



INDRA GANDI NATIONAL OPEN UNIVERISTY SCHOOL OF CONTINUING  
EDUCATION

**CHALLENGES AND OPPORTUNITIES OF ADOPTION OF MOBILE  
PAYMENT IN PRODUCT SAFETY NET PROGRAM (PSNP)  
HOUSEHOLDS: IN THE CASE OF BOSAT WOREDA, OROMIA  
NATIONAL REGIONAL STATE, ETHIOPIA**

BY  
YEMSRACH KINFE EDEY

NOVEMBER 2018  
ADDIS ABABA, ETHIOPIA



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A THESIS SUBMITTED TO INDRA GANDI NATIONAL OPEN UNIVERISTY SCHOOL  
OF CONTINUING EDUCATION (IGNOU) DEPARTMENT OF RURAL DEVELOPMENT  
(MARD) IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE MASTER OF  
ART (MA) IN RURAL DEVELOPMENT

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## CERTIFICATE

This is to certify that Ms. YEMSRACH KINFE EDEY is student of M.A. (RD) from Indira Gandhi Open University; New Delhi was working under my supervision and guidance for her project work for the course MARD – 001. Her project work entitled: “CHALLENGES AND OPPORTUNITIES OF ADOPTION OF MOBILE PAYMENT IN PRODUCT SAFETY NET PROGRAM (PSNP) HOUSEHOLDS: IN THE CASE OF BOSAT WOREDA, OROMIA NATIONAL REGIONAL STATE, ETHIOPIA.” Which she is submitting, is her genuine and original work.

Place: .....

Signature: .....

Date: .....

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Address of the Supervisor: .....

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## TABLE OF CONTENTS

ACKNOWLEDGEMENT .....	iii
LIST OF ABBREVIATIONS AND ACRONYMS .....	vi
LIST OF TABLES .....	viii
LIST OF FIGURES .....	viii
LIST OF PICTURES .....	ix
LIST OF ANNEXES .....	ix
ABSTRACT.....	x
<b>CHAPTER ONE: BACKGROUND OF THE STUDY .....</b>	<b>1</b>
1.1. INTRODUCTION.....	1
1.2. Statement of the Problem .....	2
1.3. Objectives of the study.....	4
1.3.1. General Objective of the Study .....	4
1.3.2. Specific Objectives of the Study .....	4
1.4. Research Question.....	5
1.5. Significance of the Study .....	5
1.6. Scope and limitation of the study .....	5
<b>CHAPTER TWO: LITRATURE REVIEW .....</b>	<b>8</b>
2.2. Theoretical Framework .....	8
2.3. Empirical Framework.....	20
2.4. The Productive Safety Net Program in Ethiopia.....	25
<b>CHAPTER THREE: RESEARCH METHODOLOGY .....</b>	<b>32</b>
3.1. Introduction .....	32

3.2. Description of the Study Area .....	32
3.2. Research Design .....	33
3.3. Target Population .....	34
3.4. Sample Design.....	34
3.5. Data Collection Methods and Techniques .....	34
3.6. Data Analysis .....	35
<b>CHAPTER FOUR: DATA ANALYSIS RESULT AND DISCUSSION.....</b>	<b>36</b>
4.1 Introduction .....	36
4.2. Data Analysis .....	36
4.2.1. Analysis of biographical data of respondents.....	36
4.2.2. Analysis of mobile ownership, usage and how to protect PIN .....	37
4.2.3. Analysis on Financial inclusion .....	39
4.2.4. Analysis on Source of information when payment is ready.....	40
4.2.5. Analysis on which type of payment modality enables HHs to access payment in terms of time, convenience and cost -efficiency .....	41
4.2.6 Analysis of challenges while working with the agents .....	44
<b>CHAPTER FIVE: CONCUSSION AND RECOMMENDATION .....</b>	<b>46</b>
5.1 CONCLUSION .....	46
5.2. RECOMMENDATION .....	48
REFERENCE.....	50
ANNEX I .....	54
ANNEX II.....	55
ANNEX III.....	57

