divergent views among respondents which implied that physical and logical security threats may not be potential challenges towards the provision of Mobile and Agent Banking in the current Ethiopian context.

From the prospect angle, the research found out that the Ethiopian market is bestowed with the following immense opportunities in line with the advent of Mobile and Agent Banking and its role towards propagating financial inclusion a reality in Ethiopia. Accordingly, the following prospects or opportunities were identified being prioritized based on the views reflected by respondents.

The most promising prospect cited by respondents was the opportunity entailed to the business towards enhancing accessibility to the bank's services by both existing and new customers. Taking in to account the gap on the demand and supply side on financial access and the untapped potential market ahead, strategic implementation of the Mobile and Agent Banking service will pave the way to enhance access to financial service and thereby brings financial inclusion in Ethiopia. The next most preferred opportunity that the research found out was its advantage on leveraging additional revenue making, cost reduction and increase in customer base. The capability of Mobile and Agent banking towards providing profitable and sustainable financial services to the unbanked/under banked in lieu of the traditional brick and mortar infrastructure and the compatibility of the Mobile and Agent Banking

service with the bank's existing service offerings were the prospects entailed to the business at the 3<sup>rd</sup> and 4<sup>th</sup> level.

The research also found out that the existing Political, Economical, Social and Technological environment are conducive for financial inclusion driven by Mobile and Agent Banking. Mobile penetration and high population growth rates, poverty reduction, additional revenue making and cost reduction were found as the main drivers for the provision of Mobile and Agent Banking business in Ethiopia with the significance role of one of the basic feature of the technology i.e. user friendliness.

## **5.2. Conclusion**

The findings of the study revealed that the Mobile and Banking business stretches wide across the two extremes of the challenges and opportunities where the concerted effort by stakeholders to overcome the challenges will bring about immense opportunities to the dominant players in the field with the ultimate result of transforming the Country towards financial inclusion.

The study shows that the main challenges that influence the fostering of Mobile and Agent Banking business in Ethiopia are the level of development of ICT infrastructure and the road network, the availability of appropriate Agent Banking channels, education level/financial literacy of agents and customers; risk implication on managing credit risk, operational risk, liquidity risk and reputation risk; the influence of competing services offered by banks,; proximity and accessibility to a bank branch, the regulatory framework and finally the existing Model adopted by the National Bank of Ethiopia.

Accordingly, the most challenge factor that hampers the fostering of financial inclusion in Ethiopia is infrastructural problem. It is just like “putting the cart before the horse” if the pace at adopting technologically innovative products like Mobile and Agent banking does not match with that of infrastructural development. Meaning that, in spite of all the efforts that financial institutions exert on implementing the business, the return on investment

would be discouraging which in turn casts a shadow over the financial inclusion agenda that the government is aspiring for.

The availability of appropriate agent banking channels and enhancing the educational level of agents and users are also critical concerns for financial institutions towards the provision of Mobile and Agent Banking in Ethiopia. Though the challenge associated to regulatory framework and the Bank led Model were ranked last by respondents, few respondent pointed that one of the bottleneck for agent banking channels is the regulation on the Mobile and Agent Banking which prohibits the super agent or agent aggregator concept that allow to form a chain of agents accountable to the super agents in order to maximize the reach out of agents to the unbanked or under banked population.

Risk is also one concern area which remains a challenge during the operational activity of the business. Though the research found out that physical and logical risk are not potential threats at this juncture, risks related to credit risk, operational risk, liquidity risk and reputation risk has its contribution in the provision of Mobile and Agent banking business. As a bank led model, the impact of the above mentioned risk types can be mitigated by the close supervision made by financial institutions and National Bank of Ethiopia. Moreover, the directive for Mobile and Agent Banking explicitly states that some level of risk caused by agents will be transferred to the financial institutions. As a result, banks are expected to follow strict due diligence procedure upon selecting agents which has its own reverse effect on the agent signing effort by banks.

Competing services offered by banks, proximity and accessibility to a bank branch, the regulatory framework and finally the existing Model adopted by the National Bank of Ethiopia are challenges that the research found out. These are interwoven problem where providing a solution on the regulatory framework may resolve the other problems. For instance, untying the knot on the regulatory framework on super agent resolves the accessibility issue.

