MOBILE MONEY SERVICE PROVISION IN ETHIOPIA:

CHALLENGES AND PROSPECTS- THE CASE OF M-BIRR MOBILE MONEY SERVICE

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Declaration

I, the undersigned, declare that this study is my original work and has not been presented for a degree in any other university, and that all the sources of materials used for the study have been duly acknowledged.

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Acronyms & abbreviations

ACSI: Amhara Credit and Saving Institution

ADCSI: Addis Credit and Saving Institution

AML/**CFT**: Anti-money laundry and Combating financing of Terrorism

ATM: Automatic Teller Machines

B2C: Business to Customer

C2B: Customer to Business

CGAP: Consultative Group to Assist the Poor,

DECSI: Dedebit Credit and Saving Institution

ETIFT: Ethio Inclusive Finance technology

FGD: Focus Group Discussion

FI: Financial Institutions

G2C: Government to Customer

GSMA: GSM (Group Special Mobile) Association

GTP: Growth and Transformation Plan

HQ: Head Quarter

ICT: Information communication Technology

MFI: Micro Finance Institution

MFS: Mobile Financial Services

MM: Mobile Money

MMS: Mobile Money services

MNO: Mobile Network Operator

NBE: National Bank of Ethiopia

NFC: Near Field Communication

OCSSCO: Oromia Credit and Saving Share Company

OMO: Omo Microfinance

P2P: Person to person

PIN: Personal Identification Number

SMS: Short Message Service

SNNP: Southern Nation Nationalities people

SPSS: Statistical Package for Social Scientists

TSP: Technology Service Providers

ToT: Training of Trainers

UNCTAD: United Nations Conference on Trade and Development

USSD: Unstructured supplementary service Data

Abstract

Financial institution have been using several means in their desire to satisfy their needs in customer service and easier operational procedures. However digitalization of the same is a very recent phenomenon. As the financial institutions endeavor is to expand their customer base and provide the service to the unbanked society, a cost effective channel is required for them to have presence in most corners of the country. Mobile money service is currently being applied by most banks and microfinance's in Ethiopia or they are at the study level. This study tried to explore challenges in the provision of mobile money service in five microfinance institutions that are delivering M-BIRR service. The M-BIRR (mobile money service) as a service which is provided through branches and business that act on behalf of the financial institutions called 'agents' is not provided or has not utilized its promised or target plan as mobile money service in reaching every corner of the country. The study used secondary and primary sources of data to reach at its conclusion. The primary data is collected through focus group discussions, data form key informants, structured questionnaire for customers, agents and branch staffs. The data is presented with frequencies and percentages of the respondents analyzed using SPSS 20. From the data collected it is realized that there are several challenges that are faced by the financial institutions themselves internally, from their customers and agents and the society in general. At the same time the level of awareness of consumers is found out to be very minimal or nonexistence in most cases. It is found out that awareness poses major challenge in the provision of the service. It's the studies finding that internal technology adaptation behavior, business orientation of the MFIs, staff turnover, quality of training, customers/agents unwillingness to be associated with MFIs, low level of marketing and promotion activities and engagement, low level of communication and support of MFIs hierarchically, and poor customer service can be mentioned among others. The study finalizes that with a recommendation that FIs be engaged fully by dedicating a full time team that is responsible to overlook the MMS. At the same time trainings, marketing and promotion, development of trust by consumers, and policies that promote FIs institutions efforts and at the same time a policy that will allow FIs to accept supports from funding partners are recommended as activities to be considered in the provision of MMS in Ethiopia as MMS requires and consumes vast resources.(Key Words: mobile money service(MMS), provision of MMS ,M-BIRR service, digitalization ,major challenge of MMS).

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1 Introduction

The development of technologies in the recent years and their wide speared use of the same are providing opportunities for several stakeholders to make their best effort to use this technological advancement in different areas. Development in ICT and devices to utilize these innovations are increasing from time to time. Mobile technologies have shown different developments from its innovation to the current stage of development.

The financial sector is not far from this development and along with this technological advancement the sector has shown improvement on how the service is provided to customers. In developed countries financial institution infrastructure is well developed and the use of technology is mandatory. Consumers in such countries are also well aware of technologies and make transaction through different means. However in the developing countries the existence of poor infrastructure in general terms makes it too costly to operate a financial institution business. This makes it necessary to find a cost effective solution to provide banking service to the general service.

1.1 Background to study

Mobile technology has been in use for financial service since early 1990's and have been used as a means to notify customers any movement on their account. Since then there have been different progress in the use of mobile phones to access bank accounts. Currently mobile phones are wide spread are being used to open accounts without the requiring to have a regular bank account. Dzokoto V.A et.al (2014) in east and West African countries like Kenya, Tanzania, Uganda, Ghana, Nigeria and in Latin America like Brazil and Asia as well show that Mobile wallet account technology can be one among other solutions to provide financial service to the unbanked population of the developing world easily and in an affordable manner.

Among several, Ethiopia is a country that adopted the technology and is on track to provide the service to many Ethiopians. According to NBE directive No FIS/01/2012 the first directive was issued on Jan 1st, 2013 and several banks and microfinance institutions have acquired permission from National Bank of Ethiopia (NBE). This documents tries to analyze one of this mobile

money services in Ethiopia called M-BIRR. Even if mobile wallet has its own benefits to the county in general and several benefits to other stakeholders, it has its own challenges in its provision. Therefore as the researcher himself is involved in the deployment of the service, this study is conducted with the aim of identifying these challenges and prospects that M-BIRR can bring for the financial institutions (FI's) in that are providing the service and anyone involved.

During the past decade, mobile phone has evolved to become an integrated and central part of our everyday lives. Over time, new features other than calling and sending text messages have been added into the mobile phone, thus increasing its usefulness and value (Tuunainen & Mallat, 2008). One of these additions to the mobile phone's capabilities was the introduction of Mobile Financial Services (MFS). It has become an increasingly noticed field of study as consumers are becoming more engaged with their mobile phones. Today, it is possible to observe a drastic increase regarding usage of mobile solutions in different countries and industries for commerce and payment (Edbor & Soltanieh, 2013).

Mobile Money (MM), a fraction of MFS, has since it emerged expanded and scaled quickly. Globally there were at the end of 2013 a total number of 203 million registered MM accounts and 219 live deployments. But only 60 million of these accounts were active, accounting for only 29.5% activation rate, and only 13 of these services have reached scale and have over 1 million active users (Pénicaud & Katakam, 2013). Looking at these facts, an interesting field of study arises addressing the question of driving activity. It is clear that the service providers, for example Mobile Network Operators (MNOs) and banks, need to start focus on driving activity from the existing registered user base, in addition to doing extensive campaigns to add new users. It is of vital importance that the service providers gain an understanding of *how* and *with what* they can convert registered users to active users (Bhatia, 2013).

From its very start, M-BIRR service has been challenged by different stakeholders at different stage of the service deployment. M-BIRR which is a service that is provided by five microfinance's in Ethiopia commenced as a project in 2009 and started full scale operation in the year 2010. However, even if the expectation was to launch the service in the year 2012, it was not successful. By the time Ethiopia did not have a regulatory law to control mobile money

service of financial institutions. Therefore M-BIRR service and few others who had to wait until NBE develop a directive workable for Ethiopian financial institutions.

After its introduction the pace and expansion of the service hasn't been met. Currently from its commercial launch in December, 2014 there isn't much of a progress. All the microfinance's that are involved did not activate all of their branches; don't have the expected beginning three agents per branch agents which are associated with it and the number of customers being enroller in the service are at its minimal, know how on such service is very low. While in Kenya mobile money service called M-pessa has been able to acquire 2.37 million subscribers in just over a year (Jenkins and Beth 2008).

1.2 Problem statement

The use of banking service and its acceptance by consumers in Ethiopia is in its infancy level. FI's while trying to reach customers through the use of different available channels, lack of resource and financing makes it more difficult to reach the unbanked people of Ethiopia. The use of technology to solve such problems is vital in adopting it and delivering the service to the general public. Banks use different means to ease access to financial services. Recently, in the past 5 years, the number of bank branches opened is more than that exists before the five year period. Besides that the requirement set by the NBE to expand capitals of banks makes it more demanding for banks to work for financial inclusion besides profits.

With the limited resources opening bank branches alone is not a sustainable form to provide access to the unbanked people of Ethiopia. Mobile and agent banking as a solution for financial inclusion and to provide banking service easily through different channels is assumed to have a big role in the finance industry. Mobile phone penetration is increasing from time to time in Ethiopia. According to NBE report of 2014/15 mobile phone subscriber stand at 38.8 million, while eighteen banks (Two Government and 16 private) branches reached 2693 and 35 MFI's with more than 1200 branches across Ethiopia.

Financial inclusion is among one of the first priorities of the government and NBE. Banks are expanding from time to time by increasing their reach through branch network. However,

opening a branch is becoming costly day in day out. Working towards financial inclusion through mobile and agent banking service is assumed to be a solution for it in developing economies (world economic forum, ITU-T Technology Watch Report 2013, GSMA report 2015). Mobile and agent banking have their own role in financial inclusion and other benefits that come along with the service however with it has its own challenges starting from its implementation, agent network development, awareness creation, building trust in the community and the service delivery as well.

The M-BIRR service from its beginning has been struggling to commence the service and even after commencement in the service provision and deployment of agent network until this study is started. Starting from the pilot is officially started in Feb 2013 the M-BIRR service has been facing different challenges. These challenges continue to persist even after a full service launch was authorized from NBE on 25th of Dec 2014 to the five microfinance's. Even if the service fully authorized by NBE the MFI's who own the service are not far fetching behind in activating the service in their branches and developing their network of agents. This is due different reasons which are to be explored in this study as the aim was to reach millions of customers and thousands of agents throughout the country in one year time let alone two.

Acceptance of new technology by consumers especially a technology that is associated with money, requires developing trust in the society to offer the service as required. However customers take time to register for the service and utilize its benefits for both consumers in rural and urban areas. Even if mobile money service offers variety of opportunities for different stakeholders, it has been challenges including regulation from NBE, MFI's readiness and ownership of the service, and others. Besides the expansion the delivery of the mobile money service in Ethiopia has been a challenge to introducing, delivering the network, on boarding stakeholders involved and acquiring different customers and marketing the service.

According to earnest and young report mobile financial services and mobile commerce are not new concepts in the telecom industry. Mobile network operators began exploring the concept of mobile payments in 2000 with little success. However, recent advances in handset functionality, chip and mobile network technologies, and upgrades to point-of-sale infrastructure have

dramatically improved the environment for mobile money solutions, bringing together different industry groups, such as banks and operators. The growth of mobile money services is set to be one of the most significant trends of the coming years. As technology advances and the mobile money ecosystem expand, mobile phones are becoming a multi-purpose payment platform. Mobile money transactions across the globe will transform the world of finance and the world of mobile. It will change human's lives with increased convenience, enhance the standard of living for the unbanked population and stimulate economic development.

This study will try to fill literature gap that exists in the mobile money service with attention to Ethiopian financial sector. Besides, its main concern will be in providing the strategic values that mobile money can provide to FIs. Currently most private and government owned banks and MFI's are trying to implement mobile money service in their respective operation. Even if banks & MFIs are engaged in the development and implementation of the service, they do not understand the resources and level of engagement required from them to deliver the service. Mobile money service requires more dedicated resources and cannot be provided as one of other products provided by the banks/MFIs.

1.3 Research questions

The study answers the following research questions.

1. Are consumers aware of mobile money service in Ethiopia?
2. What are the prospects of mobile money service provision in Ethiopia?
3. Are there any challenges in providing M-BIRR service?
4. What can be suggested to improve mobile money service provision in Ethiopia?

1.4 Research Objectives

1.4.1 General objective

The study generally tries to identify challenges and prospects that are associated with the provision of M-BIRR mobile money service.

1.4.2 Specific objective

At the end of this study it is expected to accomplish the following specific objectives.

1. To explore if there is customer mobile money service awareness in Ethiopia.
2. Explore prospects that can be derived from M-BIRR (or in general from Mobile money service)
3. To identify if there are any challenges faced in the provision of M-BIRR service.
4. Explore any suggestions that can be made to improve the provision of M-BIRR service.

1.5 Significance of study

The findings of the study will have a great value in particular to several stakeholders who are engaged in the mobile money service and in general for the financial sector actors. For M-BIRR service providers this study will provide them what actually is the service from progressing as expected and opportunities associated with it. This will help them identify their problem and take remedial action to get fast response and take the market share they sought to take at the beginning of the service. For other financial institutions who are engaged in the same service and who seek to engage in the service according to projection of NBE for GTP II, it will serve as a guideline on how to implement and provide the service.

For other industries who work very closely with such financial institutions, including the regulatory body, the study shows opportunity to develop new areas of business or side

businesses. In addition the study will fill the gap in literature, as mobile money service is new concept for Ethiopia; it will provide an insight on the service and can be used for further research as a bench mark. At last but not least it will assist as an input to the NBE in providing with adequate, protective and timely directive to financial institutions in the delivery of new financial products.

1.6 Scope of study

Mobile financial services have many facets and can be discussed in differently as there are several financial services provided through mobile phones. This study will concentrate on the mobile money service and the agent banking service associated along with it. Therefore it will conduct the study in the provision of M-BIRR mobile money service and agent banking service provided in Ethiopia. According to the objective of this research the scope will be limited to challenges and prospects of MMS provision.

The study will be conducted on the five MFI who are currently offering the service. Other financial institutions that are in the process of providing the service will not be considered for the study. In addition to this the study will concentrate on areas where the above listed FI have activated their branches and agents. Those branches that are not activated for the M-BIRR service will not be considered.

1.7 Limitation of the study

As a study conducted on a service that is being introduced in Ethiopia this study have limitations in different ways. In conducting the research data have been the major challenge. Secondary data's and researches were unavailable and primary data was scarce as there is little know how of mobile money service. Honest and transparent data were also one challenging part as the service is in its infancy level information was not easily accessible from each FI offering the service. In addition to this the level of engagement by FI in the service (i.e. how far they have gone in delivering the service) will impact the outcome of the research as there will not be sufficient data. The study is constrained by lack of previous research works conducted in the local context

and depend largely on relevant literatures; other country's research outputs, MMS & technology providers' experiences and regulatory frameworks as well as the M-BIRR MMS relative experience starting from the pilot period. In addition to this the introduction period of the service has limited the study period.

1.8   Structure of the thesis

The research is organized in a way that will help readers understand it very easily. Accordingly chapter one has discussed the introduction of the paper which includes background of the study, statement of the problem, objective of the study and others. Chapter two discusses theoretical analysis and empirical analysis on the area of mobile money service and agent banking. The third chapter (Methodology) describes the chosen research methodology and methods used to perform the study analysis. It also presents short descriptions of the interview objects and the limitations of the research methodology. Chapter four, Results and analysis, presents the findings from focused group discussion, interviews with experts and stakeholders in the industry, questioners from customers and agents and response from technology service provider. The fifth and last chapter (Conclusion and recommendations) ends the research by answering the research questions. A discussion on limitations of the study, its results suggestions of future research areas are presented.

2   Literature review

2.1   Introduction

This chapter reviews the literature on mobile money service and challenges from theoretical and empirical sides. From this review, broad categories will be derived which help to identify the critical challenges M-BIRR mobile money will have in its provision and the potential prospects associated. Specifically, the chapter addresses the theoretical framework guiding to the study, challenges prospects and study gaps that can address the Ethiopian financial sector in terms of mobile money service.

2.2   Theoretical review

2.2.1   What is mobile money service?

Financial institution services through mobile phones have had different use of terms and definitions that come along with different writers. Some call it mobile banking, others mobile money service, mobile financial service while others call it mobile wallet service. Each term and definition provided is correct by themselves. However there is a clear differentiator through the services that are offered using mobile phones. Clear definitions used by scholars and researchers will be described in this research as part of clearing the ambiguity of terms used in the delivery of mobile money service.

The concept of e-payment or mobile payment systems started when it was trialed in Finland in 1998 and was commercialized in Norway the following year (V.Danghaheem 2013).It should be noted that the services made available by banks vary from one to the other even if the common services and most common services that are known to mobile banking are Balance Enquiry, Mini Statement, Money Transfer and Utility Bill Payments (Ibid).

V. Danghaheem classified mobile banking service as SMS banking, Application (Software) oriented; Browser (Internet) based model and Mobile Apps. SMS Banking is when an account is associated with a specific mobile phone number and communication to the account owner is done through SMS notification. Application or Software oriented refers to the use of downloaded

application provided by the bank for mobile banking services that are made available by the bank. On the other hand browser based mobile banking relates to internet based mobile banking where the communication made to internet application which is optimized for mobile handsets. At last but not least mobile apps refers mobile applications developed for Smart phones using Android, and others.

Gabriel Demombynes and Aaron Thegeya according to their World Bank report in 2011 defined mobile money service as electronic money account which is easily accessed through mobile phones. These accounts may or may not be linked to a regular bank account but usually work as a standalone service. These services do not pay interests or provide loan. This and other definitions started to come when e-payment started to move from just card payment and more services started to be included in mobile phones.