## LIST OF ABBREVIATIONS AND ACRONYMS

ACSI	Amhara Credit and Saving Institution
AIDS	Acquired immunodeficiency syndrome
AISRGD	African Institute for Strategic Research Governance and Development
AU	African Union
BAT	British American Tobacco
BoA	Bureau of Agriculture
BoFED	Bureau of Finance and Economic Development
BoU	Bank of Uganda
CDO	Community Development Officer
DECSI	Dedebit Credit and Saving Institution
DFID	Department for International Development
DFID	Department for International Development
EAC	East African countries
E-payment	Electronic payment
FGD	Focus Group Discussions
FIA	Financial Institutions Act
GoE	Government of Ethiopia
GoU	Government of Uganda
HABP	Household Asset Building Program
HIV	human immunodeficiency virus
HSNP	Hunger Safety Net Programme
ICT	Information and Communications Technology
ID	Identity Card
MFI	Microfinance Institutions
MGLSD	Ministry of Gender, Labour and Social Development
MGLSD	Ministry of Gender Labour and Social Development
MGLSD	Ministry of Gender, Labour and Social Development
MMT	Mobile Money Transactions or Transfers
MoFEC	Ministry of Finance and Economic Cooperation
MTN	Mobile Telecom Network



NASs	Non-state actors
OCSSO	Oromia Credit and Saving Share Company
OMO	OMO Microfinance
POS	point-of-sale
PSNP	Product Safety Net Program
PSP	Payment Service Provider
SAGE	Social Assistance Grant for Empowerment
SCG	Senior Citizen Grant
SMFI	Somalia Micro Finance Institution Share Company
SNNPR	Southern Nations Nationalities and Peoples' Region
SP	Social Protection
SPSS	Statistical Package for Social Scientists
SSA	Sub- Saharan African
TC	Town Council
UCC	Uganda Communication Commission
UNICEF	United Nations International Children's Emergency Fund
UNITA	Uganda National Information Technology Authority
USAID	United States Agency for International Development
USD	United States Dollar
USH	Uganda Shillings
UTL	Uganda Telecom
WBG	World Bank Group
WFP	World Food Program

## LIST OF TABELS

Table 1: Age and education analysis of respondents.....	37
Table 3: Comparison of timeliness of payment in Direct cash payment and Mobile payment ...	42
Table 4: Cost of Transportation during cash based and mobile based payment.....	44

## LIST OF FIGURES

Figure 1: Frame work of the study indicating uses of adoption of mobile payment.....	31
Figure 2: Location map of the Study area.....	33
Figure 3: Age and education level analysis of respondents .....	37
Figure 4: Ownership of mobile .....	38
Figure 5: Usage of Mobile Phone.....	38
Figure 6: Knowledge on the purpose of PIN.....	39
Figure 7: Types of services HHs know they can get from the agent.....	40
Figure 8. Source of information when payment is ready.....	40
Figure 9: Timeliness of payment in terms of cash payment and mobile payment .....	41
Figure 10: Accessibility of mobile payment.....	43
Figure 11: Closeness of agent's location.....	43
Figure 12: Summary of challenges faced by HHs while working with the agent.....	45

## LIST OF PICTURES

- Picture 1 & 2: Kifya’s Biometric POS Terminal used in combination with a smartphone application in Lebokemkem, Amhara
- Picture 3: Paper Receipt Issued by Kefiya’s POS Terminal
- Picture 4: Kifya’s Smartphone Application Interface
- Picture 5: M-birr Mobile Money Platform demonstrated on an Agent’s phone in Enderta, Tigray
- Picture 6: Options menu for PSNP Clients Demonstrated on an agent’s phone in Enderta, Tigray

## LIST OF ANNEXES

ANNEX I: Questioners in English .....	55
ANNEX II: Questioner in Amharic .....	56
ANNEX III: Key Differences in e-PSNP and Manual Cash Flow.....	58

## ABSTRACT

In the contemporary financial system, e-payment is playing a crucial role by reducing the cost of transaction and enhances the number of transaction with less time. Though the incidence of e-payment is very low in Ethiopia, particularly in rural areas, the government gives emphasis to improve the country's financial inclusion status through expanding new technologies, including e-payment. Therefore, the purpose of this study was to assess the benefit of adoption of mobile payment in PSNP households in terms of timeliness, convenience, cost-effectiveness, client preference and its challenges.