The study asserts that the opportunities associated with the Mobile and Agent banking business in their order of relative importance by respondents are enhancing accessibility to the bank's services by both existing and new customers; additional revenue making, cost reduction and increase in customer base for banks; means of providing financial services in a profitable, sustainable and scalable manner; the Political, Economical, Social and Technological environment (PEST); high mobile penetration and population growth rates, poverty reduction for the government, additional revenue making and cost reduction were found as the main drivers for the provision of Mobile and Agent Banking business in Ethiopia. Note that the PEST environment was mentioned as an opportunity at a holistic level even if the study found that its technological aspect remained as one of the major challenges.

All respondents and interviewees unanimously agreed on the opportunities lying ahead which shall be harnessed for the benefit of all but the question always remain behind, how? Stakeholders are found it bizarre on turning out these opportunities to blessing vis-à-vis the multi dimensional challenges that the research identified so far. Therefore, based on the findings the researcher came up with the following recommendation to overcome the challenges and exploit the untapped opportunities entailed to this superfluous emerging market.

### **5.3. Recommendations**

The GTP accomplishment and planned statistics shows a very encouraging move that supports to expedite financial inclusion in Ethiopia and thereby overcoming the issues related with ICT and road infrastructure which the research found out the top challenge for financial inclusion. The Government is working aggressively on expansion projects on Ethio Telecom to inundate the Ethiopian people with mobile phones with planned target of 40 million subscribers and realizing 1.4 hours average time required to reach to all whether road by 2014/15 (GTP APR, 2013/14). Though the mobile penetration rate seems very promising but the network quality has remained a challenge which is a threat as having a reliable mobile network is uncompromising requirement for the provision of Mobile and Agent

Banking. In this regard, the Government should exert utmost effort towards enhancing the network quality to a level that meets the requirements of stakeholders either through developing its internal capacity or inviting foreigners to participate in the telecom business. From the Banks' side, they should pressurize Ethio-Telecom for extraordinary effort to improve network quality by entering to Service Level Agreement with Ethio-Telecom which enforces Ethio-Telecom to be accountable for any financial loss to be induced by poor network delivery.

In light of mitigating the challenge on the availability of appropriate Agent Banking delivery channels, the major bottleneck rests on the regulatory framework which denies the super agent management structure which could not propagate the objective of financial inclusion by restricting the communication line of the agent only to the nearest branch. In this regard, the existing directive should be amended together with the increase in daily transfer and deposit limit set for users and agents. As an additional way out for the problem, banks should be interoperable to increase the reach out of their customer so that agent/user of one bank may get similar agent banking service from another bank. Moreover, Banks should integrate all their alternate payment channels like POS at merchant locations and ATMs with their Mobile and Agent Banking platforms so as to increase the delivery channel and provide ease of use and convenience to their customers.

Education and awareness creation should be well employed by banks to overcome the financial literacy problem associated with agents and users. In this regard Ethiopia should take a lesson from experienced countries like neighboring Kenya. Co-opetition should be the modern day orientation that banks needs to follow to combat common problems. In one hand they compete through service excellence and on the other and they cooperate to overcome their one another problems like financial literacy. They should all put a concerted effort to educate the society at full scale level. Banks can also implement of an IVR system which initiate banking transactions through voice only message which can serve as one way out to overcome the illiteracy problem.

The risk associated with credit, operation, liquidity and reputational risks should be overcome through close monitoring of agents and their transaction, continuous sustainable education of agents and installing fraud detecting software which can monitor suspect transaction. Additionally, banks should tighten their internal working procedures in light of protecting the interest of the mass. Even if the research found the risk associated with physical and logical risk is insignificant, financial institutions should make themselves always vigilant to protect themselves from any possible threat that might happen in the future.

Competing services offered by banks remain a threat unless banks follow strategies approach not to discourage users of Mobile and Agent banking. Accordingly the pricing scheme should be competitive in such a way that the cost benefit analysis should not set the bank at loss. As Mobile and Agent Banking is a volume business, banks should focus on increasing the volume of the transaction considering only a marginal profit from single transaction.

Though the overall result from the respondents of the questionnaires attested that the regulatory framework and the Model adopted by NBE is conducive for Mobile and Agent Banking business, some respondents and interviewees critically criticized it by mentioning some of the pitfalls associated with it. The major pitfalls that should be revised in the regulatory framework are the lack of super agent concept, very low transaction limit which doesn't fulfill the requirement of business enterprises which their onetime transaction limit is higher than individuals, too stringent bureaucratic process to get operating license from NBE and strict due diligence policy to be an agent.