Another writer Gencer 2011 considers mobile money service as equivalent to mobile financial services. Mobile money service is a service in which there exists account linked to mobile phone, electronically stored money, mobile phone applications, availability of mobile network, network of agents and branches where customers can exchange cash for its equivalent electronic amount, easy access to the account to send money, make payments and insurance along with other products. Mobile money service makes it much more user friendly and easily accessible as it can be used with the existing account or separately as a standalone service. The same definition also divided MMS to three in which there are mobile payments; mobile finance and mobile banking service in which most MMSs around the world currently encompass. The figure below shows these relationships:

Figure 2-1 Mobile money service typology (source: Gencer 2011)

Mobile money = Mobile Financial Services
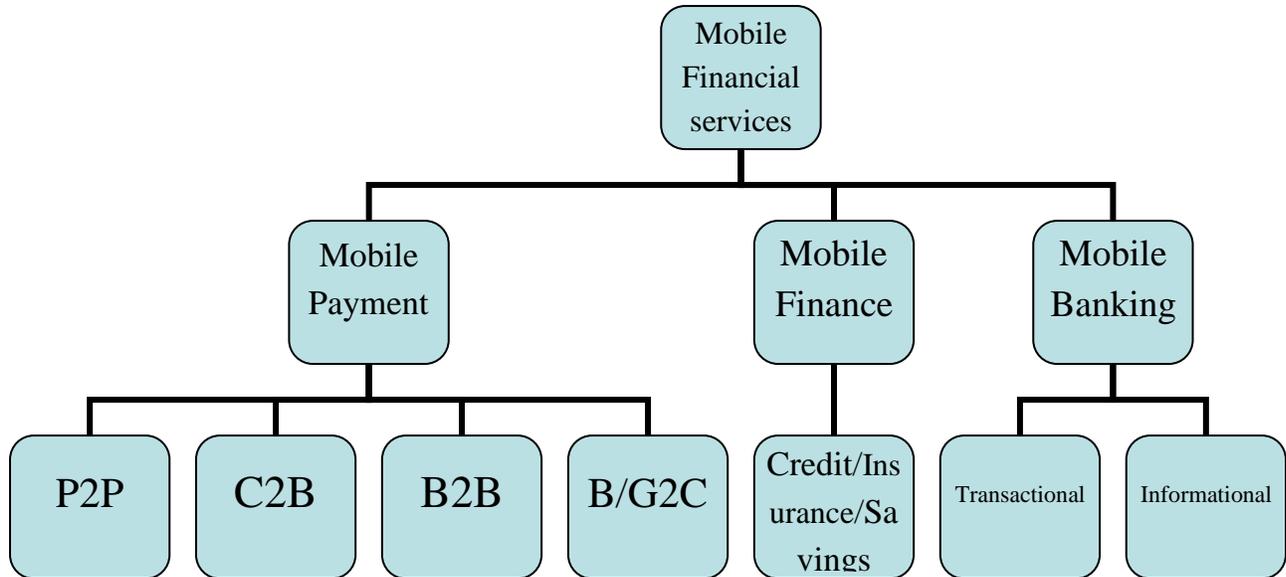
Another definition to look at while defining mobile money service is Milad Fallah and Johanna Luo, June 2014. They tried to define Mobile Financial Service (MFS). MFS is divided in to three sub groups namely Mobile Money, Mobile Insurance, and Mobile Credits and Savings. Mobile Money includes services such as P2P, C2B, B2C and G2C, which is almost the same as Gencers mobile payment which is a sub group of mobile money service.

Mobile money service involves basic mobile phones, customers depositing and withdrawing money at agents networks, initiate transaction using interface on their phone, electronically recorded transaction, electronic balance can be redeemed to its equivalent cash amount. The same mobile money service might be referred as e-wallet or e-money in countries where there exists a definition of the same country.

Mobile money service is referred as mobile banking service in Ethiopia. National Bank of Ethiopia (NBE) addresses mobile money service provided by financial institution with a directive issued on Dec 31, 2014 with effective date January 1st, 2013 under the name mobile and agent banking service.

According to a research by Mesfin (unpublished 2015) the NBE directive with regard to mobile money service lacks clarity and is open to definition. Diniz et.al 2011 in their theoretical study of mobile money service argued that there is no clear delimiter in definition of mobile money service and associated service with mobile phone but there are arguments over the terms as well. Depending on the technology, goal, objectives and characteristics, financials services may imbed mobile banking, mobile payments and digital money features. When combining all the above characteristics of a financial service we found mobile money. Mobile money service encompasses service features of mobile banking, mobile transfer or payment and digital/electronic money.

More studies may be required to clearly delimit the differences between the terms used and their definitions for financial services in relation to mobile phones. However for this study the following terms and definition are used and will be applicable throughout the study.

Table 2-1 Definition of the main concepts employed in this research study (Source Diniz et.al 2011)

S.No	Terms	Definition
1	Mobile transactions	This refers to transactions carried out through mobile technologies and devices. In addition to mobile payments, it includes every kind of mobile transaction offered by technology, whether it involves financial values or not.
2	Mobile payments	Mobile payments include payments made or enabled through digital mobility technologies, via handheld devices, with or without the use of mobile telecommunications networks. These payments are digital financial transactions, although not necessarily linked to financial institutions or banks. There are several models of mobile payments that are currently employed worldwide.
3	Mobile banking	Mobile banking can be understood as a set of mobile banking services, involving the use of portable devices connected to telecommunications networks that provide users with access to mobile payments, transactions and other banking and financial services linked to customer accounts, with or without the direct participation of traditional banking institutions. This concept can also be regarded as the banking channel through which the digital mobile services are provided by the institutions to their clients, i.e. by integrating the concepts of service and channel.
4	Mobile money	Electronic money – being essentially digital – has attributes related to mobility and portability, and is equivalent to mobile-money or mobile-cash. It can be differentiated from other means of electronic payment (such as credit cards, debit cards, smart cards, etc.) because of its ability to replicate the essential

		attributes of traditional money, such as: liquidity, acceptability and anonymity. Mobile money may be related to mobile wallet, which refers to a digital repository of electronic money developed and implemented on mobile devices, allowing peer-to-peer transactions (P2P) between mobile devices (M2M) from users of the same service. It is similar to a normal physical wallet and is able to store money and credit and debit cards.

2.2.2 Players involved in mobile money service

Mobile money services across the world might take different forms in their service delivery, business model or orientation they take. But in all types mobile money services there are several players and stake holders who will be involved in the service delivery. These players and stakeholders play different roles with different or same derive in the mobile money service eco system. The first that can be explained is MNO. This stakeholder plays a crucial role in providing the infrastructure in running the service. Mobile money uses already existing mobile phone network, there will not any other cost associated with it, mobile money assists the MNO in expanding its reach ability and sell of its own products besides the mobile money. (UNCTAD)

The second one is financial institution with infrastructure and branch network which operate under the national regulatory body. These financial institutions may serve as banks that hold the money or provide the service. In providing the service, mobile money allows them to reach customers with the traditionally undeserved areas with cheaper cost. The third actors are regulatory body of financial services and telecom industry. The regulatory bodies' activity varies from the liberated market to most regulated markets. Regulatory bodies play crucial role in providing an environment where mobile money service operates.

Fourthly, are technology service providers (TSP). These are companies that provide the mobile money service platform and technology where the mobile money service operates or is outsourced from. TSPs provide the platform indifferent manners including but not limited to purchase, license, and revenue sharing. The other players in the mobile money service platform are agent network that perform cash-in and cash-out services, Merchants, retailers and business who accept mobile money payments to facilitate their businesses, and mobile money service subscribers which are subscribers to MNO services who utilize mobile money service to make payments or transfer to other individuals and business. (Ibid)

2.2.3 Models of mobile money service

Mobile money service is provided through different models. The model is based on who provides the service and who owns it. The most commonly used models of mobile money services are three, but in some literatures we might find that there are four models of the service.

As described by Earnest and Young 2015 report, there are four types of mobile money service models that countries follow to utilize the very purpose of the service. The four models are Operator-centric, Bank-centric, Payment network (joint-venture types) and Multi-consortium (Banks, mobile operators and trusted third parties cooperate to accomplish the deployment of mobile applications. V. Devadevan (2013) however described models of mobile money as two which is Bank or MNO led model, which are the two extreme points of any model in MMS. Ernest and young description of the model is by taking the two end points and finding a middle ground where there exists collaboration or other partners are introduced in the middle.

The most frequently used business models for mobile money service are three. These three business models, as described by Ernest and young, takes the two end points in who delivers the service. Mobile money service is provided either by a FI (bank or MFI) or MNO. Earnest and young takes the two and for the third model it tries to find a midpoint between the two models based on the participation of either the bank or MNO. MNO led model is when the MNO takes every responsibility of the service starting from the ownership, the technology, agent network development and management, customer registration and use of the service. This is a model in

which MNO will act as financial institution and banks are used only to store values collected from customers.

On the other hand Bank led model is when mobile money service is operated, as the name implies, with the ownership of financial institutions. In this scenario the FI's own each and every action of the service (they own the service). The MNO will only have a partnership agreement with the FI which is offering the service. In the bank led model the FI's not only take the responsibility of managing the service but as some countries policy dictate will regulate the service because it is provided by FI unlike MNO. The technology used for the MMS in this scenario either can be directly procured from TSP or a different business model can be arranged by the FI with the TSP. The third business model in MMS is the collaboration and partnership of both the bank and MNO or any other intermediary. In such a model the responsibility is shared between the stakeholders and all revenue are shared amongst them on the basis of a predefined agreement between them.

All these being said the models used are dictated by financial policy a country adopts towards the delivery of MMS. Therefore based on the policy adapted MNO's and FI's follow those policies accordingly. Ethiopia for instance has adopted bank led model while the neighboring country Kenya follows MNO led Model (but not limited to MNO only FI's can have their own service as well).

2.2.4 Mobile money services and microfinance's

Mobile money service is believed to provide banking service to the unbanked population of the world. It provides a platform whereby unbanked societies of the world especially in the developing countries. Financial inclusion is not left only to banking services; MFI's are ideal institutions to provide banking service to rural customers and the unbanked society. Mobile money service coupled with outlets of MFIs, it brings easier access to financial service to the unbanked society. GSMA (2011), easy paisa success in Pakistan is subject to Telenor's telecom company integration and connection with Tamers MFI. Telenor's purchase of 51% of Tameer's share helped in deploying easy paisa service and agents across Pakistan using Tamers branch network and Telenor's airtime top-up shops and turning them in to cash in and cash out points.

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That being said, MFIs to provide mobile money service and agent banking in almost all cases do not have the capacity and finance to have their own system. According to Kabir Kumar et.al 2010, the role that MFIs can play largely depends on the presence or absence of widely available m-banking services. Availability of infrastructures that allow MFIs to expand their customer and market base depends on their decision either to own their MMS or use service developed by other companies either by partnering or acting as an agent. Developing an m-banking service takes a significant amount of planning, time, financial investment, organizational and operational change, technical expertise, and persistence which makes owning the service difficult for MFI to own such kind of services as there are limitations in finance and capacity to roll out such big project. This eliminates option one for MFIs and look for option two or three. Partnering with an MNO gives an emanating success to the MFI in providing the service.

The other scenario is when MFIs and small banks tackle such infrastructure and financial problem, in collaboration with one another as a group. Strategic alliance, of course, comes with many challenges. Coordinating all involved in the service might take enormous amounts of time and energy, especially at the senior management level. However, that being said several banks and MFIs that work together as a group on MMS and agent banking will bring advantages that they would not achieve independently(CGAP):

Smaller banks and MFI providing services using mobile phone and agent banking service will benefits not just in the above scale effects but also by better customer satisfaction, reaching new customer base, reducing operational costs, and new revenues. Not limited to the benefits that come with mobile money service, MFIs have a range of options to choose from to implement MMS. While choosing between different engagements, each decision should be strategic, carefully planned, with the right timing and method & level of involvement should be identified.

2.2.5 Mobile and agent banking service

2.2.5.1 Services available from mobile money

Available services on mobile money vary from one country to another. The variance may depend on the service provider or the regulation of a country. Even if services vary typical mobile money services may include the following. (Source: Earnest and young, GSMA report, M-BIRR service manual)

1. Deposit and withdraw money;

2. Local Money transfer;

3. International remittance;

4. Pre-paid top up;

5. Bill payment;

6. Saving account;

7. Buy goods;

8. Micro Insurance;

9. Stock trading;

10. Inter account fund transfer

11. Loan disbursement and repayment;

12. Other administrative services (Balance enquiry, statements, Language change)

2.2.5.2 Benefits of mobile money service

Mobile money service provides range of benefits to stakeholders involved in the service delivery and provision. MMS benefits are not limited to those stakeholders that are involved in direct delivery but also for the country in general. Several scholars have done researches on mobile money with relation to financial inclusion, economic growth, and effect on local community, benefits to financial institution and others. Even if it has been tried to prove through study the benefits different stakeholders involved in mobile money service provisions, different mobile money service s around the world preach several benefits that can be derived from the service.

Benefits derived from mobile money services can be seen from the stakeholder's perspective separately. Mobile money service and agent banking provide range of benefits to a country, FI, MNO, agent (Merchant) and customer. GSMA, Ernest & Young and M-BIRR operational documents, Diniz et.al listed several benefits that can be gained MMS.

2.3 Challenges and prospects of financial services industry and mobile money service

Innovation implementation has its own challenges. Klein K.J and Knight A.P. (2005) in their study on Innovation implementation to overcome the challenges found six factors play crucial role in implementing new innovations. The study described several organizational characteristics that describe why innovation implementation is so challenging. These factors indicated include policy and practices established quality & quantity of training available, technical assistance for users, availability of rewards, and the quality accessibility, and user-friendliness of the technology itself. On the other hand organizations climate for new innovation, managers' support for the innovation, availability of financial resource, learning orientation of the organization, and managerial patience play major role as the others do. After a decision is made to adopt innovation to ensure targeted users' sustained and skillful use of innovative technologies and

practices, managers must devote great attention, conviction, and resources to the implementation process.

Jabra a telecom product tried to study challenges of implementing new technology of unified communications (UC). In this study the company found out that even if there are list challenges provided by respondents the prevailing issues raised were, age of employees, inadequate training, and resistance to give up established tools, lack of integration with existing tools, employee resistance to change existing ways of working. In the same research it is described that the real critical success factor of any implementation project is the ability to break through "fixed ideas." The extent to which this can be done will have a decided impact not only on the success of the implementation, but also the success of the system once it is in production. In the implementation process the challenging factors that will provide failure can be little or no management involvement/commitment, Poor skill sets among users, resistance to change, being neglect (always finding something more important to do), inadequate staffing and just do it attitude to mention some.

Banerji S.C (2013). Implementation of new technology in any company; if its installation and adaptation is handled with a correct perspective; provides companies with increased speed, less paper work, cost effectiveness, improved transparency. This is attained if professionals acquaint themselves with the skills required and have already developed the traditional skills in the ongoing business. But such implementation is challenged with employee orientation, work culture, security concerns, cost factor, training and learning, and technical limitation.

Current market for financial institutions has become extremely rough and competitive, which is characterized by price competition, overcapacity and new distribution model. Rianne V. and Diederik Ligtenberg (2015)conducted a study on effective cost analysis for the financial services sector. The effect of cost pressured from other direction in terms of intensified competition from niche firms, leaner rivals and emerging markets are making the sector tougher. In addition to this introduction of new regulations and reports in different aspects of the sector are making the challenges faced by the sector much stronger.

Challenges faced in mobile money service can be seen from different angles. For the purpose of this study challenges of implementation and service provision will be discussed. Tumuzoire J.K (2016) studied the challenges and opportunities available for MTN Uganda. In the study the researcher divided the challenges in different categories. The categories are regulatory challenges, market/business challenges, and administrative. Senso N.C and V. Venkatakrishnan (2013) also studied Challenges of mobile-phone money transfer services' market penetration and Expansion and found out that mobile phone ownership, agents unavailability, Poor network connectivity and unreliable services, Lack of information and understanding among non-users, Expensive transaction charges, Fraud/risks in mobile money transfer and limited mobile money service varieties in Tanzania have hindered the development of use of mobile money service in Tanzania.

Microcredit summit campaign conducted a study the challenges of mobile banking for MFI in its implementation and users interaction with the technology. In the study it is found out that lack of necessary infrastructure, clients capability and costing have greater effect in the adaption and use of mobile banking service. Unavailability of infrastructure coupled with constraints faced by MFIs (Financial, technical and operational) poses difficulty to service the community that live in dispersed locations and where mobile network infrastructure is far from reach. Little or no education background along with Know-how on how to use mobile banking service on mobile phones takes the major share as it involves teaching clients

Agwu E.M & Carter A.L (2014) studied the benefits problems and prospects of mobile banking in Nigeria. In its findings accessibility, affordability and not depending on internet is described as giagantic advantage unlike other banking services. However even if this is the case individuals both in urban and rural areas prefer to use the traditional banking services due to the challenges related with mobile banking. The study revealed that mobile network infrastructure, lack of awareness and minimal effort by banks to create the awareness, cost of the service (for low income earners), age of users (old people prefer to visit banks physically), type of occupation, technical ability to use the service, and level of education have its effect on mobile banking. Besides all this facts the ever growing mobile phone penetration and increased young population

of Nigeria and Africa in general services as the biggest opportunity for the mobile banking service.

Dzokoto V.A et.al (2014) a study on mobile money service in Ghana revealed that there is an increase in the usage of MMS from time to timeand there is significant potential for growth as well. However this change is not free from challenges. After interview with customers, retailers, merchants, individuals who are directly or indirectly involved in MMS, the study have identified challenges and barriers for MMS. The barriers for MMS service are limited Utility of MM in the financial sector, agent-specific issues, lack of information/knowledge, difficulties in developing effective Bank Partnerships and regulatory Issues, competition between MNOs/banks, preference for cash, anti-mobile money perspective, pro-mobile mobile perspective, mobile network problems, and susceptibility to fraudulent activities around retailers.

Even if it is challenged from time to time the financial sector provides its opportunity to the general public as well. Juzhong Zhuang J. et.al. (2009) described that financial sector development impacts poverty reduction in two channels, indirectly through economic growth and directly though the poor accessing financial services. Developed infrastructure allows the country to grow and that will have its effect of the economic capacity of individual households who are accessing the financial sector services.

2.4   Empirical Review

Mobile money service though a recent phenomenon in the world but is providing several impacts in the financial sector with its several facets. Several studies have been conducts to describe the nature of the service, its applicability, business models to follow, its support to financial inclusion, economic growth, poverty reduction, challenges in its implementation and opportunities for the business and the country in general. The studies conducted show the several services that are made available through the use of mobile phones.