Qualitative data was collected from PSNP households in Boset Woreda of Oromia Regional State, Ethiopia with open and closed ended questioners. The collected data was analyzed using 23.0 version of SPSS.

The findings indicated that 78.2% of the respondents found mobile payment timely. Further in terms of convenience, 60.6% of the respondents responded that mobile payment enabled them to access payment any time they want. Moreover, by introduction of mobile payment households were able to reduce the cost of transportation by half (i.e. on average from 42.5 to 19 birr). Hence making mobile payment the ultimate preference of households. To scale up this pilot the government should provide a method which has offline functionality to solve the network problem, issue an interest payment saving account to solve the problem of financial inclusion, provide intensive technical and financial literacy to beneficiaries ,strength better monitoring system in place to manage implementation of mobile payment and the challenges and to consider /invite engagement of other mobile money service providers in addition to M-Birr to improve the service quality .

***Key words: Adoption, Mobile payment, Timeliness, Convenience, Cost efficiency and M-Birr***

# CHAPTER ONE: BACKGROUND OF THE STUDY

## 1.1. INTRODUCTION

Ethiopia is in low level of financial inclusion. According to Findex Survey 2014, 79%,12% 2% of adults included in the survey respectively cited insufficient fund attitude, distance and relatively high cost of services as major barriers to access and usage of regulated financial services. The specific challenges are underdeveloped financial infrastructure, inadequate supply range of suitable financial products, services and access points; inadequate financial consumer protection and low levels of financial capability and awareness.

The Government of Ethiopia along with Development Partners piloted innovative electronic payment method to deliver PSNP funds to beneficiaries (e-PSNP). Mobile payment was first piloted in Boset Woreda of Oromia Regional State in February 2015. The purpose of the pilot, to shift from cash to digital method (often directly into an account) was to reduce the cost per transfer, increases convenience and timeliness of transfers for beneficiaries. Before introduction of mobile payment, beneficiaries of PSNP received their payment through cash-based payment. Which was not timely, convenient and cost effective to PSNP households compared to mobile payment.

The PSNP is migrating its cash disbursement to e-payment for beneficiaries using a phased approach. PSNP beneficiaries receive a basic account at the regional MFI that partners with the PSNP program in their region. In Boset Woreda, OCCSO MFI operates in Oromia region. To deliver the financial services to beneficiaries in rural areas, MFIs have partnered with different technology providers. In the case of Boset Woreda, M-birr is the only technology provider of mobile payment services and have 10 agents operating in 3 kebeles.

M-Birr payment process involves the creation of electronic MFI accounts for recipients to which payments can be deposited. Instead of a physical delivery of cash by WoFED, the MFI (in the case of Boset OCCSO) offers regular access to safe electronic “store- of- value” accounts, and PSNP transfers will be deposited in that account. Beneficiaries will then withdraw their money

from any M-Birr agent. Beneficiaries access their account through their own mobile (if they have one) or using agents mobile as a proxy.

To verify a beneficiary's identity before withdrawing money using the M-BIRR system, beneficiaries must show their government-issued PSNP ID card and enter their personal PIN code into the agent's phone.

According to the World Bank Evaluation Report on E-payment, which was released in 2017, mobile payment methods were found to be timely, convenient, preferred by the households and cost effective compared to direct cash transfer. On the other hand, lack of mobile phones on the part of the beneficiaries, high turnover of agents especially in the beginning when business is low, Agent's liquidity management , beneficiaries located in the most rural part of the country have poor infrastructure and limited access to financial institutions and beneficiaries have no prior experience or knowledge on financial services were presented as the challenges prevailing mobile banking .

The study therefore, attempted to investigate the opportunities of mobile payment in terms of timeliness, convenience, cost effectiveness and household's preference compared to direct cash payment in Bosat Woreda of National Regional State, Ethiopia. The study will further assessed the challenges faced by the beneficiaries while working with M-Birr Agent. And finally provided recommendation based on the findings for sustainability of Mobile banking.