The National Bank of Ethiopia adopted the Bank-Led Model but the most influential challenges that the research found out were the shackles of Bank-Led model hampering the fostering of Financial Inclusion. With such model the researcher believed that successful implementation of Mobile and Agent Banking as a successful propagator for financial inclusion becomes a nightmare. The Ethiopian government should be bold enough to see

alternative that enables to overcome the challenges and harness the glamorous opportunity entailed to the business in a short period of time.

There are merits which the Telco-led Model is highly attributed to i.e. its ubiquity or reaching to the unbaked where its network is available which is the ultimate objective behind agent banking business. The research found out that infrastructural problem is the most influential challenge in the Bank Led Model which can be surpassed by the merit of the Telco-Led Model. On the other hand the demerit of the Telco-Led model is its vulnerability to risk which is one of the merits of Bank-Led model. The research found out that logical and security risks are not challenges in Ethiopian context and the risk associated with credit, operation and reputation can be mitigated through education. Therefore, an amalgam of the two evolves with the Mixed-Model that the researcher recommends as the best model of Mobile and Agent banking for Ethiopia with conditions that either Ethio-Telecom upgrade its service level to at least sub-Saharan standard or open its door for foreign telecom company. Otherwise, the Mixed-Led model might not be a recommended approach without fulfilling the above conditions.

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**Appendix 1**  
**(Cover letter to respondents)**

Elfagid Aregahegne  
C/O St. Mary's University  
Addis Ababa  
April 03, 2015

**TO WHOM IT MAY CONCERN**

**Dear respondent,**

**REQUEST FOR RESEARCH DATA ON MOBILE AND AGENT BANKING: ITS PROSPECTS AND CHALLENGES TOWARDS FOSTERING FINANCIAL INCLUSION IN ETHIOPIA**

I am a post graduate student at Saint Mary's University, Addis Ababa. I am undertaking a research on the **Prospects and Challenges of Mobile and Agent Banking towards Fostering Financial Inclusions in Ethiopia**, in partial fulfillment to the requirement for the award of a Master of Business Administration (MBA) degree.

I therefore request for your kind assistance in completing the attached questionnaire to the best of your knowledge. The information you give will be treated with strict confidentiality and is solely for academic purposes. Even where a name is given, it will not under any circumstances appear in the final report. A copy of the final report will be availed to you upon request.

Your assistance and co-operation will be highly appreciated.

Thank you.

**Elfagid Aregahegne**

*For further clarification or question please don't hesitate to contact the researcher at +251 91 1129716 or email: elfawul@gmail.com*

**Appendix 2**  
**(Questionnaire for Financial Institutions)**

**Part1: General Back Information**

1. What is the name of your institution .....

2. How many branches do your institutions have in Ethiopia?.....

3. How old is your institution? **(Please mark X in the space provided)**

0 -10 Years

11 – 20 Years

21 – 30 Years

Above 30 years

4. How many employees does your institution have?

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5. What is your position in the bank?

Top management

Middle management

Lower management

6. How long have you worked in the bank?

.....

7. How long have you worked in the current position?

.....

**Part2**

8. Kindly explain how Mobile and Agent Banking is structured in your institution? (No. of employees, functional level, accountability, etc)

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9. Kindly state the main challenges and prospects of Mobile and Agent Banking towards Financial institutions in Ethiopia.

9.1. **Challenges:** Challenges related to the structure, building agent network, liquidity, ICT infrastructure, cost of agent, legal framework, technology, infrastructure and software applications risks.

- a) \_\_\_\_\_
- b) \_\_\_\_\_
- c) \_\_\_\_\_
- d) \_\_\_\_\_
- e) \_\_\_\_\_
- f) \_\_\_\_\_
- g) \_\_\_\_\_
- h) \_\_\_\_\_

9.2. **Prospects:** Prospects related to: the Agent, the customer, Financial Institutions, the Government, Network Service Provider, Technology (MFS) providers

- a) \_\_\_\_\_
- b) \_\_\_\_\_



### **Part 3**

11. Kindly indicate the extent to which you agree with each of the following statements with regard to the **Challenges and Prospects** of Mobile & Agent Banking by your bank by putting an “X” mark in the space provided.