Tiwari R. and Buse S (2007) On an empirical research conducted to see the viability of mobile banking services of banks. The study found out that customers are willing to pay for such services and identified 17 services (bundled in three) that they can use from their mobile phones. The first and most preferred service is mobile accounting which includes, remittance (transfer), bill payment, standard insurance subscription and, administrations services (PIN). Besides the fact that they want to use the service they were also willing to pay for the services offered.

Mobile money service has been in a scale up in different parts of the world. After the commencement of M-Pesa MMS in Kenya in 2007 the number of services available in the world has shown a big & promising change. According to GSMA 2015 report, at the end of 2015 there are 271 services across 93 countries and from this 93 countries 51 of them have enabling regulatory framework for MMS. By the end of 2015 there are a total of 411 million total customers, and in the three month period from Oct-Dec 2015 134 million accounts where active. From the total consumers 33 million transactions are conducted per day. Out of this sub Saharan African countries take the lions share.

This part of the study tries to see studies in other countries especially in east African countries. Even if the service is recent for the east African countries, e.g. M-Pesa of Kenya started is pilot in 2007; they are the success stories to find in most publication of mobile money service.

Erickson (2010) conducted a study on mobile money or the alternative name used 'cell phone banking' in developing countries especially on mobile money provided by microfinance institutions. Cell phone banking according to Erickson involves the transfer of either domestic currency or mobile credits and stressed that mobile money can increase access to financial services, can serve as a poverty reduction tool (through increasing savings rates, creating jobs, and increasing access to financial products). The study concluded that Microfinance institutions in particular can benefit from the use of mobile money as they as situated in a strategic locations to service the general public. Even if the benefits are boldly describes, regulatory and initial investment barriers prevent widespread adoption of mobile money. Based on the potential of mobile money service the writer recommended that governments need to subsidize the development of home-grown mobile money infrastructure and adopt policies that enables the development of mobile money service and agent network.

In a study conducted in Tanzania, on the use barrier and opportunities by inter media group feb 2013, describes that the existence of several mobile money services is perceived as a replacement for informal money transfer to send money between family members and is used slightly to purchase other services made available and to deploy the service establishment of trust is the founding stone for each type of services available (M-Pesa, Tigo Pesa, and Airtel money). Liquidity is raised as the main challenge with agents to perform transaction and availability of the agents in their premises is added besides the liquidity.

Mobile money service in Pakistan is dominated by easy paisa which is formed by Telenor Pakistan a MNO in Pakistan with Tameer bank (An MFI) which is one of successful mobile money services in the world. With a combined effort of Telenor Pakistan and tameer bank they were able to take higher market share in the sector. The organizational structure developed to easily monitor and develop capacity of agents, rapid roll out of a national distribution network and on-job and off-job training have provided them with such a success. At national level in Pakistan at the end of 2012 there were 41, 567 agents with a rate of 33 Over the Counter transactions (OTC) for top performers and 2 transactions for low performing agents. (GSMA Report)

UNCTAD (2012) says in East African counties at least on average there are four mobile money services. Nationwide in Kenya there are four mobile money services and 71.3 per cent of mobile money subscriptions out of the total mobile subscriptions use mobile money service. The M-PESA platform in Kenya stands out in several aspects. On the third month of 2012, M-PESA reported that there are more than 37,000 agents, the service is linked to 25 banks and the account can be access from 700 ATMs across the country. During the same time M-PESA has more than 15 million active customers who transacted an estimate amount of over 56 billion Kenyan shilling every month. M-PESAs dominance was not only on these factors but also through its influence on the regulatory landscape and the shape of subsequent platforms across the region.

V. Devadevan (2013) on a study of issues and challenges in India on mobile banking, they described that new technology development on 2G, 3G, or 4G and other developments has prevailed a challenge for the banks in keeping up with current technologies. In addition to that customers feel comfortable in using ATM & online banking instead of mobile banking, this is partially due to risks associated mobile phones theft. Technological problems related with mobile banking transactions and PIN, securities issues, awareness on how to use, and language of the service are considered to provide a challenge on mobile banking.   S.M. Sohel Ahmed (2011) with a study to analyze the prospect and problem of mobile banking in Bangladesh identified a basic problem of knowhow on mobile banking, on the other hand as a prospect it helps to reach far customers with less cost for the banks i.e. providing banking service to the unbanked, falling cost of mobile handsets, providing a service that makes life easier (in terms of secured & speedy services). In this study more concentration is on problems on mobile banking service instead of emphasizing on both problems and prospects.

GSMA (2011) discussed the challenges that mobile money service face in their implementation and interaction with their customers. The study among other challenges described three as the main challenges faced. These are target market segmentation, complicated mobile money service customers journey, and marketing mix required to promote the service. In this study it was found out that by June 2011 there were 60 million registered customers but only 6 million of them were

active[1]. In discussing how MMS customer journey is complicated, the study showed cycles of consumer's use of MMS. The following picture is adopted from the study.

Unaware	Awareness	Understanding	Knowledge	Trial	Regular Use
Customer has never heard of mobile money	Customer has heard of mobile money and knows what it does	Customer understands how mobile money could be useful to them	Customer knows the steps necessary to transact	Customer tries the service	Customer habitually uses the mobile money service
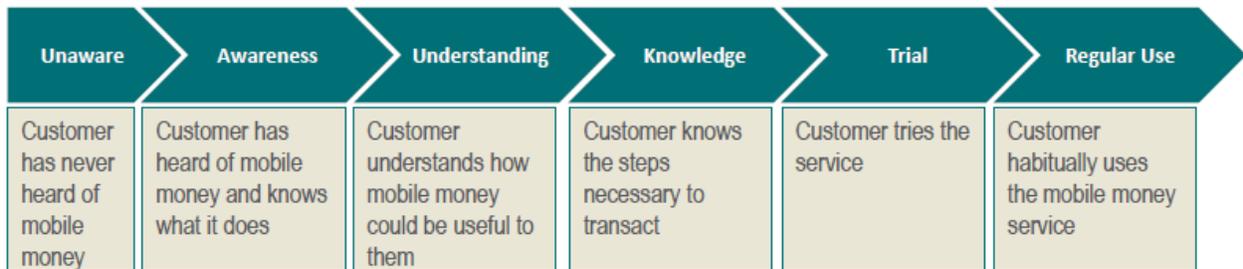
Figure 2-2 MMS customer journey (Source: GSMA 2011)

GSMA (2013) studied MM in DRC. The study described DRC as a challenging market due to lack of infrastructure, dispersed population who speak multiple languages, and requirement of large investment to tackle the two issues. On the study it's found out that there is no much of a competitor besides cash and there is a bigger opportunity of mobile commerce with more than 70 million population. Competition from banks is very minimal as people have lost their trust to banks due to banking crisis in the 1980's and 1990's. At the same time the opportunity of not having bank competition possess the biggest challenge for MNO's to develop MMS in DRC. As the trust in banks have deteriorated MNO's have a big assignment in developing this trust in the public to use the service and show their trustworthiness. In addition challenges like GSM network stability and customer education are found to be challenges to be faced by MMS providers.

Nefa Chiteli (2013) studied if agent banking provides a competitive advantage for banks in Kisimu city. Even if it has its own challenges like reputational risk, anti-money laundering, consumer protection and legal risk that are associated the agent banking, agent banking have showed viable to provide competitive edge. The viability is not just only with the service but with the control policies and procedures, technological advancement, and regulations put in place both by the agents and commercial banks. Therefore agent banking service which is provided

along with MMS can be used as a strategy by commercial banks but it has to be done with a careful planning and mechanisms to implement the agent banking service. Siddiquie R. Md. (2014) studied agent banking in the same manner and showed that agent banking not just will be beneficial for the consumers but also for the banks as well.

Henok Arega (2014) studied challenges of mobile banking service in five banks have started the service to their customers. On the study, though Ethiopian financial market is at its infancy stage, the regulatory body, NBE, should have the capacity in product approval as it takes several weeks to get approved. And it should develop its capacity and act proactively as to the level of the financial institutions or more. In addition inter banking transaction, super agents, limits imposed on agent banking, and language should be dealt with by the regulatory body or the FIs themselves. In general problems like new product approval duration from NBE, Lack of interoperability between banks, parties involved are small only FIs and agent, limit on an account, poor network quality and agent recruitment by MFIs, and finally illiteracy and financial literacy are found to be a challenge in the study. The research described increasing number of mobile phone subscribers provides a big opportunity in the finance sector.

A study conducted on one of the leading and well recognized mobile money service by many writers and the industry itself, M-PESA, in 2014 by Hinz M. described the study as the best of both words. In the study the writer describes, other things constant; the market share held by Safaricom in Kenya telecom market plays a major role. To have the same success elsewhere in a different market, FI's or MNO's needed to have the major share of the market to be successful and gain higher market share. If there are several MNOs and FIs there has to be interoperability between the services.

2.5 Financial Institutions and Mobile money service in Ethiopia

Banking service in Ethiopia has more than a century history. From the beginning of bank of Abyssinia to the current banks, the finance sector has evolved through different technologies. However the introduction and advancement of banking service through the use of technology is a recent phenomenon. The introduction of core banking system, ATMs, SMS notifications, internet banking, POS machines, mobile banking and very recently mobile and agent banking service and integration of all banks ATM machines are all done in a competitive manner in all private and government owned banks.

Among the recent technologies, mobile and agent banking service is introduced to serve the purpose of financial inclusion and reach the unbanked society of Ethiopia through mobile phones and agents network. Most private banks and six MFI's have started the mobile and agent banking services heading neck to neck to take the highest market share in expanding their customer base and develop their agent network. Among the services Hi-birr of united bank, Z-Birr of zemen bank, Mod-birr of Dashen bank which failed and replaced with Ende-banking, hello cash of lion international, Oromia cooperative banks and Somali microfinance, Awash banks m-money, Oromia international banks T-money, Abay banks 'banken bedeje' and M-BIRR of the five MFI's under this study among others can be mentioned as services already being provided to customers. Other banks and MFI's are also either on process or development stage to offer the service.

2.5.1 Structure of mobile money service in Ethiopia

As tried to provide insights above on models of mobile money service Ethiopia follows the bank led model to offer the service to the general customers. Even if mobile money services have many similarities in the approach taken to get to the end customers it takes different forms. In Ethiopia it takes two basic forms. The one which is the concern of this study is where banks work with TSP to offer the service while the other is where banks license the software from software companies and deliver the service in their own. Below is a detail description of how the first form of mobile money service is structured, the structure which M-BIRR service uses. How M-BIRR service is structured will help better understand the service delivery and the study itself.

Financial institutions: according to the NBE directive No. FIS/01/2012 banks and MFI's are the owner and service providers of the M-BIRR service. These FI's as owners of the service open accounts for customers, manage their own agent networks along with agent contract with them, hold funds of customers (both agents and regular customers). The FI's already have a customer base for which the M-BIRR service can be provided to besides bringing new customers. The FI's that are providing the M-BIRR service do have their physically presence in both urban and rural societies of Ethiopia which makes it more convenient to service all kind of the society. The FI's must have contractual relationship with their mobile network operator, TSP and develop their agent's network.

Distribution network: agents are business entities that operate on behalf of the financial institutions that they have contractual agreement with. FI's are liable for the development of their own agent network and actions of their own agents. The M-BIRR service is offered by more than one FI and all are responsible for their own agents even if transaction is possible between FI customers, agents and branches. these network is the cash-in and cash-out centers of the service in which customers will be able to deposit money in to their M-BIRR account (changing cash in to electronic format) and perform withdrawal from their account (change electronic money in to cash). Besides the agents FIs also develop the service in their own branch network. Both agents and branches are part of the mobile money service distribution network. The hierarchy of the distribution network is that branches will have agents under them and they will be managing, supervising and supporting agents under them. According to circular of NBE banks and MFI's are expected to have 50 and 25 agents per each branch they have at the end of GTP 2.

Mobile network operator: with the provision of M-BIRR service, Ethiotelecom has a vital role to play in the service. FI's have contractual agreement with Ethiotelecom through the technology federator to have a service number. Besides the fact that the service is provided through the use of mobile network, NBE required FI's to have contractual agreement with Ethiotelecom.FI's have agreement with Ethiotelecom for co-location servers of M-BIRR service and revenue sharing agreement to share from the revenues that will be generated from M-BIRR service instead of collecting payment from each SMS sent and USSD used by the customers. Unlike

other countries as financial services are limited to banks and MFI's Ethiotelecom do not have the right to offer the service directly to customers. The role of the MNO is limited to facilitating the service provision to the FI's Customers. FI's customer use the mobile network to interact with the M-BIRR service platform, and mobile network is the basis for the general customers to use the service.

Services Offered: according to a working paper of Harvard business school, among different services that are provided the most common ones and usually available are peertoeer money transfers (P2P), remittances (domestic and / or international), bill payment, salary disbursement, buy goods, and money storage / savings/. The same paper indicated that from the services available P2Phave a tendency to to behemoth common offering. The M-BIRR service has all the service features described above at the current stage including serving customers without phone on the same mobile money platform through the use of proxy technology (NFC and PIN card).

Transaction types: M-BIRR service has several transactions a customer can conduct. These transactions are face to face and non-face to face transactions. Face to face transaction is when customers conduct cash-in and cash-out services at the agent and FI branch premises physically. On the other hand the non-face to face transactions is those customers can conduct from the tip of their mobile phones. Most of the transactions conducted are the non-face to face transactions in which the main purpose of agents and branches is to provide cha-in and cash-out services the remain is done by the customers from their mobile phone.

Customers Served: the M-BIRR service is provided to a range of customers. The first customers are those with mobile phones in urban and rural areas. In addition, customers without mobile phones can be serviced for special programs as well. Customers who wish to use the service have to register the at a branch or agent premises. Any consumer then can conduct transactions from their mobile phones.

Transaction fees: customers who use M-BIRR service will pay transaction fees based on the service they used and amount they transacted. The fees are charged based on transaction. The fees are levied on different transaction based on the market and different characteristics of products.

According to NBE directive for mobile and agent banking service FIS/01/2012, Ethiopian mobile and agent banking service follows bank led business model. Ethiopian banks and microfinance institutions are required to manage their own service by collaborating with different stakeholders in the service. FIs should enter in to contractual agreement with TSP and Ethiotelecom, to purchase, license or use the technology for the MMS and for service number along with SMS notification respectively with the respective companies.

FIs take the lead role in the service provision and management of their agents. Before rolling out the full service FIs are required to do a three month pilot of the service and report at the end of the pilot period. When requesting to NBE to launch mobile and agent banking service FIs are required to submit a full document that describes the service and its process, operational policy (including but not limited to a business plan, full description of the service with process, roles and responsibilities of each stakeholders, operational procedures for branches, agents, and customers as well) and procedure, technological requirement and compliance, basic accounting transaction, policy and procedure, risk management and mitigation, and AML/CFT compliance and identification mechanisms. All documents prepared should be in a manner to protect the integrity and transparency of the FI. FIs are accountable for the actions taken by their agents, therefore, in order to make sure that the agents are operating within the guideline provided to them FIs to train, manage, supervise and monitor the activities of their agents.

2.5.2 M-BIRR mobile money service

M-BIRR MMS is provided by five big MFIs in Ethiopia who take 84.2% market share of the MFI business (AEMFI, 2014). These MFIs have a cumulative branch of over 1150 and customer base of 4 million (own calculation). The five MFI entered into contractual agreement with their TSP provider MOSS ICT services Plc. in Nov 2010, to offer M-BIRR service. Since then the M-BIRR service has been in progress passing through different phases. The five MFIs who were preparing themselves to provide the M-BIRR service established a share company called ET inclusive financial technology. This company is responsible to facilitate contractual agreements

on behalf of the MFIs who own it and as it is a share company, shares are open for any financial institutions who wish to purchase a share in the company. Currently there are 24 FIs who have a share in the company.

The MFIs got the authorization to pilot M-BIRR service with an effective date of Feb 8, 2013. During the pilot period 10 branches and 20 agents have participated. During the pilot period few services like deposit and withdraw, money transfer, mobile card purchase from a seller, pay bill, buy goods, bulk registration and disbarment, and other administrative services like change PIN, mini statement, language change has been tried. The pilot period took more than a year and the full service was officially allowed to be public on Dec 25, 2014.

After the service was allowed to fully launch it officially, all the five MFI's have starting rolling out the service in their branch networks and developing their agent network as well. The branch and agent network however did not go as planned until March 2016. The plan was to activate each MFI branch and have at least to have 3000 agents by the 1st month of 2016. However out of all the MFI's the both ACSI and ADCSI has accomplished in activating their branches fully while the others are following reluctantly. OCSSCO follows ACSI & ADCSI while DECSI and OMO are in the least to activate their branches.

The M-BIRR service platform supports different services that can be performed by the customers. The following picture shows a typical menu of the service on one customer's mobile handset. The service number to access M-BIRR service is *818# in all the five MFI's or any other FI who wish to offer M-BIRR service. Everyone who uses M-BIRR service will have the same menu for the service even if it is different for FI branches and agents from the customers menu. The customers menu is designed to enable them use the service in an easy manner.

Picture 2: M-BIRR mobile money service ADCSI registered customer menu

| Menu page one | Menu Page two |

When a customer dials *818# the first page of the menu appears on customers phone and if the customer wants other service which are not listed on the first page the customer enter number 5 and hits send and the 2nd page menu appears. When a customer opens an account the account is called M-BIRR account which is non-interest bearing account same way like other mobile money service platforms. From what is seen from the pictures above M-BIRR service supports mobile transfer services like send money, deposit and withdraw cash from their account using branch and agent outlets, buy goods from businesses that sell products or services using the M-BIRR service either on the platform itself (like mobile card and vacancy announcement through MJobs service) or directly from the businesses in their premises, pay their loans, bills and open interest bearing saving accounts (Regular and term saving).

The M-BIRR service menu is provided with four languages Amharic, Tigregna, Oromiffa and English. The first two use Geez fonts but currently the system is designed in a way that supports only Latin letters and they use Latin letters the later Oromiffa and English they both use Latin words and there is no conflict on which font to use. From the start of the pilot service or its

commercial launch and until March 2016, more than 200 million birr worth of transactions have been conducted, more than 200,000 customers are registered, and more than 500,000 transactions have been conducted.

2.5.3 Research gap

Mobile and agent banking service being a recent phenomenon not just to Ethiopia but also to the world a number of researches has to be conducted. From the introduction of mobile and agent banking directive in Ethiopia at end of 2012, several banks have made a move to implement same in their bank. This service is expected to fill dimensional gaps and challenges faced by these banks and there has not been any research conducted in mobile money service provision in Ethiopia along with its awareness. This research will try to fill that gap in providing and identifying those challenges FIs will face in the provision of mobile and agent banking service in Ethiopia.

The non-existence of such researches creates knowledge gap and it makes the service provision and adaptation of such innovations to take much more time that is should. Therefore this research will explore and provide information for FI with the challenges in its provision and prospects associated with the service. The findings of the research provide first hand data from all stakeholders that are involved in the mobile and agent banking service. Such findings and information will also assist in the policy formulation and adaption by the concerned body and operations of FIs. The research focuses on two aspects for the service provision a detailed study can help improve the adaptation of mobile money service in Ethiopia.

3   Research Methods

3.1   Introduction

Researchers have been conducted from different angles and perspectives in different parts of the world in different perspectives, and disciplines. Kotari (2004) in defining research methodology said it is a systematic way of solving research problems with a scope of the methods that are used to study research problems and why we use those methods are also described. Therefore it can be understood as a science of studying how research is done scientifically. Therefore on the study, methods and research approach that gave a concrete study outcome are used. In this section of the study how the research is conducted is discussed.

3.2   Research design

Mobile money service and use of technology in financial sector is new to Ethiopia. The finance industry have shown major success in different areas, number of account saving mobilization, loan amount and others, are a recent phenomenon for banks and MFIs in Ethiopia. One of the first private bank just celebrated its 20th year of commencement of banking service in Ethiopia and the three government owned banks have reduced to two. Ethiopia has a cash based economy which provides big opportunities in mobile money service, however technology is at its infancy level and there is low awareness and adaptation.

The banking sector is trying to develop and make a use of technology through advertisement whenever they are launching a new service. Make agent recruitment as smooth as possible, penetrate the banking market easily, and take as much market share as possible. MFIs under this study are not accustomed to advertisement of their institute let alone a single service they are introducing or make follow ups on development of the new service. Implementation and deployment of M-BIRR mobile money service has been with challenges in all MFI's. At the same time the understanding of prospects that can be gained from the service are not identical

between the institutions. This research provides significant information for all stakeholders in the M-BIRR service on how to proceed in the development and provision of the service. The research is conducted in different locations where the M-BIRR service is provided. Both primary and secondary data is collected through different data collections mechanisms which are listed and discussed below. The respondents from branches and agents are selected randomly and other respondents from HQ and TSP staffs are total number respondents to answer the questioners. In addition to that FGD is done with individuals that represent each MFI under study. The study will use available data from start of the service as a pilot service in Feb 2013 to March 2016, the time until the data collection is made.

3.3 Research approach

The study used a mixed research approach in which both qualitative and quantitative methods will be used to answer research questions

3.4 sample size

The population of the study is the entire members (employees) 500, Agents 300 and Customers above 15,000 Because of difficulties to take the whole population for conducting the study selects its sample branch staffs 25, Agents 25 and customers 25.

3.5. Study geographic coverage

The study aims to cover most parts of the Ethiopia. However the five MFI's under study cover Tigray, Amhara, Oromia, SNNP and Addis Abeba. These areas are covered either directly through branch/agents or their zonal managers or operation managers.

3.6 Types of respondents

Respondents for this research are taken from different stakeholders in the mobile and agent banking delivery channel of M-BIRR service. The respondents include but not limited to those who are engaged in the direct delivery of the service and those customers that are registered and non-registered customers of the service, MFI staffs and key informants from other stakeholders.

3.7 Data source and collection tools

To realize the objective of this research, the study has utilized both primary and secondary data. The secondary data will be collected from books to analyze literatures of previous works, research works in the research area, websites of different institutes for their services and researches done on mobile money service. In addition records on M-BIRR service is collected from the five MFI's[2]that are currently providing the service. Primary data is collected from customers, agents, and staff from each MFI and key informants from different organizations. The data is collected using FGD and structured questionnaire. The FGD is used to collect qualitative data from each MFI to get a general perspective of the study for which convenience sampling is used to select participants. In the same manner a non-probability sampling which is purposive sampling is used to select other respondents for the structured questioners. As the M-BIRR service is new and awareness in the population is minimal, respondents are selected purposively considering that they have knowledge on financial service and are assumed to be customers of the MFI's under study.

3.2.1 Focus group discussion (FGD)

The study used FGD to explore the magnitude and get understanding of the problems under discussion and their view of the M-BIRR service and other relevant information that will assist in generating a clear challenges faced by each MFI and the service in general. Anita Gibbs (1997) FGD is an organized discussion, suited for obtaining several perspectives about the same topic, an interaction between researcher and group of individuals who will discuss on insights provided by the researcher or provide data based on their experience and expertise.

The FGD is conducted with each MFI, one session for ADCSI, OMO & DECSI where two sessions with OCSSCO &ACSI. The group size of the FGD in each MFI is 12 in ADCSI, 20 in ACSI, 14 in DECSI, 24in OCSSCO and 14 in OMO. The FGD have managed to include at least one representative from each administrative areas under each MFI based on the organization structure. The individuals are selected based on their competency and responsibility in their territory.

3.2.2 Questionnaire

Questionnaire is developed based on the research questions to get full picture of the service from customers, agents, branch staff, and head office administration who lead the M-BIRR service and some key informants provided sufficient information. Structured questionnaire are both open ended and closed-ended types of questions. To indicate the ranging of questions 1(strongly disagree), 2(disagree). 3(neutral), 4(agree) ,5(strongly agree). To get the clear information from the questionnaires data is collected personally by the researcher himself.

3.2.3 Researcher observation

The researcher as part of the M-BIRR service deployment team from TSP side has observations on the service on different stakeholders. These observations are useful in understanding the problem and in formulating questioners used to collect data. Besides the observation helped collect valuable data that cannot be collected using interview or questioner.

3.8 Data analysis methods

The study under discussion is new and more research is required to have a clear understanding of mobile money service and agent banking. The approach used in this research is mixed approach in which both qualitative and quantitative methods are used to answer the research questions. FGD and researcher observation are presented qualitatively and the description is presented separately. Whereas the liker scale questionnaire are analyzed quantitatively using frequencies

mean and graphical representation of responses from customers, agents and MFI staffs. The study managed the data using the statistical package for social scientists (SPSS) version 20. In addition description is presented in a tabulated format to show frequencies and percentage of the research results and provide answer the research questions.

3.9 Ethical consideration

In conducting the research and collecting data ethics takes the major share. Data collection is done in an ethical manner where the purpose of the research is described in detail for respondents and their identity is covered and is coded not to be identified anyone who sees the result of the research. In addition to that the data's collected will be coded and if seen they cannot be identified who the respondent is. The questioners answer questions like what is the aim of the research, who is conducting it, how long it takes to finalize the questioner, responding subject to voluntarism, and who will access the raw data and how its confidentiality is kept.

4 Data Analysis, Findings and Discussion

4.1 Introduction

Mobile money service and use of technology in financial sector is new to Ethiopia. The finance industry have seen major success in different areas, number of account saving mobilization, loan amount and others, are a recent phenomenon for banks and MFIs in Ethiopia. One of the first private bank just celebrated its 20th year of commencement of banking service in Ethiopia and the three government owned banks have reduced to two. Ethiopia has a cash based economy which provides big opportunities in mobile money service or any other technology that can minimize cost and maximize efficiency.

This research is conducted to answer four fundamental questions in the provision of mobile money service in Ethiopia by focusing on its challenge and prospect. As the service in new and much research is required in the field and industry, this research will provide guideline for financial institutions and any other stakeholders involved with possible opportunities for mobile and agent banking service and challenges that will be encountered in its provision. This section deal with research findings and their efficiency based on data collected from secondary sources and mainly primary data collected through FGD and structured questionnaires. data collect from different peoples preparing the same test according to their category which means for branch staffs, agents and customers therefore it used the inter-rater types of reliability test.

4.2 Profile of Respondents

4.2.1 FGD participant's profile

Participants from different MFI have provided with a detailed information on the mobile and agent banking service their organization is undertaking. The participants on the discussion is presented below.

Table 4-1 FGD participants from each MFI

MFI Name	ACSI	ADCSI	DECSI	OCSSCO	OMO
No of participants	20	12	14	24	14
Group size	2	1	1	2	1

In each group from each MFI zonal/area managers, operational managers, area finance managers, accountants and branch managers have participated in the discussion. As it can be seen from the table above ACSI & OCSSCO has two group discussions as the number of participants was larger. In the remaining three MFI's one group discussion have been conducted per MFI. The participants come from different parts of their MFI geographic location for which there is at least one representative from each area office.

4.1.1.1 Agent and customers profile

From the study conducted the profile of agents and customers is summarized with the blow table. In the study 92% of respondents for customers are below the agent of 45 and agents are 100% below the age of 45. Whereas in the case of gender female makes up 60% of the respondents while it is a divide when it comes to agents. Using such a service is considered to have an issue of the level of literacy by either the customer or he agent as well. Agents as they are required to operate over their phone very frequently and deliver customer service before signing up the

agency agreement their level of comfort using a mobile phone easy understanding is considered, for this effect all the agents do have mobile phone. However it was evidenced that when asked if they have used their mobile phone for any sort of financial services over their phone only 16% of them have used for the same purpose which is the same for customers as well (20%). It is found that there are no agents with a below read and write level of education and write and read at 20% when formal education takes 56 %. The number of individuals currently using their mobile phone for financial services offered by banks/MFI is very minimal and the amount of transaction conducted as low as it does not exist.

In case of customers it is found out that all the customers own mobile phone, and their education status varies 12% below read and write, 24% read and write and 36% with formal education. This shows that there are customers with mobile phone but cannot read and write which is raised in the FGD with each MFI as it might have its own challenge in selling the product to them. It is also indicated that among questioned there are agents that do not have account in their respective MFI (16%) while all the customers do have regular accounts with the MFI (100%). The agents do not have accounts with the respective MFI as they are not customers (i.e. 8% of them are not customers) of the MFI but have joined the network of agency provided by the FI's for the benefits they can get from the service.

To check the knowledge and know-how of the agents it agents has been questioned with additional information on the service they are delivering. Table 4.3 below also shows that the level of information on mobile money service is at its lowest level. Accordingly the study found out that 92% of them did not have any knowledge of mobile and agent banking service, 64% of them did not have had full information on the service, and 80% of them did not do a cost benefit analysis when becoming an agent for the financial institutes. This is an indication that as most of the agents are those who are customers of the financial institutes and they become agents not to offend the relationship they already have with them. At the same time the poor performance by the agents is associated with the clarity and availability of proper information to the agents.

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Table 4-2 Customer and agent respondents' profile

	Range	Customer		Agent	
		Frequency	Percentage	Frequency	Percentage
Age	18-25	8	32.0	9	36.0
	26-34	11	44.0	12	48.0
	35-45	4	16.0	4	16.0
	>45	1	4.0	0	0
	Missing	1	4.0	0	0
	Total	25	100	25	100.0
Gender	Men	15	60.0	12	48.0
	Female	10	40.0	11	44.0
	Missing	0	0	2	8.0
	Total	25	100.0	25	100
Education Status	Below write and read	3	12.0	0	0
	Write and read	6	24.0	5	20.0
	Formal education	9	36.0	14	56.0
	Some college/university	6	24.0	6	24.0
	Missing	1	4.0	0	0
	Total	25	100.0	25	100.0
Phone Ownership /Customer/	Yes	25	100.0	NA	NA
Shop ownership/Agent/	Yes	NA[3]	NA	18	72.0
	No	NA	NA	7	28.0
	Total	NA	NA	25	100.0
Have bank/MFI account	Yes	25	100.0	19	76.0
	No	0	0	4	16.0
	Missing	0	0	2	8.0
	Total	25	100.0	25	100.0
I use my phone for Financial services	Yes	3	12.0	4	16.0
	No	20	80.0	21	84.0
	Missing	2	8.0	0	0
	Total	25	100.0	25	100.0

Table 4-3 Agents know how on mobile money service

Questions	Yes		No	
	Frequency	Percentage	Frequency	Percentage
I knew mobile money service	2	8%	23	92%
I am a customer of the FI I am agent for.	23	92%	2	8%
I had information before becoming an agent	9	36%	16	64%
I have done cost benefit analysis before becoming an agent	5	20%	20	80%

Table 4.4 shows how individual customers knew about M-BIRR service to indicate which awareness creation mechanism is more effective to address the channel to be used to address most of the market. Accordingly it was found out that, even if branches and agents take the major share i.e. 37.5%, customers have used TV advertisements and road shows (below the line /BTL/ marketing efforts of the FI's) share as equivalent share as the branches and agents. The researcher has also tried to check the level of the awareness besides the questioner by randomly asking people in different occasions and times. However it is found out that only a number of people know the brand, but not the name and the service itself, and most people do not know M-BIRR at all in general. In the same manner customers where asked if they are comfortable to use their mobile phone to move cash or even replace it with electronic format (Table 4.5 below). In the study it is found out that 56% of respondents do not trust their phone and the remaining said they prefer to use electronic format. In addition to the respondents it is the researchers observation and finding that most people interacted prefer to use cash instead of using any other mechanism to move cash.

Table 4-4 Source of Information on M-BIRR by customers

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	TV Add	8	32.0	33.3	33.3
	Road Show	7	28.0	29.2	62.5
	From branches and agents	9	36.0	37.5	100.0
	Total	24	96.0	100.0	
Missing		1	4.0		

Total		25	100.0	

Figure 4-1Knowledge/Awareness on MMS
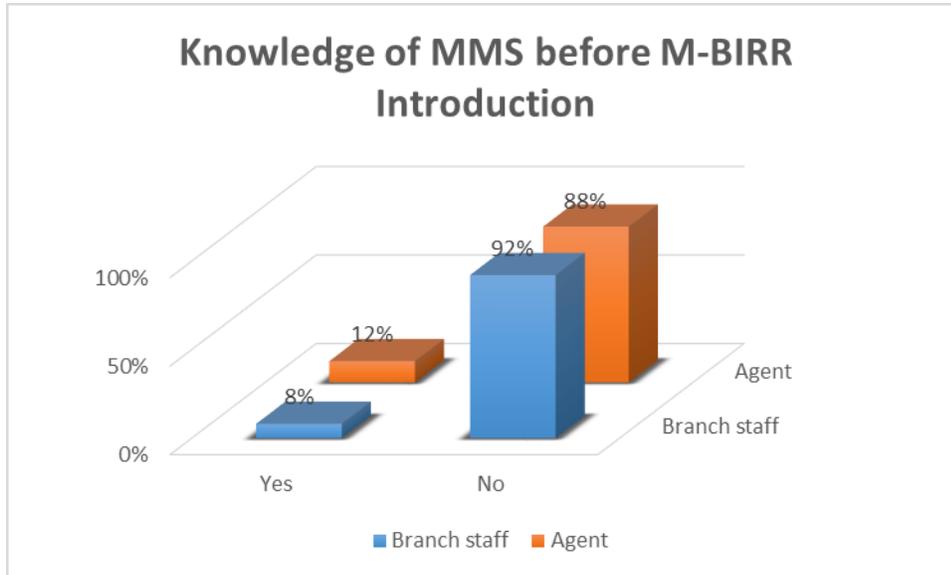
Table 4-5 Customers comfort to use mobile phone for cash movement

		Frequency	Percent	Valid Percent	Cumulative Percent
	Yes	11	44.0	44.0	44.0
Valid	No	14	56.0	56.0	100.0
	Total	25	100.0	100.0	

4.1.1.2 Branch staff profile

Employees of the financial institutions are as per the recruitment policy and the level of work to be achieved requires educated personnel, all of the staffs do have attained a formal education and they have a minimum of diploma in business, banking or related fields. In the study 68% of the respondents were men and the remaining 32% were women. At the same time to see the level of confidence the staff have on their institution and how much they are engaged in they were asked if they have opened an account in their respective either be it regular book saving account or M-BIRR account, however only 36 & 52% of the respondents have said yes. The level of opened

M-BIRR account is greater than the regular accounts and it is subject to different aspects associated with the service. They study also found out that only 12% of the staff have information on the service which can be attributed to the know how in product development in the industry or level of awareness creation by the organizations.

Table 4-6 Branch staff respondent's profile

Questions	Response	N	Percentage
Gender	Men	17	68
	Female	8	32
Do you have regular account in you organization?	Yes	9	36
	No	16	64
Do you have M-BIRR account?	Yes	13	52
	No	12	48
I know MM before it was introduced in my organization	Yes	3	12
	No	22	88
	N=25		100

4.1.2 Findings from Focus Group Discussions and Interviews

The FGD has been conducted with each of the MFI's separately to get a full picture of the service in their respective institution. The FGD was conducted on the basis of structured questions to guide participants and see their perspectives and knowledge with delivery of M-BIRR service.