No.	Factor	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
		1	2	3	4	5
1	Mobile and Agent banking will enhance access to the bank’s services by both existing and new customers					
2	Mobile and Agent banking services are compatible with the bank’s existing service offerings.					
3	Mobile and Agency banking is easy to understand and use					
4	Mobile Penetration and high population growth rates, poverty reduction for the government, additional revenue stream for service providers and overall cost reductions for banks are the main drivers for Mobile and Agent Banking business in Ethiopia.					
5	Financial services can be provided profitably and sustainably to the unbanked/under banked if banks shifts from the traditional “bricks-and-mortar” infrastructure to more scalable, variable-cost channel.					
6	The level of development of ICT infrastructure and the road network significantly impacts Mobile and Agent Banking business					
7	Managing credit risk, operational risk, liquidity risk and reputation risk greatly influences Mobile and Agent Banking					
8	Competing services offered by banks influences the adoption of Mobile and Agent banking.					
9	Availability of appropriate Agent Banking channels influences the adoption of Mobile and Agent Banking					

10	Proximity and accessibility to a bank branch by the retail agents impacts Mobile and Agent Banking success					
11	Existing regulatory guidelines on Mobile and Agency banking services positively supports the Mobile and Agent Banking business in Ethiopia					
12	Education level/financial literacy of agents and customers has direct impact on Mobile and Agent Banking.					
13	Existing Model adopted by the National Bank of Ethiopia positively supports the fostering of financial inclusion in Ethiopia.					
14	Mobile and Agent Banking is an additional revenue stream, reduces costs, increase your customer base.					
15	In Ethiopia, physical security threat (e.g. robbery) has an impact on the provision of Mobile and Agent Banking services					
16	In Ethiopia, logical security threat(e.g. system breach, cracking, etc) has an impact on the provision of Mobile and Agent Banking services					
17	Mobile and Agent Banking can make Financial Inclusion a reality in Ethiopia given the prevailing business environment i.e. Political, Economical, Social and Technological environments.					

12. Please state any other comments you may have about Mobile and Agent banking business in Ethiopia

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**Your participation and assistance is highly appreciated!**

**Thank you, again!**

### **Appendix 3** **(Interview Questions to MoFED)**

1. Financial inclusion of the total population of a country people is every government's goal. Accordingly, governments all over the world are working on various strategies and regulatory frameworks to ensure they reach all those excluded. As a government organ, what strategies your Office is following towards making financial inclusion a reality in Ethiopia in general?
2. The financial sector is expected to play a pivotal role in mobilizing the substantial resources required to finance the envisaged flagship government projects. In this regard, in order to support savings and investment growth, implementing innovative financial service channels like Mobile and Agent Banking will assist to deepen Ethiopia's financial sector. What is your reflection on the whole idea and to what extent your office is committed to advance innovative financial service delivery to the financially excluded society?
3. There are major stakeholders in the provision of financial inclusion through Mobile and Agent Banking. Among which the major ones including MoFED are: Ethio Telecom, National Bank of Ethiopia, Financial Institutions (Banks, SMEs), and technology platform providers. What roles are you playing towards maintaining harmonization of the respective institutions for the benefit of all?
4. What is the financial inclusion rate of Ethiopia and what is your short term and long term plan to enhance the financial inclusion rate?
5. In your opinion what are the challenges and prospects of financial inclusion in Ethiopia and what do you suggest to overcome the problems and harness the opportunity from this emerging market?
6. In your opinion, which Mobile and Agent Banking Model is appropriate for Ethiopia? Circle one and explain why?
  - a) Bank-Led Model
  - b) Telco-Led Model
  - c) Mixed Model
7. What are the major limitations of the existing directive on the regulation of Mobile and Agent Banking (Directive No.FIS/01/2012)

## **Appendix 4** **(Interview Questions to Ethio-Telecom)**

1. Financial inclusion of the total population of a country people is every government's goal. Accordingly, governments all over the world are working on various strategies and regulatory frameworks to ensure they reach all those excluded. As a government organ, what strategies your Office is following towards making financial inclusion a reality in Ethiopia in general?
2. The financial sector is expected to play a pivotal role in mobilizing the substantial resources required to finance the envisaged flagship government projects. In this regard, in order to support savings and investment growth, implementing innovative financial service channels like Mobile and Agent Banking will assist to deepen Ethiopia's financial sector. What is your reflection on the whole idea and to what extent your office is committed to advance innovative financial service delivery to the financially excluded society?
3. There are major stakeholders in the provision of financial inclusion through Mobile and Agent Banking. Among which the major ones are: National Bank of Ethiopia, Financial Institutions (Banks, SMEs), technology platform providers, agents and mobile subscribers. What roles are you playing towards maintaining harmonization of the respective stakeholders for the benefit of all?
4. What is the current number of mobile subscribers in Ethiopia? What is the rate of penetration? What do you plan in the short term and long term?
5. Mobile network, as a dominant success factor for Mobile and Agent Banking service and as the sole network provider in Ethiopia, Ethio telecom is responsible to build efficient and reliable mobile network. What special effort are you exerting in this regard?
6. What types of technology solutions are currently available for conducting Mobile and Agent Banking in Ethiopia? Web based, SMS based (USSD) and Client based (STK) are common technology solutions worldwide. To what extent is your system is secure from any security breach?