4.1.2.1 Service ownership and perception

The mobile and agent banking service is a product that has been procured from TSP on a contractual basis to offer to new and existing customers of the financial institutions. The level of engagement by the TSP based on the revenue sharing agreement entered with the FI's is higher and there is support at all levels. This has created a sense where the service is owned by the TSP and the FI's is just providing the service without full ownership. Participants indicated that the service requires dedicated resources to run the service at all levels; however because of the value

it is given there is only a focal person to run the entire service, except one FI's where one division is entirely dedicated for M-BIRR service. All being said one participant from FI 2 summed that agreement thus: *'employees see the service as it is some other company's product. We are used to proving services in partnership with donors targeting specific market. As the M-BIRR service is provided in partnership with TSP employees some at head office and most of them at branch office think that the M-BIRR service is a third party service and they don't consider it as part of their own FI services.'*

As the service is running from individuals it is noticed that the service is not institutionalized in general level. There is no inter department understanding on how the service is running and every department is learning while proving the service. M-BIRR service is a prime product for the TSP but it is one of the products the FI's offer. This has paved the way how the product is perceived and treated at every level of the organization. In this sense most participants indicated that the service is perceived as some other company's product instead of their own. This shows that there is low communication both vertically and horizontally in the organization and how information is disseminated. Thus it is found out that most employees in the financial institution don't have the knowhow on how the service is provided and the level of ownership and engagement is found out to be low.

4.1.2.2 Operation clarity

A product like mobile and agent banking passes through approval process from NBE and all documents with regard to the service is presented and approved. These documents have been prepared in a way that can assist the day to day activity of lower level employees. However how each operation is conducted and on what manner each departments performs is not clear to most staffs of the MFIs and their departments. M-BIRR is just like one other product as they are providing before its introduction. However in almost all of the MFI the process to integrate the

stand alone technologically supported M-BIRR product with their day today manual operation have been created a loop in the overall operation.

As government development organization all MFI's in this study have to provide their sub branches through their organizational structure, work procedure so as to add and clear accountability and guide employees on how to operate the job. However, MFI 2 and 4 have failed to do so and have created a great deal of operational and expansion problem on the service throughout their institution. This resulted in employees losing confidence and even if they were provided training they could not provide the service as M-BIRR service operation is different from what they are used to and the have forgotten the training through time. A detailed operational procedure gap has slowed the performance of the service and has been an obstacle as far as refusing service to customer, due to the same reason.

The communication between different departments both vertically and horizontally has been a challenge. As the means of communication lags behind due to lose communication on a real time basis, communication is done periodically and creates a gap to resolve and issues. Almost all branches of the five MFI's do not have access to internet and photo copy machine which could have played great deal of work in facilitating communication and customer service provision respectively. Due to this fact each branch tries to conduct the business alone and only at the branch even if the concept is to have as many agents as possible. However because branches are not clear on how to communicate with agents and their roles and responsibilities, they are not recruiting more agents which could have had created more convenient and fast service to the customers. A participant from FI 4 summed up the operation: *'the operation is not clear as resources we can use at branches are not sent to us to facilitate and deliver the service. To provide the service we are required to have guidelines and operational manual along with awareness for staffs at all levels. We don't get the required amount of support from HQ and staff the branch is liberated to perform their duty in the required manner.'*

In all the MFIs discussions their operation is summed up thus: *''providing M-BIRR service to our customers is easy. However the level of engagement by the management and their support in the service delivery is not supportive. We are not provided with the required materials to provide the service and to have a clear target and operation in the institute there should be higher engagement and commitment from the management and each department have to play their role accordingly. Instead of one individual overlooking the operation of the service a department dedicated or along with other services should be assigned to make sure the expected target is achieved. If there is smooth inter department communication and operation guideline it can boost the confidence of all staff and the service can be delivered without internal challenge.*

4.1.2.3 Training and capacity building

In order for each staff, agent and customers use M-BIRR service up to the standard, with a knowhow and secure way, training has to be provided to each individual involved in the service. In each FI different training has been provided starting from ToT to individual customer training. The training has been conducted for HQ staff to handle and manage the service in general from the top level. At the branch and agent the training has been done to make sure that the service is delivered with knowledge and customers are served adequately in a manner they can use it at a later time and date by themselves.

According to the discussion it is found out that FI's 1, 2 & 5 have completed all trainings to their branches where FI 3 and 4 have trained only a number of their branches. This shows that even if the service is said to be available in all branches staffs of the branch do not have the training to offer the service adequately and it creates inconvenience and lack of confidence on staffs. Participants indicated that even if training is provided to branches it is given to branch managers, cashiers or accountants. This creates knowledge gap with other staffs of the branch in delivering the service and *'it has been seen that the service owners are considered to be those who took the training i.e. either the manager, cashier and account or both'*, and it has been creating a

challenge in the delivery of the service as these employees do not have the know-how to provide the service nor replace those who are trained in their absence.

The agents of the FI's are also required to take a full training before providing the service and they intern have to educate their customers on the service. However it has been evident that there has been a challenge in terms of setting up trainings for agents in all except FI 5. In addition to that agents have not been that much part of the deployment of the service in all except two FI's i.e. 3 & 4. Those agents that have been recruited have also been creating a challenge by not showing up for training on several training sessions. A participant described: *'Agents that are selected are usually businesses that are sole proprietorship and individuals that move around for their businesses. These agents were having a hard time to close their shop and make a time to take the trainings. This factor has given us a hard time to activate the agents to provide the service.'*

4.1.2.4 Awareness

Awareness in customers play major role in promoting service or sale of a product. It is evident that most private and government owned banks adapted new technologies (Mainly Core Banking system) very recently. Awareness both in the sector and general public for the service could have benefited every one. However the reverse is true. The concept of Mobile money service and agent banking is a recent phenomenon for the banking sector, FI's customers in Ethiopia and even the world as a whole. The level of awareness at different level of institution, businesses and individual customers is minimal and has shown a challenge in its introduction. Mobile and agent banking service is a new phenomenon for the FI, its staff members, businesses, individual customers and the regulatory body (NBE). It is also evident that according to the NBE, Ethiopia had its first mobile and agent banking directive at the end of 2012 with effective date of beginning of 2013. A participant from FI 5 also described that, *'' starting from the pilot period we've been trying to provide the service for different potential customers, however it has been observed that both individual customers and businesses do not have the awareness or knowledge of neither M-BIRR service not mobile and agent banking service. since mobile money service can*

serve as a distant mechanism some businesses want to adapt the payment platform for their service but the trust level which is dependent on customers awareness on the service posed a challenge in motivating and engaging customers to make use of their mobile account''.

Participants demonstrated that there is lack of awareness in the public at large scale and the MFIs have to make an effort to create awareness about the service. The current marketing and promotional activities by each MFI is very minimal and in some cases non-existing. Only one FI is conducting the marketing and promotional activity which is FI 5. However the company owned by the five FIs conducts nationwide TV ads to create awareness about mobile money service. Participants from each MFI described that the level of awareness and confidence in the use of the service starts from employees to give out confident services to customers. Several awareness and briefing sessions has been done I all the MFIs under study, using information they have on hand branches has been facing challenges in getting positive response from customers. A participant from FI 2 said: ''*Customers when informed about M-BIRR service it is observed that almost all of them do not have any information about mobile and agent banking nor they have the confidence to open an account and use the service''.*

4.1.2.5 Roles and responsibilities of stakeholders

In the provision of M-BIRR service different stakeholders are involved to deliver the service to the end users. This relationship had to be clear and the responsibility of each stakeholder has to be known and predefined. The stakeholders involved in the service are FI who own the service and directly provide it to their customers, TSP the company the provided the technology for FIs to use the platform to deliver the service, ETIFT a share company that federates the service to all FI who deliver M-BIRR service on their behalf and Ethiotelecom the one that provide the mobile network connection.

In all the FGD it is observed that the roles and responsibilities of all stakeholders have not been communicated to the staffs of each MFI and it has been a case presented from all MFI under

discussion. In the discussion participant from FI 2 described that: *''we don't have the knowledge and information as to what is the roles and responsibility of each stakeholder. For the purpose of accountability and share information it will be mandatory to make available the roles and responsibility of each to all and especially administrative staff at HQ.''* This shows that all information has not been communicated to each department according to their responsibilities within the MFI's.

4.1.2.6 Services offered through M-BIRR

Through the use of mobile money and agent banking service a wide variety of services can be delivered to end users easily. The services available on M-BIRR are a match with current demands from customers and there are additional services that provide additional services to specific target market. In the discussions all MFIs accept one (FI 5) used to have money transfer services available to their customers, however due to operation difficulty they have stopped the delivering the service, except one FI who is operating at a small scale. Therefore the introduction of the M-BIRR service will bring a wider benefit in delivery of services that can utilize the network of branches.

One of the major services that these MFIs intend to use is money transfer service with in their branches and amongst themselves. All the MFIs involved in the service operate on region base and their branches spread across these region. However it is the believe of all participants that using the M-BIRR service will provide them not just in money transfer but also in any other services they ought to provide to their customers. A participant from FI 3 described that: *''the services available on M-BIRR meet the requirement of our FI and to set an example all money transfers will be done through the use of M-BIRR service. Through the network of agents and branches we want to serve our customers across Ethiopia.''* This is a shared remark from all participants in each FI discussion and in addition to that other services can be easily adopted and be delivered using the M-BIRR platform.

4.1.2.7 Prospects for M-BIRR service

Researches reveal that there are opportunities that can be generated for anyone involved in the delivery and use of mobile money service. It was the aim of this research to find any prospects from such service for financial institutes and others who use the service. from the FGD it was driven that financial institution are able to make the use of mobile and agent banking service and as well maintain the target they are expected to achieve the countries goal in opening up banking outlets across the country. Participants have described the prospects their financial institution can gain from offering the service.

- Plays big role to conduct money transfer service easily at a competitive and least cost

- It helps to extend their branch networks with in their own territory and across other FIs

- Earn additional revenue from the services offered

- Build their brands by providing a new service that is available in the world at its peak at this moment

- Provide a connection between their network of branches

- Expand their market share by offering the value of the M-BIRR service to niche markets

- A potential to service the ever growing younger population of Ethiopia.

- Will assist in the mobilization of deposit

- Facilitate e-payment for several services offered by business entities and the government.

- Reduces cost of printing and maintaining cash at country level

- Assist the government and other concerned entities in the creation of cash light society, transparency and audit ability of transactions all over the country and throughout different businesses.

4.1.3 Findings from Liker scale questions

To reach at the objective of the study structured questionnaire is distributed to customers, agents and branch staffs of the MFIs. In the subsequent sections the findings based on liker scale questions are presented in a way to answer research questions.

4.1.3.1 Awareness of mobile money service

To see the level of awareness that exists in the community a set of questionnaires has been distributed to M-BIRR service agents of the MFIs, customers and branch staffs besides the FGD and researches observation as part of the service delivery. From the study it is found out that 48% of agents are not that confident to deliver the service and at the same time 32% of the total are neutral over their confidence and know-how over the service delivery. This is in relation to the level of training the agents receiving from their respective MFI for which they reported that the level of training they received is not enough to be at 44% and even the remaining 56% are neutral.

The main means to communicate a product is through marketing and promotional activities of companies. The promotional and marketing activities provide the basic product information to possible clients and customers. According to table 4.7 and figure 4.2 & 4.3 below it is found out that 68%, 76%, 84%,& 68%of agents don't think that the customers don't know M-BIRR service, there isn't enough marketing and promotional activities, enough marketing materials and demand from customers respectively. The effect of this actions by the FIs have resulted in poor acceptance over the service by the customers (56%).

Table 4-7 Agent response on awareness of the service and related issues

S.No	Question	Response					MEAN	STANDARED DEVATION
		1	2	3	4	5		
		N	N	N	N	N		
1	I have the know how and confidence to provide the service	1(4%)	11(44%)	8(32%)	5(20%)	0(0%)	2.68	0.852
2	The training I received is enough	6(24%)	5(20%)	14(56%)	0(0%)	0(0%0	3.32	0.852
3	FI provides with enough resources and guidelines	4(16%)	13(52%)	5(20%)	3(12%)	0(0%)	2.28	0.891
4	There is enough marketing material for agents	8(32%)	13(52%)	2(8%)	2(8%)	0(0%)	1.92	0.862
5	There is promotion and marketing activity to create awareness	4(16%)	15(60%)	4(16%)	2(8%)	0(0%)	2.16	0.800
6	Customer know M-BIRR	7(28%)	10(40%)	7(28%)	1(4%)	0(0%)	2.16	0.800
7	Customer accept the service easily	4(16%)	10(40%)	3(12%)	4(16%)	4(16%)	2.76	1.363
8	There is demand for the service from customers	5(20%)	12(48%)	6(24%)	2(8%)	0(0%)	3.80	0.866
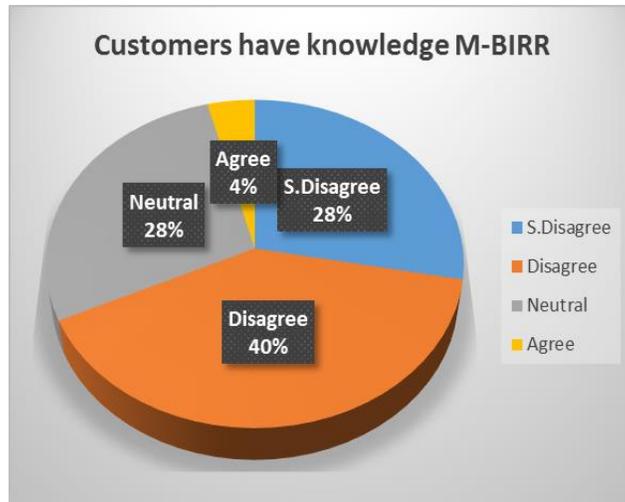
Figure 4-2 Customer knowledge of M-BIRR service
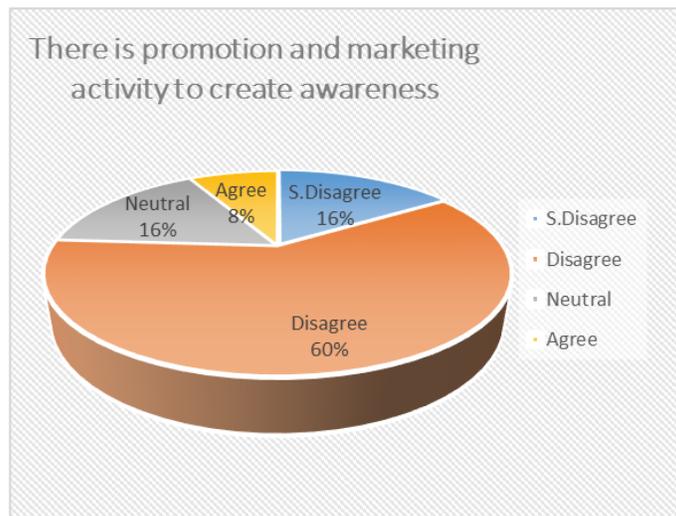
Figure 4-3 Promotion and marketing

As described in table 4.5 above most of branch staffs (88%) do not know MM before it was introduced in their respective institution. In the same manner customer that visited the branch and the branch staffs were also asked if customers knew mobile money service, however the study showed that 72% of branch staff believe that customers do not have a knowledge of the service and 92% of customers that are asked also responded that they didn't know the service.

The same branch staffs responded that 64% of customers & general public that come across are not aware of the service or even in general MMS which is shown in lack of demand at 56%.

Awareness creation plays a major role in a delivery of new product. Palvia (2009) quoted by Agwu et.al, awareness creation speeds sales of products and it is an important factor to encourage customer to adapt to use such services. The same was the finding of the study by Agwu et.al (2014) also found out that lack of awareness is the factor hindering customers not to use the service even if they want to. The level of awareness creation by the five MFI's under this study is very minimal and customers/general public are unaware of the service in general. Branch staffs responded there is low level of promotion and advertisement (68% agreement), 88% agree that there is lack of marketing material to create awareness, and this is reflected with the level of agents and customers understanding level of the service among those who are registered for the service.

Table 4-8 Branch staff response on awareness

S.NO	Question	Response					MEAN	STANDARD DEVIATION
		1	2	3	4	5		
		N	N	N	N	N		
1	Customers have a knowledge of MMS	6(24%)	12(48%)	2(8%)	3(12%)	2(8%)	2.32	1.215
2	Customers and the general public is aware of MMS	6(24%)	10(40%)	2(8%)	5(20%)	2(8%)	2.48	1.295
3	Customers understand the service easily	3(12%)	7(28%)	2(8%)	12(48%)	1(4%)	3.04	1.207
4	Agents understand the service easily	6(24%)	9(36%)	3(12%)	1(4%)	6(24%)	2.68	1.520
5	There is demand for the service from customers	3(12%)	11(44%)	2(8%)	7(28%)	2(8%)	2.76	1.234
6	There is enough promotion and advertisement to create awareness	6(24%)	11(44%)	1(4%)	7(28%)	0(0%)	2.36	1.150
7	There is marketing material to create awareness	11(44%)	11(44%)	1(4%)	2(8%)	0(0%)	1.76	0.879

Table 4-9 Customer response on awareness

S.NO	Question	Response	MEAN	STANDARD

		1	2	3	4	5		DEVATION
		N	N	N	N	N		
1	I am comfortable to use mobile phone to transfer money	2(8%)	11(44%)	2(8%)	9(36%)	1(4%)	2.84	1.143
2	Learning how to use the service is easy	2(8%)	4(16%)	2(0.08)	13(52%)	4(16%)	3.52	1.194
3	There is promotion and awareness on M-BIRR	3(12%)	16(64%)	3(12%)	3(12%)	0	2.24	0.831
4	Agents and branches provide adequate information and guidelines	4(16%)	15(60%)	4(16%)	2(8%)	0	2.16	0.800
5	Agents and branches know the service they offer and are knowledgeable	2(8%)	17(68%)	2(8%)	4(16%)	0	2.32	0.852

In order for customers to use any service they have to be aware of it by any means available to them. With this regard questionnaires have been distributed to customers of the MFIs under the study at the premises of the MFIs branches. As table 4.9 above depicts that customers are not aware of the service and in addition to that they haven't been told about the service by branch staffs. 72%, 52%, 76% of customers believe that branches and agent lacks full knowledge of the service, are not comfortable to use their mobile, and there is low promotion and awareness respectively all this even if customers believe that it is easy to learn the use of the service (68%).

4.1.3.2 Challenges of the service

The provision of MMS or as prominently known as the agent banking service (NBE Directive No FIS 01/2012), has challenges that emanate from different sources. It can be either directly from the service provider i.e. the financial institutions or also from third parties. According to respondents in a branch most of the challenges that come to the service delivery is in terms of operation know how and the clarity they have to provide the service. The service is delivered through branch and agents network, branch staffs were asked how frequently agents are visited to make sure that they are following procedures and are provided with the required level of

support. However only 20% of them have reported that they visit their agents regularly i.e. at least once a week. On the other hand the level of know how over the service and the benefit they can get from the service by the agents and even by branch staffs is abysmal, only 40% (Table 4.10).

The administration and provision of the service provided low record according to the respondents. The level of roll division between branch and other staffs, ownership of the service and on boarding of the service along with other services (24, 24, & 44%) and operation know-how on financial operation at 60% according to table 4.10 shows that there is no full engagement by the branch staffs in the delivery of the service. This has its own implication in which the level of know how affects provision the service and quality of service and how poses a challenges in the introduction of new technology to the community.

Table 4-10 M-BIRR operation at a branch level

Questions	Response	N	Percentage
Agents are visited on a regularly	Yes	5	20
	No	20	80
There is role division between staff	Yes	6	24
	No	19	76
The service is delivered as my organizations product	Yes	6	24
	No	19	76
Agents understand their commission payments	Yes	10	40
	No	15	60
Finance operation is clear for our staffs	Yes	15	60
	No	10	40
M-BIRR service is operating clearly along with other regular services	Yes	11	44
	No	14	56
	N=25		100

According to table 4-11 the study found out that 60% of customer respondents are not comfortable in transacting in microfinance institutions and others which are neutral stand at 28% this also shows that most of the customers do not make transactions at MFI's which is attributed to poor customer service (76%) at the MFI's under the study. Electronic money is a recent phenomenon and countries like Ethiopia which are developing have less, either access or acceptance on such payments over cash. 72% of respondents of the study responded that they prefer cash over electronic money and additional 8% are not sure if they can use such a service. In the same manner 52% of respondents are not comfortable to use their phone for transaction purpose.

M-BIRR mobile money service is delivered though a USSD channel of mobile network and uses any type of mobile phones. The mobile phone is just a devise the will assist end users to transact easily from their phone. However end users are required to go in person at agent and branch locations to conduct deposit and withdrawals. The study found out that both 84 % of branches and 80% of agents are either inconvenient or cannot be found easily to make deposits and withdrawals. In the same manner 56% of respondent believe that language[4] plays a big role in blocking the use of service while 16 and 28% of them are neutral and do not agree with the statement respectively.

Table 4-11: Customer respondents on the challenge of M-BIRR service

S.No	Question	Response						MEAN	STANDARD DEVATION
		1	2	3	4	5			
		N	N	N	N	N	missing		
1	There is good customers service	9(36%)	10(40%)	4(16%)	2(8%)	0	0	1.96	0.935
2	The service is easy to use	1(4%)	5(20%)	3(12%)	14(56%)	1(4%)	1(4%)	3.38	1.013

#								
3	I prefer cash over MM	0(05)	5(20%)	2(8%)	11(44%)	7(28%)	0	3.80	1.080
4	Branches are located in a convenient location	4(16%)	17(68%)	2(8%)	2(8%)	0(0%)	0	2.08	0.759
5	Agents can be found easily	5(20%)	15(60%)	3(12%)	2(8%)	0(0%)	0	2.08	0.812
6	It is easy to withdraw money from branches and agent	3(12%)	15(60%)	3(12%)	2(8%)	2(8%)	0	2.40	1.080
7	mobile network is a problem	4(16%)	11(44%)	5(20%)	3(12%)	2(8%)	0	2.52	1.159
8	Comfortable to open an account in MFI	3(12%)	12(48%)	7(28%)	3(12%)	0(0%)	0	2.40	0.866
9	Language is a barrier to use the service(M-BIRR)	0(0%)	7(28%)	4(16%)	12(12%)	2(8%)	0	3.36	0.995

Table 4-12 Agent respondents on the challenge of M-BIRR service

S.No	Question	Response					MEAN	STANDARD DEVAATION
		1	2	3	4	5		
		N	N	N	N	N		
1	I am comfortable to be an agent for MFI	1(4%)	10(40%)	6(24%)	7(28%)	1(4%)	2.88	1.013
2	The process to be an agent is difficult	0(0%)	10(40%)	3(12%)	9(36%)	3(12%)	3.20	1.118
3	I have enough cash to deliver the service	2(8%)	14(56%)	4(16%)	5(20%)	0(0%)	2.48	0.918
4	My business is busy to offer M-BIRR service	1(4%)	9(36%)	3(12%)	11(44%)	1(4%)	3.08	1.077
5	It is easy to open an account for a customer	2(8%)	8(32%)	2(8%)	11(44%)	2(8%)	2.80	1.190
6	There is regular visit & support from branches	4(16%)	13(52%)	4(16%)	4(16%)	0(0%)	2.80	0.945
7	There is smooth communication with branches	2(8%)	12(48%)	5(20%)	5(20%)	1(4%)	2.64	1.036
8	It is easy and deposit and withdraw money at a branch	6(24%)	9(36%)	4(16%)	4(16%)	2(8%)	2.48	1.262
9	M-BIRR provides enough revenue	6(24%)	15(60%)	3(12%)	1(4%)	0(0%)	1.96	0.735
10	Mobile network and service unavailability has been a problem	4(16%)	11(44%)	5(20%)	4(16%)	1(4%)	2.48	1.085
11	Starting delivering the service takes time	9(36%)	12(48%)	2(8%)	2(8%)	0(0%)	1.88	0.881
12	Registered customers have the ability to transact	10(40%)	10(40%)	2(8%)	3(12%)	0(0%)	1.92	0.997

Agents has been asked several questions to check the challenges that are made available on FGD with representatives of each MFI's under study. Accordingly to table 4-12 44% of agents responded that they are not comfortable in becoming an agent for a MFI and the neutral stands at 24%. Keeping in mind the comfort of agents to be an agent 48%, 64%, 48% of agents think that they are busy with their own business, they don't have enough cash to operate over M-BIRR and the process to become and agent is difficult respectively. While this is the case agents that perform the M-BIRR operations responded that there is intermittent visit and support from branches and there is poor communication (68% & 56% respectively while the neutral also stands at 16 & 20%).

The same is true in the operation of the service at the agent's premises. The same agents reported that even if it is easy to open customers account (48%) & there is no problem with mobile network (60%) they find it difficult to deposit and withdraw money at branches (60%) and the service does not provide them with enough revenue (84% of the agents). Each MFI in the study has a process that they follow in getting agents started after agents agree to become an agent. 84% of agents reported that, after the first point of contact MFIs take greater time to get the agents start delivering the service to customers including their initial deposit. In the same manner 80% of agents reported that customers that transact at their premises are not knowledgeable to make transaction by themselves.

The study has also interviewed branch staffs to get the overall picture of the service as per it's the goal of the study to explore the implementation of the service and its challenges and opportunities. Branch staffs indifferent if the training that they have received is enough or not, as there is an equal split between those who say it is and it'snot. Branches responded that there is Sevier communication problem hierarchically (76%) and this is also reflected on the visit and support they receive from head office or even their immediate supervisors (56%).

Looking at branches in their engagement with agents it is not a promissory accomplishment that branch staffs are doing with agents. As 72% of branch staffs seeing the service as additional and third party service. While this is the case76, 72, 80% of branch staffs responded that agents are not willing and cooperative to get training, are challenging to manage and it is easy to recruit agents that are already a customer of the MFI respectively while other businesses are challenging to convince to operate on behalf of them.

Table 4-13 Branch staff respondents on the challenge of M-BIRR service

S.No	Question	Response					MEAN	STANDARD DEVATION
		1	2	3	4	5		
		N	N	N	N	N		
1	There has been enough training on the service	5(20%)	7(28%)	2(8%)	9(36%)	2(8%)	2.84	1.344
2	There is smooth communication with in the hierarchy	7(28%)	12(48%)	2(8%)	2(8%)	2(8%)	2.20	1.190
3	There is frequent visit and support from head office	6(24%)	8(32%)	2(8%)	7(28%)	2(8%)	3.32	1.108
4	It is easy to /recruit/have agency agreement with a business who is a customer	0(0%)	4(16%)	1(4%)	16(64%)	4(16%)	3.80	0.913
5	M-BIRR is seen as an additional assignment	0(0%)	5(20%)	2(8%)	15(60%)	3(12%)	3.64	0.952
6	There is operational guideline for the service	4(16%)	12(48%)	2(8%)	6(24%)	1(4%)	2.52	1.159
7	It is easy to manage agents	6(24%)	12(48%)	2(8%)	5(20%)	0(0%)	2.24	1.052
8	There is cash/liquidity problem at branch	6(24%)	14(56%)	2(8%)	3(12%)	0(0%)	2.08	0.909
9	Agents are willing and cooperative to take training	2(8%)	17(68%)	3(12%)	2(8%)	1(4%)	2.32	0.900
10	There has been mobile and network and service unavailability during service delivery	5(20%)	13(52%)	2(8%)	5(20%)	0(0%)	2.28	1.021
11	There is manual work & requirement for additional resources	0(0%)	5(20%)	6(24%)	8(32%)	6(24%)	3.36	1.287

Operation wise branches responded that they didn't have had any liquidity problem from their side (80%) however they disagree on a fact that there is lack of operational guidelines and procedures (64%) and the manual paper work involved with the service (56%). All being said 56% of branch staffs according to table 4-13 above responded that mobile network and service unavailability[5] has not been a problem in the provision of the service.

4.1.3.3 Prospects for M-BIRR service

It is proven that MMS is beneficial and have provided a wide range of opportunities for countries besides those delivering the service. In a study conducted in Nigeria, according to Agwu& carter (2014), telephone based financial services are viewed as comfortable and secure way of making transactions. In addition the study found out that the same service is fighting to take the position of number one means of transaction after ATMs.

Table 4.14 below shows that the all customers, agents and branch staffs agree that the service has a prospect and will provide them with a wide range of benefits in their day to day life. 60% of customers who are asked if the service is easy to use or not responded that they are comfortable using the service and 80% of branch staffs responded that it is easy to deliver the service through the technology and they believe that it brings opportunities as well (68%).52% Agents say due to different reasons most of the agents say it is not easy to deliver the service as in some cases it takes time from their regular business and some other due to language barrier. However because they see plenty of opportunities for themselves (64% of them agree on the opportunities) and even 58% of the agents have seen such prospects through their customers.

Even if there are a major size of respondents that say am not sure if I am willing to pay for such services majority of respondents 44% said they are willing to pay and the fees are reasonable. While 84% of customers agree that MM can have opportunities and value to provide to Ethiopia and themselves 80% of them also believe that MM makes money transfer easy and simply. At the same time more 60% of customers agree that MM provides easy access to financial services for both cities and rural areas and it is easy to use.

Table 4-14 Prospects for M-BIRR service from customers, agents and branch staff

S.No	Question	Response					missing	MEAN	STANDARD DEVATION
		1	2	3	4	5			
		N	N	N	N	N			
Agents									
1	M-BIRR menu is easy to deliver the service	2(8%)	11(44%)	2(8%)	10(40%)	0(0%)	0	2.80	1.080
2	Mobile money service brings new opportunity	2(8%)	4(16%)	3(12%)	12(48%)	4(16%)	0	3.48	1.194
3	Customers see opportunity in M-BIRR service	1(4%)	1(4%)	6(24%)	14(56%)	3(12%)	0	3.68	0.900
Branches									
4	M-BIRR menu is easy to deliver the service	1(4%)	2(8%)	2(8%)	12(48%)	8(32%)	0	3.96	1.060
5	There is business opportunities for MM	2(8%)	3(12%)	3(12%)	10(40%)	7(28%)	0	4.08	0.909
Customers									
6	The service is easy to use	1(4%)	5(20%)	3(12%)	14(56%)	1(4%)	1(4%)	3.38	1.013
7	I am willing to pay for the service	5(20%)	5(20%)	4(16%)	6(24%)	5(20%)	0	3.04	1.457
8	The service fees are reasonable	8(32%)	1(4%)	5(20%)	8(32%)	3(12%)	0	2.88	1.481
9	MM provides easy access to financial service in cities	0(0%)	4(16%)	6(24%)	14(56%)	1(4%)	0	3.48	0.823
10	MM provides easy access to financial service in rural areas	0(0%)	9(36%)	3(12%)	13(52%)	0(0%)	0	3.00	0.957
11	MM makes money transfer easier	0(0%)	2(8%)	2(8%)	11(44%)	10(40%)	0	4.16	0.898
12	MM has opportunity for customer	0(0%)	2(8%)	2(8%)	16(64%)	5(20%)	0	3.96	0.790

4.1.4 Findings from key informants and researchers observation

Data has been collected from key informants and also from researcher's observation. The researcher works at TSP as Key account manager and the experience and observation made in his experience is a valuable input for the research. Data collection from key informants I one through an open ended questionnaire. This has helped the researcher to collect additional

information over delivery of the service and use it as an input for the FGD structure and responses from participants.

4.1.4.1 Awareness on mobile money service

The finding from data analysis taken from *key informants*[6] from each FI and their TSP showed that the level of awareness on mobile money service or M-BIRR is non-existence or at minimal level. The key informants agreed that it has made it difficult to offer the service as it takes more time to create awareness and there is non-so far. Besides the low level of awareness over the service, individuals the general public willingness to get awareness is are very minimal.

The level of awareness available in the general public has limited the capacity and expansion power of the service and its provision as well. Key informants indicated that as the service is delivered through a support of technology, awareness creation with in the financial institutions the acceptance level is minimal and it took a while to internalize the service. based on the feed backs received it is noted that due to the minimal awareness on mobile money (or use of mobile phones for financial services) it takes more time to educate customers to make them start use the service. Not on the delivery of the service directly to customers the level of awareness at the head office of each MFI with regard to how the service is operated is a question. As one of the products for the MFI's the know-how of different departments over the service is minimal and it is operated as one departments/*focal person's*[7]job. This shows that some departments are bearing the burden of operating the service and the whole M-BIRR service is not integrated to the day to day activity of the MFI's.

The awareness does not have a difference between urban and rural areas. Even if there is a better understanding and approach in urban centers, the level of awareness as the key informants agree is very minimal or non-existing. This has its own recurrent effect in the delivery of the M-BIRR service. The M-BIRR service will be delivered to a minimum as both employees and agents or any other involved stakeholders in the delivery of the M-BIRR service will be dissatisfied. It has a chain of effects in which un-aware employee cannot deliver the service up to the standard and cannot provide full information on the service. In addition branch staffs if un-aware, they cannot recruit agents that will assist them in the delivery of the M-BIRR service.

The agent network is the best feature of mobile money service as it can be delivered through agents. If there are no or less agents there will be a challenge in the access for cash in and cash out locations. In return as most key informants agree an agent with minimal awareness over the service and the industry cannot deliver the service and may disseminate wrong information to the general public. This will in turn creates un-informed customers and another challenges for both branches and agents.

It is the researcher's observation that the level of awareness in the general public, bankable society and the banking industry is at its lowest point. Even if there is the understanding of the service and how it is operated the benefit and the full structure of the agent banking service is not that understood in the sector let alone customers. The general public even if it is developing gradually they do not have the information over the existence of such service or how the service runs. The M-BIRR service faces the same scenario in terms of awareness with the general public and the finance sector as well. The efforts that is exerted by the banks/MFI to create awareness to the general public is low and the experience that is observed and found from the study reveals that the level of awareness is very minimal and poor.

4.1.4.2 Challenges of mobile money service (M-BIRR)

As going through a cycle of product development, the M-BIRR service after its implementation has learned a whole set of challenges which lies along with other financial products the financial sector has to offer. Key informants and it is the researcher's observation that even though challenging the obstacles faced can be solved with the collaboration of the stakeholders involved in the delivery of the service. Findings from key informants revealed that MMS is new to the Ethiopian society and it requires massive engagement from the finance sector and the government to.

Key informants have disclosed different sets of challenges in the delivery of M-BIRR service which are labeled as internal and external. The challenges identified are also shared by most of the informants and the researcher as well. To start with the internal factors, transaction fee over withdrawal is not common and it makes the service less trusted. Transaction fee in general, let alone withdrawal, is given free of charge in the finance sector at the time of the study, and customers and in particular those in rural area tend to select the financial institutions with a lower or no transaction fee. Even if the extent of transaction fee is lower customers in urban centers tend to do the same as rural customers with regard to transaction fees.

The culture and operational procedure of MFI's under the study is the concern of customers as well. Accordingly the MFIs strategy is not market oriented or demand driven (not that competitive) and work culture is similar to that of civil service organizations which are prejudiced with poor quality of service and bureaucratic operation processes. In addition to this the MFIs under the study operation processes are done manually. The introduction of M-BIRR service has faced such a challenge of lower acceptance from employees, as employees are accustomed to manual operation and poor customer service at branches for both customers and agents. Therefore customers and agents find it more difficult to use a service where employees of the MFI has not fully engaged in the service delivery of even use of the same.

The level of awareness and higher staff turnover in the institutions has affected the over operation of the service. The number of individuals who are trained for the service is minimal as the target for training has been branch managers, cashiers and in one institution accountants. This has led to the fact that the knowledge is with some individual's whose availability on duty will have an impact over the service. One key informant reveled that if a cashier in one branch is not available in a branch cash in and cash out service will be altered with its subsequent results. The level of training that does not involve other staffs has led to lower engagement from other staff and limited knowledge over the service. Which in turn has showed the engagement with agents to be lower in on boarding new agents or retaining them.