7. The directive issued by NBE states that Ethiopia adopts the Bank-Led Mobile and Agent Banking Services. Do you think it is the right strategy? Do you think the Telco-Led model is appropriate in Ethiopia? Justify.
8. In your opinion what are the challenges and prospects of financial inclusion in Ethiopia and what do you suggest to overcome the problems and harness the opportunity from this emerging market?

## **Appendix 5** **(Interview Questions to NBE)**

1. Financial inclusion of the total population of a country people is every government's goal. Accordingly, governments all over the world are working on various strategies and regulatory frameworks to ensure they reach all those excluded. As a government organ, what strategies your Office is following towards making financial inclusion a reality in Ethiopia in general?
2. The financial sector is expected to play a pivotal role in mobilizing the substantial resources required to finance the envisaged flagship government projects. In this regard, in order to support savings and investment growth, implementing innovative financial service channels like Mobile and Agent Banking will assist to deepen Ethiopia's financial sector. What is your reflection on the whole idea and to what extent your office is committed to advance innovative financial service delivery to the financially excluded society?
3. There are major stakeholders in the provision of financial inclusion through Mobile and Agent Banking. Among which the major ones are: Ethio-Telecom, Financial Institutions (Banks, SMEs), technology platform providers, agents and mobile subscribers. What roles are you playing towards maintaining harmonization of the above respective stakeholders for the benefit of all?
4. What percentage of the population is banked? What is the branch to bank ratio? What is your short and long term plan to improve this?
5. Now the world is migrating from the traditional banking (brick and mortar) to the brick and click banking powered by innovative technology like mobile phones. What is the plan of the Bank from the two types of banking perspective?
6. NBE issued a directive on the regulation of Mobile and Agent Banking Services i.e. Directive No.FIS/01/2012 which states the Model adopted is Bank-Led Model which allows only financial institutions to conduct the business. What are the justifications to take up this model among other several Models like the Telco-Led model and Mixed Model?

7. As compared to the success of Telco Model in Kenya and other Sub Saharan African Countries e.g. MPESA, do you think Ethiopia can make financial inclusion a reality within reasonable period of time using the Bank-led model?
8. Financial institutions criticize NBE that the legal framework is tight and needs a lot of improvement. What do you comment?
9. What is the uptake rate of the license for Mobile and Agent Banking business by financial institutions? How many banks have got the license so far to run the business and what is their current status? What are the major problems behind?
10. In your opinion what are the challenges and prospects of financial inclusion in Ethiopia and what do you suggest to overcome the problems and harness the opportunity from such an emerging market?

## **Appendix 6** **(Interview Questions to Belcash Technologies PLC)**

1. Financial inclusion of the total population of a country people is every government's goal. Accordingly, governments all over the world are working on various strategies and regulatory frameworks to ensure they reach all those excluded. Within such scope, what do you recommend to the government regarding the strategy it should follow towards MFS providers like yours?
2. There are major stakeholders in the provision of financial inclusion through Mobile and Agent Banking. Among which the major ones are: Ethio-Telecom, Financial Institutions (Banks, SMEs), agents and mobile subscribers. What roles are you playing towards maintaining harmonization of the above stakeholders for the benefit of all?
3. Have you worked as an MFS provider for financial institutions in Ethiopia? If so, which bank and what are the major problems you are facing upon implementation?
4. What are the limitations of the existing regulation on Mobile and Agent banking i.e. Directive No FIS/01/2012 for MFS Providers.?
5. Where does your organization best fit within the available models for Mobile and Agent Banking i.e. Bank-Led Model, Telco-Led Model or Mixed Model?
6. As compared to the success of Telco Model in Kenya and other Sub Saharan African Countries e.g. MPESA, do you think Ethiopia can make financial inclusion a reality within reasonable period of time using the Bank-led model?
7. In your opinion what are the challenges and prospects of financial inclusion in Ethiopia and what do you suggest to overcome the problems and harness the opportunity from such an emerging market?
8. As a TS Provider, what are the possible technological risk in respect of the provision of Mobile and Agent Banking in the Ethiopian context?