The level of engagement has bigger effect on the amount of effort exerted in terms of having more agents who deliver the service. Agents are expected to be recruited by branch staffs and their day to day activates are also expected to be monitored and supported by the same staff. Since there is low or poor awareness on how to handle the agents with branches agents are left for lower support or knowledge of the service. This is also attributed to the fact that branch staffs are engaged and busy with their own routine activities which they will be evaluated against.

Poor communication and its transparency between head office, area offices, and branches (or vice versa) have created a loop hole in the delivery new information to branches and agents. The communication can also be between stakeholders in the delivery of the M-BIRR service as well. The communication goes further to customers as well in the advertisement and promotion efforts of the MFIs under study. It is revealed that the effort exerted by the MFIs to promote the service is either nonexistence of to the industries minimal. As the MFIs are not accustomed to advertising their products the same tradition is being applied with the new service which requires massive advertisement and promotion. Regardless of the efforts of the TSP, as described by the key informants, more has to be done to promote and create awareness for consumers. The messages communicated to customers is not enough and big plan has to be place to develop the use of such service.

The challenges to the service provision considered can be seen from the customers, agent and the general public eyes. Consumer's perception towards the FIs or the behavior of the consumers[8] to use services that are delivered by MFIs takes on the acceptance of the service and its effect of delivery channels. In the same manner the engagement and attitude of agents as revealed by key informants has an effect on the overall operation. Agents who do not want to be and agent for MFIs or be associated with an MFI discourage branch staffs and they make them think that the service is not acceptable everywhere. Key informant from FI 5 said that '*businesses tend to fault their agency agreement or even do not want to make transactions with MFIs as in most cases our branches are located in government administrative compounds'.* This has been a case for several other agents who have been contacted to become agents of the MFIs.

On the other hand as per key informants the confidence of persons to use their mobile phone to move money is found to be low and the trust they have on technology including branch staff has an effect in the delivery and provision of the service. Awareness on the capability of mobile phones to perform transactions is very minimal. The level of technology awareness and fear for technology due to lack of awareness or a prototype, customers of the MFIs or even some other individuals the researcher has encountered with, have the same response which is fear for technology in general let alone letting their money float in their mobile.

Agents who are contacted to be an agent make decisions without making any assessments or even without asking the right question as to the roles they will play in the delivery of the service and even the benefits they will get from the service. Immediately when they get the full information about the service and how they take on their responsibilities they tend to hold back and cancel the agency agreement, or even after performing all processes they tend to take longer time to make their initial working capital deposit that is required from them. At the same time training arrangement takes too much time as most agents are no shows in mass trainings and

even on an onsite training the business tend to be busier and don't give the required amount of attention.

In terms of the revenue that agents generate from respective transactions, key informants reveled that agents are not generating revenue to keep them interested as it is the early stage of the service. The amount of revenue agents generate plays a crucial role in the delivery of the service through agents and keep them in the network. Bryson, K. 2002 cited by Diniz et.al 2011 argued that agents stopping making efforts due to a low level of incentive to keep them interested as they would not want to the low level of incentive does not interest the agent to diverge from its principal interest/business. An appropriate reward structure significantly reduces the conflicts of self-interest between principal and agent and helps to curb agent opportunism. In the same manner Incentive structures in outsourcing contracts help to align the motives of the agents and the principals to facilitate project success. A well-designed incentive structure with a balance between penalties and rewards predicts increased desire on the agent's part to meet the terms of the contract. It also predicts agent behavior that is consistent with the principal's best interest.

4.1.4.3 Prospects for M-BIRR service (M-BIRR)

It is evident that whenever a new product is developed and delivered to the customers and even to employees of the delivering company it has its own pros and cons. Besides that new products are made available to customers based on the benefits the company expects from it and its advantages to customers. As part of the research key informants are asked with the prospects they expect to get from the service. All in all it is believed that the M-BIRR service is believed as a new technology to provide them with opportunities they never had before and add values on the services that they are already providing.

The study found out that the opportunities that mobile money service/agent banking service can bring to different stakeholders that are involved in the delivery of the same and at the same time for the country in general. The service will provide opportunities for customers, businesses who operate as agents, businesses who use the service a means of payment, the stakeholders who are

responsible to the service delivery, and the government. The benefits in terms of facilitating operational processes, monetary benefits, cost reduction, facilitation of business process, business creation, cash printing cost reduction, traceability and auditable transaction.

It is the researcher's observation that different individuals, business entities, companies and the government have understood opportunities of mobile financial services and extended benefits to the country's economy. Customers have seen even with a small amount of transaction over the service with the capability of making different sort of transactions from a tip of their hand using their mobile phones. Companies avoiding involvement in cash and making sure that their day to day transactions are traceable and will reduce their risk. In addition they will provide a business process that boosts their operation capability and in terms of sales and revenue.

4.2   Interpretation of study findings

The purpose of this study was to explore the challenges and prospects of mobile money services in Ethiopia with the case of M-BIRR service. The study have gone through both qualitative and quantitative data to reach at it objective. The study involved five MFIs who are currently delivering the service. Questionnaire has been distributed to branch staffs, agents and customers of these MFIs and FGD has been conducted with representatives of each MFI in five locations[9]. There has been structured interview with key informants from different institutions and researcher's observation and experience in the delivery of the service. All combined has provided the research a multi-dimensional perspective to reach to its findings.

4.2.1 Awareness of the service

While keeping the operation of the M-BIRR service across Ethiopia on the move, the expected output of the service rely on different parameters to boost the service and tackle its challenges so

as to enable all concerned utilize the benefit of MMS. As it is the objective of the this study to explore the existence of awareness in Ethiopia with the use and availability of the MMS with a specific aim at M-BIRR, there is much that has to be done to aware clients and the general public with the service and how they can operate on it. It is the research finding that there is lower level of trust on technology and high reliance on cash. In the same manner the level of awareness about the service is not encouraging as most of the respondents reply that they heard about the service at the branch where they are customers at or some in advertisement basically individuals who reside around urban centers. However it is the researches finding that awareness is very minimal that people do not know that they can use their mobile phones for more than basic communication.

Everyone involved in the research as key informant, branch staff, customer and agent were aware of the service at their MFI or because they work with the MFI. It is found out that agents, branch staff and key informants identified that and it is the researchers finding that walking customers are unaware of such service or how they can use it. Those who are aware about the service or who know the brand name are not that aware of the service. Based on the cycle of the service the general public especially in the urban area have heard of the service but they do not know how to work operate on it for what purpose they can use it. The level of awareness that is true for individual customers is true for business customers as they service can be utilize for different purposes by business in making theirs and their customers transaction and operation process very easy and transparent.

It is the studies finding that customers are no comfortable using their mobile phone for the service as most of them prefer cash over electronic money or transaction which can be attributed to the lack full or adequate knowledge and information from the agent and branch which stood at 76%. In the same manner customer believe that branches and agent do not have full knowledge of even information over the M-BIRR service. This will lead to the less trust in the service or technology which stood at 72% of respondents preferring cash over such service. While the customers say that branches and agents are not knowledgeable but the service at the same time

both 68% agents and 72% of branches say that customers are no aware of the service. This implies that there is information or role omission from the financial institution as branches and agents are the sales point for the service they should be able to respond to customers query and respond accordingly. The knowledge of the branch is attested by 72% of agents that said branch staffs are not knowledgeable over the delivery of the service.

4.2.2 Challenges on M-BIRR

Keeping the level of awareness in mind the study have brought in to attention that there are number of challenges faced by different stakeholders at different level in the provision of M-BIRR service. The challenges faced by those involved in the M-BRR service are categorized in a presentable manner.

4.2.2.1 Location

The location of the agent and branch gives a whole lot of meaning to customers and likewise for agents when refereeing to the relationship between agents and branches. Agents as they are associated with the nearest branch, the closer the branch is to the agent the more convenient it will be for the agent to make deposit and withdrawal process easy for the agent and in reverse for the branch as well to make regular visit and check up on the agents. This can be seen from the studies finding in which customers claim that 84% branches and 80% gents are not located in convenience locations and are difficult to find. This result in pushing effect on both customers and agents as well. In the same manner the location of one of the FIs is in the administrative section of the government and most customers and even businesses that are agents and prospect agents refuse to go to such government administrative offices for financial transactions.

The service being currently delivered through MFIs has its own role to play, as customers and even agents who are customers of the MFIs do not prefer to transaction microfinance institutions. The study revealed that 80% of branches have difficulties to recruit new businesses who are not already client to their MFI service. 44% (businesses that are customers of the financial

institutions) and 60% of agents and customers don not prefer to transact with MFIs which can be attributed to 76% customers reply to poor customer service.

4.2.2.2 Operation process at the branch

MFI institutions are characterized by vast manual work, target market in the small and medium business enterprises or other social goals, lack of organizational skills for at different level of the company and others which is different from the regular banks. As the purpose of the MFIs is provide financial service access to SMEs in most cases as the service they provide is not market intensive. The demand for the service of MFI is available and the charge related to the loans of MFIs is much high than regular banks. As such and based on the clients of the MFIs most of the MFI operate manually and their work is labor intensive. (Researchers observation)

The organizational working culture is similar to governmental offices which are treated for poor customer service and their operation is slow. The study revealed that 56% branches said that the M-BIRR service has manual operation which adds up to the already existing work, while there is lack of guide lines to operate on the service as well (64%). The M-BIRR service in these MFIs is treated as third party service imposed on branch staffs (72%) by head office the service is left to specific staff at the branch. Communication has pose challenge as all involved in the service as not communicating properly or it is broken. 76 % of branches said that there is poor communication hierarchically and in addition regular visit from head is said to be very minimal (56% branches said there is no visit). The communications does not stop at branches and MFI head offices but between branches and agents. 68% of agents replied that there is no regular or intermittent support and monitoring visit from branches. The researcher to this aspect observed that there are agents that has not been contacted for over a year after the initially have been inducted over the service and took the training. Even if most of the agents are customers of the MFIs the communication is at 60%. As part of the operation process confidence of staff to

collect deposit either from agents and customers 60% of agents responded that making deposit and withdrawal is difficult. This can be attributed to the level of knowledge branch staff have over the service as claimed by customers, agents, key informants and the researcher himself.

Even if agents have signed up to deliver the service it is revealed that 64% of agents do not have enough cash for the service and 45% of agents while this is the case respond that the process to be an agent is elongated and it has to be shortened.

4.2.2.3 Adaption to technology

Technology has proven to take time to be adapted in Ethiopia for quite some time. However as a recent phenomenon, people are getting used to using new technologies and adapting them to their daily life. According to GSMA intelligence website at Q4 of the year 2015 number of mobile phone subscribers in Ethiopia are 42.1 million which 42% of the total population. The number of teenagers below the age of 14 (i.e. 20.9% is 20.9 million) is not deducted from the figure. From the bankable society it can be said that 52.5% of adults do have mobile phones with which they can open M-BIRR accounts.

At this stage customers, branch staffs and agents are not that comfortable in using their mobile phones to move or store money. 72% of customers responded that they prefer cash over electronic money. Branch staffs knew about the service only when it is introduced in their institution and do not want to do transactions in their mobile phone and the level of resistance not only ot use the service but to provide it to customers were a challenge. Key informants referred that staff refer to different reasons not to open such an account and with such a case customers when coming across such staff are refusing to eve use the service with their

institution. More than 50% of customer, agents and branch staffs responded that the service is easy to use and even they will pay to use such service but they preference of cash (72%) over electronic money. Ethiopia economy besides the stakeholders involved in the service as one of the developing world is based on cash along with informal economies.

4.3.2.4 Engagement

Engagement of branch staff is crucial as the business model of the service dictates braches have bigger role to play in the registration of customers, recruitment and activation of new agents. Agents are associated with their nearest branch so as to enable branch support, visit and monitor agents while enabling agents to ask for support and make deposit and withdrawals from their nearby branches. Even if this is the case branches are not engaged, as their requirement, the recruitment of agents and even registering new and more customers, educating customers and create awareness, monitor agents (68% agents replied that they are not visited by branches). Agents are paid with the level of efforts they exert to register new customers to create awareness round their premises or conduct cash in & cash out service is low.

Language as a medium of communication play massive role in the delivery of any service. M-BIRR service even if delivery through 4 languages the service uses Latin letters. In a country where the federal government working language is Amharic, and most people are not acquainted with Latin letters it creates operational challenges as customers won't feel any comfortable to transact with the service. Accordingly 56% of customers say that they have difficulties transaction with Latin letter, while the same is true for agents. The engagement from top to down in the MFIs is not given much stress so as to attain the required amount of outcome from the service. 60% of branches responded that agents are not willing to show up for training and take operational training to deliver the service. This also shows that agent's engagement in the service delivery is very minimal as they have to take training and deposit their working capital at the branch. Though much has been acquired in introducing new technology to the people of Ethiopia the service to be pursued as a business need a bigger investment (human and capita resources) to make sure that the envisioned outcome is delivered.

4.2.2.4 Others

The other challenges that can be summarized from the discussion section above are the transaction fees which are new for financial services especially for withdrawal service charges (refer Annex) as most banking service for the purpose of collecting deposit are offered free of charge. Associated with agents get their commissions from their transaction fees collected from customers and 84% of agents claim that revenues from the service are at this point are low & need to increase them while this is the case agents do not understand how the commission is calculated. Mobile network has been raised as an issues but in most of the cases where 60% of customers and 68% of agents replied that the case is not true. The study is conducted mainly in urban areas and other researchers or research need further study to see if the mobile network is an issues for MMS.

4.2.3 Prospects

The M-BIRR service is believed to present Ethiopia with plenty of opportunities to the sector to address several questions of the country. All respondents participated in the study have outlines range opportunities that will solve the headache of the society, the financial institutions and the government as well. The service will help in the efforts of financial inclusion, branchless banking, convenience payment mechanism, cost reduction for anyone involved, new job creation, additional revenue generation, deposit mobilization, operational proficiency, and development of new business sectors in the economy like e-commerce by facilitating payments.

5 Summary, Conclusion and Recommendation

5.1 Introduction

This chapter presented the summary of key findings, their summary conclusions strained from the study findings and possible recommendations for the stakeholders[10] involved in the delivery of the M-BIRR service and mobile money service in general. The conclusion and recommendations are reflections of the objectives of this research and will provide a solution or starting point for the stakeholders and others researchers who would pursue a study on mobile money service in Ethiopia.

5.2 Summary

The purpose of this study was to explore the challenges and prospects in the delivery and provision of M-BIRR service in Ethiopia. It is an exploratory research using a mixed approach where both qualitative and quantitative methods are implemented to look for answers over the service as this is a new product and there was a need to create awareness for scholars and even in the industry as the MMS is a young service that has been offered with a directive from NBE at the end of 2012 E.C. The study is conducted on the five MFI that are providing the M-BIRR service in different regions. To reach at the objective of the research the study utilized FGD discussion with representatives from the five MFIs, questionnaires has been filled out by customers, agents and branch staff of the respective MFIs. The FGD is done with a minimum of 15 representatives from each MFI, while 25 questionnaires was distributed to customers, agents and branch staffs each taking a sample of 5 individuals from each MFI.

Stakeholders involved in the delivery of the M-BIRR service have invested and have made tremendous amount effort for the introduction and provision of M-BIRR service. Currently it is viewed as one of the major competing product in MMS and financial sector in general. All the branches of the MFIs which are 1226 are activated and their affiliated agents (2982) are activated after the commercial launch approval from NBE. Accordingly to the study, even if inadequate, there has been several awareness creation and marketing activities to promote and educate consumers. Consumers who use M-BIRR service or those that plan or are communicated to use the service want to know or have a reason for them to use the service, reasons such as mobile card purchase, payment to utilities, buy goods and services from different businesses, make distant payments, send money home and the likes.

The M-BIRR service at infancy level has transacted more that 1.6 million transactions worth over 1.3 billion birr. The study found out that the provision of the service through the five MFIs is challenged by several aspects with in the MFIs and outside. The level of awareness over the service or even availability of financial services over mobile phones is very minimal or nonexistence at some points. All involved customers, agents, branch staff, key informants and FGD participants revealed that awareness is very low and consumer's journey to use the product is very gradual and is taking longer time for customers to hear, know, register, and know processes and start using the service. The low level awareness, as described from participants of the study, is extended to all stakeholders involved the delivery of the financial service.

It is the studies finding that there are challenges in the provision of the M-BIRR service. The internal procedures of the MFIs in the study and roles played by their staff which emanated from the organization itself have its own roles in creating challenges in the provision of the service along with other external factors. The study found out that even though there are external factors that are challenging the provision of the service, majority of the issues raised internal to the MFIs that is providing the service. The level of training provided to staffs and agents, hierarchical support to all involved& their communication, awareness created, engagement of different

departments, marketing and promotional activities, location of current branches and agents, higher staff turnover, poor customers service, perceiving the product as third party service and lower operation clarity and guidance provided to branches and departments can be seen as challenges that are slowing down the expansion and holding the provision of the service at all levels of the service delivery.

This being said other factors from the agent customers and stakeholders play a crucial role in facilitating the service provision. The M-BIRR service against the accustomed banking service in Ethiopia where the customers are served at the counters of bank branches, it is conducted by the customers themselves from the tip of their fingers using their mobile phones. As discussed in chapter 4 of the study customers low confidence & comfort to transact at MFIs, poor technological adaptation, literacy level of customers and agents to use Latin letters the service is offered through, know-how on how to use mobile phones, lower revenue (commission payment) for agents, comfort of customers to use mobile phones and the preference of cash over electronic money among the challenges identified in the study.

Notwithstanding with the above paragraphs all involved in this study believe and have seen opportunities in M-BIRR service and several organization and even at personal level belief that there are opportunities to be amassed by anyone who uses the service. Financial institutions or their staffs involved in the study are confident that the service can provide them with a revolutionary changes in their respective MFIs.As it is evident from other countries experience like Tanzania, Uganda, Philippines, South Africa, and Zambia, Cote d'Ivoire & Kenya[11] the countries has managed to use the provide financial service using MMS through bank branches, agents and MNO. Even if some countries business model is different from that of Ethiopia, MMS have showed its potential to assist developing countries in their effort to provide financial service to the excluded or unbanked. To give a picture on numbers of mobile money users and related data, according to GSMA 2015 annual report, the number of MM users has reached to 411 million out of which 134 million of them are active (i.e. have made at least one transaction in the past 90 days). These customers conduct 30 million transaction per day. Out of the 273

countries the service is available in 93 countries and out of this country's 51 of them have enabling regulation for MMSs.

5.3 Conclusion

Mobile money service has as one product has its own life cycle in which it goes from its birth to its maturity (GSMA 2011). In addition according to Agwu (2014) it is an evolutionary step for banking service in which it from building of trust it goes up to fighting to take number one position in the banking industry. It is the researches finding and as discussed in chapter four of this study mobile money service has opportunities for Ethiopia while having its own challenges in the service provision. The process of the product service delivery, as seen in other countries, is not different in Ethiopia.

As presented in the preceding parts, the study has found out of that awareness is at low level and that M-BIRR service provision has different sets of challenges and prospects at the same time. Accordingly the study has drawn the following conclusions.

Trainings and awareness creation session are found to be among the poorly managed activities in the study MFIs. To create awareness at different level to make sure the service is run by branches in an efficient and informed way the efforts exerted by the MFIs are not doing more on it. As part of creating awareness and as other countries experience dictate that mass advertisement and promotion supports for the general public to get awareness over the service. The findings indicated that customers, agents, branch & head office staffs and walk in persons did not have information or awareness over the M-BIRR service which is found to be at 80%. Attached to awareness of the service employees of the MFIs have not been trained well to deliver and provide the M-BIRR service as to the standard and with full information. Besides training, the low level of transactions performed by agents, makes them forget some and at some pointes most of the processes on their phone.

The finding on awareness is lead for challenges of the service. The study found out several challenges in the provision of the service. The first challenge as described above is awareness over the service in different angels. Customers from end users point of view, agents and branch staffs from the provision of service to customers and even agents, and finally head office staffs of the MFIs under the study for support and managing the service in general in each respective MFI. From the users (customers) point of view, it is found that the low level of willingness and being associated with MFIs, poor customer service from the MFIs, preference of cash over electronic money, and low level of technology adaption or trust for technology.

In addition to this it is the researches finding that branches and agents are not located in a convenient for the provision of the service. Transaction fee associated with the service & poor service of the MFIs are found to contradict with one another. Customers for the value they pay for expect good customer service. Even if some of the customers are willing to pay for the services most of the customers are not happy with the transaction fees paid. In the same token the poor customer service observed at branches and even at agents is one hurdle to pass through in the provision of the service. It is found out that customers have difficulties to make deposits and withdrawals at branch and gents premises, where the challenge with withdrawal is much stronger.

Provision of the M-BIRR service at the agent premises has its own challenges. It is the study finding that agents do not have or provide enough cash that is required for the delivery of the service as working capital, nor they are willing to attend training session or even arrange time at their premises for site training. This finding revealed that the existence of low level of awareness by agents in the service provision. On top of awareness the agents to provide working capital cash is very low and level of literacy is challenging to provide the service. The communication or visit and support from the respective branches to agents is very minimal or nonexistence, in some cases it is observed that there are agents that haven't been visited for over a year. The same branches while not visiting agents have elongated process to onboard all agents, this have shown

its negative effect on those agents that are motivated and which are attracted by the business model and service itself. On top of all this challenges the study found out that agents believe that the level of revenue they are generating at this point is very minimal and is holding back agents from performing well in the service delivery.

It is believed that branches of the MFIs are to be the point of sale for any product one FI has to offer to its existing or new clients. In the case of the MFIs that are currently providing the M-BIRR service the branches working culture is found to be with poor customer service, bureaucratic operation process, communication lagging hierarchically both ways upwards and downwards., less provision of immediate support, avoidance of responsibility based on the training strategy in place by the FIs (a training scheme aimed at training branch manager or accountant and cashier) where as it is expected all branches to be aware of the service. a perception that the M-BIRR service is third party product developed the ownership syndrome and MFI staffs consider the service as someone else product. Operation process and the unavailability of clear guidelines for head office to branches the service the some of the MFI found out that there are still branches that has not been activated and waiting for support from HQ. Staff turnover among other things takes the major share of challenges by the FI under study of the service as a well trained staff leaves and it leaves a gap for the service provision and as the handing over or transitory period takes more time is not as smooth as it should be staffs tend to hold on performing over the service.

The study further, besides challenges associated with the provision of the service, concludes that there are opportunities for such services in Ethiopia. MMS can be expanded in a way that is can provide and electronic eco system for Ethiopia in general (individual customers, businesses the FIs and the government itself). However it requires a close collaboration between financial institutions, the regulatory body and even other governmental offices, as it will provide a fertile and conducive environment for electronic transactions. Such collaboration will revolutionize the way government, business and the financial industry operate. In terms of generating revenue,

reducing cost, creating employment opportunities, convenience payment and transfer mechanism can be mentioned as the major but among the vast prospective areas MMS can bring to Ethiopia.

Finally, based on the finding of the study and its conclusion, the last section of this chapter discusses the recommendations for further and future as an implication to the study. The recommendation can be used as policy implications or a means to take corrective actions by the FIs to make the service a success story of the company.

5.4 Recommendation

The study tried to explore the challenges and prospects of mobile money in Ethiopia by taking the case of M-BIRR service. Accordingly it is the finding of this study that there are challenges for the provision of the service that emanated from the culture of the country, the financial institutions themselves and other challenges that can be associated with end users of the service. It is the studies finding that there is niche market for the service and would help private businesses in their daily operation, cost efficient way to address financial service across the country and Ethiopia in general in several sectors as a facilitator of transactions. Based on the research finding the following are recommended for effective delivery of MMS. However the possible recommendations need further detailed research for implementation purpose.

1. **Awareness:** awareness has proved to be one and among the major challenges observed during the study period. The lower level of awareness in all areas has proved to have provided a challenges in the provision of the service or even convince customers and financial institutions cop up with the ever growing demand of banking services technologies. A massive awareness creation has to be performed all stakeholders involved in the financial industry including the regulator body. Level of awareness will provide individuals and businesses to develop trust and start using the service in their day today activities.

2. **Integration process:** As finding of the study dictates, M-BIRR service integration in to the day today activities of branches and head office staff is abysmal. This integration has prohibited the MFIs from scaling up the service to a greater use or even its current service delivery at branches. The integration process implemented by the MFIs from the start has to be carefully designed in a way that each department and employee will be fully dedicated to the service delivery and improve the service provided by the FI and perform business oriented customer service. In addition this will allow the MFIs or any other FI to create ownership of the service and avoid any perception that partnerships formed with technology service providers is mainly for the provision of technology and nothing else.

3. **Training and financial education:** One of the challenges has been adequate training provided by the FI to their staff either at the head office or branches and agents in mass training or onsite training. All staffs that are engaged in the provision of the service has to be trained well and training plans has to be prepared ahead of time by separating the training based on the role of trainees. The current mass training programs that does not consider roles of the staff needs amendment and has to be delivered in a manner that will provide all the required information as per the responsibilities of the staffs.

   As customers journey to use MMS take longer time, from hearing about the service up to using it, it is mandatory and recommended that customers be educated very often through agents, branches and even mas Medias about the service. It would be a wise decision to engage in TSPs or any other funding institution to engage in awareness creation and promotion of such activities on behalf of financial institutions.

4. **Marketing and promotion:** marketing and promotion is a core part of one new product launch. The finding of the research reveals that there is very minimal amount of marketing and promotional activities by the FI. Not that the service is not being marketed or promoted, the FI in general are not accustomed to conduct marketing and promotional activities for both their institution and service and products they offer at any point of their business. As new products require huge amount of money and investment for their marketing and promotional activities'-BIRR service as new service offered by the MFIs,

has to be promoted and marketed for all the market it is intended to address.MMS as new product for the country in general, requires and need every care that need to be given to make sure that the right messages are delivered to the end users.

5. **Terms used:** The terms used in the delivery of Digital financial services has to be clearly defined to avoid any confusions. The FIs along with the regulator have to make sure that the right wordings and terms are used in awareness creation, marketing and promotion of similar services. The terms implemented are not just only misleading but also unique for M-BIRR service but also are not easily understood by other third parties including individuals in the banking sector. In addition the sector has to develop terms that will be used in the mobile financial services separated and by doing so it will help customers to differentiate one service from the other.

6. **Internal operational procedures:** Most of the challenges identified in the study are those that emanate from the FI. Therefore is the responsibility of the FI to make sure that all findings in this research are addresses accordingly so that all involved in the service delivery will be able to work efficiently and manage the service hierarchically. The communication gap that is observed between stakeholders involved in the service delivery, head office and its branches (hierarchically), and branches and agents has to be clearly defined and has to be performed on a regular basis. Despite what is mentioned above, working culture, customer service, attitude towards business (the MFIs under study are not being business oriented), reduction of staff turnover and changing the image of the FI should be taken as the prime concern to pick up the pace of changes in their institutions.

7. Up on selection, registration and activation of an agent the utmost care has to be taken in to consideration. Even if the findings of the research show that there are agents capable of delivering the promised service it is also found out that there are agents that were not able to conduct the agent business comfortably. Therefore it should be taken with precautious that agents should be mobile phone friendly and at least 1st level educated (read and

write). On top of this agents has to be capacitated from time to time through regular trainings, regular visits, and supports, and in some cases refresher training as well.

8. **Policy implications:** It is impeccable that once financial service would not be successful without availability of policies and procedures that protect consumers and anyone involved. While this is the case, any laws passed by the regulatory body or any other government offices should provide a conducive environment for the service to be implemented and deliver the promised services. To this effect, as it's the countries policy not to open the financial sector for foreigners or any other foreign based companies, it would be wise to develop a mechanism and even policies to entertain supports that can be extended by funding organizations or partners or even TSPs in specific operations. In addition to the financial institutions when such kind of new products are introduced there should be involvement from different governmental offices with supporting policies which promotes such efforts by financial institutions.

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Appendix A: Definition of terms

(Source: NBE and M-BIRR service operational manuals of MFIs under study)

1. **Account** means any account maintained, operated, or managed by the financial institution and which belongs to the customer;

2. **Associated FI Branch:** the associated FI Branch for an Agent is the Branch where the Agent was registered. It is usually the closest FI branch and it is also the branch in which the Agent delivers the Subscribers registration files and also Deposits and Withdraws cash.

3. **AML/CFT:** Stands for 'Anti-Money Laundering/Combating the Financing of Terrorism' – They are a set of controls and rules which helps mitigate the adverse effects of criminal economic activity and promote integrity, in our case, of the M-BIRR Mobile Money Service.

4. **Agency contract** means a contract concluded between the financial institution, the principal and another person, the agent; to enable an agent to provide agent banking business to a customer in the name and on behalf of the financial institution in the manner specified in this directive;

5. **Agent** means a person that is contracted by the financial institution to facilitate provisions of banking business in the name and on behalf of financial institutions in a manner specified in this directive;

6. **Agent banking** means facilitating of the banking service provision to customers by an agent in the name and on behalf of the financial institution as prescribed in this directive;

7. **Bank** means a company licensed by the National Bank to undertake banking business or a bank owned by the government;

8. **Beneficiaries;** people who are registered or opened M-BIRR account for the pupose of receiving payments either from the government or any other third party

9. **Branch:** Branches are MFI branches and sub-branches. As Agents do, the Branches provide the face-to face M-BIRR Mobile Money Service to customers and users of the M-BIRR Service but also provide liquidity to their network of affiliated Agents.

10. **Bulk Registration:-**It is a process of submitting multiple customer registration information electronically and securely over a web console.

11. **Bulk Upload:-**Is a process of paying multiple customers electronically and securely over a web console from debited service provider account.

12. **Certificate of Agency** means power of attorney or appointment letter given by the financial institution to an agent that facilitate banking service provision on its behalf as evidence of conclusion of agency contract;

13. **Collection Code:** The collection code is a code sent by the M-BIRR Service to a non-registered user who is the beneficiary of a money transfer from a subscriber. This code is sent by SMS and is required to collect the cash at Agents or Branches.

14. **Corporate account:** An account on the M-BIRR system that is not accessible via a mobile phone and thus not subject to the same limits as mobile wallet accounts. Fund transfer, cash-in and cash-out services cannot be performed on these accounts using a mobile device.

15. **Deposit/Withdrawal:** These are the acts of physically putting money into an account (deposit), or taking from it (withdrawal). Agents and Customers carry-out those transactions on their account through their mobile phone. Deposits and withdrawals constitute 'Face to Face' transactions and are only carried out through Agents or Branches

16. **Electronic receipt** means receipt by**:** electronic mail messages; personal message center at the financial institution web site; SMS text message; or any other electronic device the financial institution mentions in the contract with the Agent;

17. **Face-to-Face Transaction**: A Face-to-Face transaction is a transaction carried out by a Subscriber with an Agent or a Branch. Typical Face-to-Face transactions are: Subscriber registration, Deposit and Withdrawal.

18. **Financial institution** means a bank or micro-finance institution;

19. **KYC:** KYC stands for Know Your Customer and refers to the activities of customer due diligence that financial institutions and other regulated Agents must perform to identify their clients and ascertain relevant information pertinent to doing financial business with them.

20. **Micro-finance institution** means a company licensed by the National Bank to engage in micro-financing business;

21. **Mini bank statement** means a statement with the last ten (10) transactions on the customer account;

22. **Mobile Money Service:** The Mobile Money Service is the service delivered by the MFIs and their network of Branches and Agents. The Service allows users to transfer funds to other registered users or Mobile phone holders within Ethiopia, transfer funds between accounts (saving or loan accounts), deposit or withdraw funds, pay bills, all from the convenience of their mobile phone.

23. **National Bank** means the National Bank of Ethiopia (NBE);

24. **Non Face-to-Face Transaction:** A non- face to face transaction is carried out by the subscriber without an Agent or Branch. Such transactions can be send money and/or mobile top up

25. **Outlet** means a place of business of the agent directly responsible to the head offices of the agent, used for carrying out a commercial activity of the agent, but does not include a mobile unit;

26. **Pilot period** refers to the period in which agent banking service is being holistically tested with regards to its conformity with predetermined business and technical requirements in a limited test environment without making any public promotion;

27. **Premises** means the physical location or place used by the agent to conduct banking business as per this directive;

28. **Subscribers:** Subscribers are registered 'end-users' of the Mobile Money Service. They have registered to the service through Agents or Branches. Subscribers may be individual subscribers or business subscribers.

29. **Transaction ID:** Each time a registered user carries out an M-BIRR transaction from his mobile phone, an incremental transaction ID will be indicated in the SMS notification. This number is unique to a particular registered user (subscriber, Branch, Agent).

Appendix B: Transaction fee of M-BIRR service

Transaction type	Transaction range (Birr)		Customer transaction Charge (Birr)
	Minimum	*Maximum*	
Deposit cash at Agent	40	25,000	0
Deposit cash at Branch	40	6,000,000	0
Send money to registered user	1	6,000	4.6
(Cust. Registered at Branch only)	6,001	7,000	7.48
(Cust. Registered at Branch only)	7,001	8,000	8.63
(Cust. Registered at Branch only)	8,001	9,000	9.78
(Cust. Registered at Branch only)	9,001	10,000	10.93
(Cust. Registered at Branch only)	10,001	15,000	14.38
(Cust. Registered at Branch only)	15,001	20,000	18.98
(Cust. Registered at Branch only)	20,001	25,000	23.58
(Cust. Registered at Branch only)	25,001	50,000	30
(Cust. Registered at Branch only)	50,001	100,000	52.5
Send money to a non-registered user	1	1000	10.35
	1001	2000	16.1
	2001	3000	22.43
	3001	4000	28.75
	4001	5000	35.08
	5001	6000	39.68
Withdraw cash by a registered user	1	1000	3.45
	1001	2000	5.75
	2001	3000	8.63
	3001	4000	11.5
	4001	5000	14.38
	5001	6000	16.1
(at Branches, for Customers registered by a Branch only)	6,001	7,000	17.19
(at Branches, for Customers registered by a Branch only)	7,001	8,000	18.11
(at Branches, for Customers registered by a Branch only)	8,001	9,000	19.55
(at Branches, for Customers registered by a Branch only)	9,001	10,000	20.03
(at Branches, for Customers registered by a Branch only)	10,001	15,000	24.20

Transaction type	Transaction range (Birr)		Customer transaction Charge (Birr)
(at Branches, for Customers registered by a Branch only)	15,001	20,000	30.86
(at Branches, for Customers registered by a Branch only)	20,001	25,000	35.79
(at Branches, for Customers registered by a Branch only)	25,001	100,000	71.88
(at Branches, for Customers registered by a Branch only)	100,001	200,000	103.50
	Minimum	*Maximum*	
Collect Money - non registered user	1	1000	Free
	1001	2000	Free
	2001	3000	Free
	3001	4000	Free
	4001	5000	Free
	5001	6000	Free
Transfer to loan Account	1	25,000	4.6
Buy Goods	1	50	1
	51	100	2
	101	200	3
	200	6000	4.6
Bill Payment	1	6000	4.6
Service Administration & Information based transactions			
Registration to M-Birr			Free
Show Balance			0.69
Change PIN			0.69
Change language			0.69
Mini statement			1
Special requests to Customer Support Centre			
New PIN request			4
Transaction reversal request			11.5
Change of Mobile Number			5
Account suspension			5
Account re-activation			2