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

The spread and penetration of financial services in a modern economy means that people who cannot access such services find themselves facing major difficulties in accessing financial products like savings accounts, credit services, insurance and remittance services securely and conveniently. Access to financial services by especially the poor can help smooth consumption and effectively meet the other needs categorized by Rutherford, (2000) into life-cycle events, emergency needs, and investment opportunities. Cost is a major barrier to financial access. Factors such as minimum deposits requirements, fees and other charges may mean that holding a bank account is too expensive for many. The cost of reaching a financial institution is also

important since distance implies transport costs or at least travel time and inconvenience. In addition, non-financial costs that people may incur in accessing banks such as the difficulties of understanding and completing forms for those who are not literate; lack of proper documentation or the social barriers of status experienced in dealing with bank staff (Fin Access, 2011). Against the back drop of these perceived costs, income constraint also curtails the ability of the poor to save and borrow in the formal financial sector (Ravi & Tyler, 2012).

Social cash transfers could positively influence uptake of financial services by the poor in several ways. First by ensuring regular and reliable income to the beneficiaries, they partly address income related barriers especially if the program is long term. Secondly, the payment approach adopted could link beneficiaries to formal financial services, considerably reduce costs and promote the use of these services. Thirdly the social cash transfer programs may address attitude barriers and enhance better understanding of financial products by beneficiaries through financial literacy efforts. Finally, the bulk volume of transactions carried out by the social cash transfer programs could persuade financial service providers to build more affordable inclusive services for beneficiaries. There has been growing recognition that financial inclusion and social inclusion are part of the same effort. Financial inclusion is seen to help beneficiaries graduate from poverty, be more resilient and be better prepared for financial shocks. The success of achieving financial inclusion for beneficiaries of social transfers is dependent on the design and implementation options of cash transfer programs; for instance, the adoption of electronic payments, strengthening financial infrastructure like branchless banking and promoting financial literacy. (Bold et al., 2012; Hulme et al., 2009; Jones & Shahrokh, 2013).

When we come to my country to ensure appropriate, timely and accessible transfer of resources to PSNP beneficiaries, the mobile payment pilot (also referred to as M-Birr pilot) was launched in Bosat Woreda in February 2015 and in Adami Tulu – Jido Kombolcha a month later, both within the Oromia region. In 2015, there were 63 active M-Birr agents in the pilot woredas—10 in Bosat and 53 in Adami Tulu. Of the kebeles in Adami Tulu 26 have PSNP recipients and of the 33 kebeles in Bosat, three have PSNP recipients and there are 22 kebeles in Adami Tulu and 3 kebeles in Bosat that have M-Birr agents. Based on a field visit in June 2015, WBG PSNP specialists assessed the pilot's success, identifying several benefits of the OCSSCO M-Birr service compared to cash transfers, including: timeliness of transfers; convenience; reduced total

cost of transactions; reduced fiduciary risk; and improved program reporting. However, challenges also existed, including: little evidence of advanced use of financial services, such as opening a savings account with the MFI; slow transaction time due to mobile network coverage issues (though M-Birr works on USSD, which does not require mobile internet); security concerns, such as beneficiaries sharing their PIN-codes with agents; and irregular meetings of the woreda-level steering committee charged with managing program implementation. The PSNP program financed the costs of the transactions and the pilot more generally. Specifically, PSNP paid 10 Birr (around 0.5USD) per cash-out transaction and provided a lump sum of 100,000 Birr (around 5,000USD) per woreda to establish agent networks and provide training, among other tasks. The total direct cost for the first year was 340,000 Birr per woreda. (World Bank, Advancing Electronic Food Security Payment in Ethiopia, November 2017)

This study, therefore, investigated the problems towards the adoption of Mobile Payment and harnessing the opportunity so that all the major players in the field become beneficiary from such an emerging market. The fact that the study is relatively new, and no research was conducted in the field justified for the reason why the research is conducted.

### **1.3. Objectives of the study**

#### **1.3.1. General Objective of the Study**

The general objective of this study assessed the opportunities and challenges of adoption of mobile payment in the PSNP households located in Bosat Woreda in terms of timeliness, convenience, client preference and cost efficiency.

#### **1.3.2. Specific Objectives of the Study**

- Explored the opportunities that came after the adoption of mobile payment in terms of timeliness, convenience, cost efficiency and client preference;
- What challenges have been encountered by PSNP beneficiaries living in Bosat Woreda in adoption of mobile payment services; and
- Provide recommendation based on the findings for sustainability of mobile payment.



#### 1.4. Research Question

The research questions which this study answered are as follows:

1. Is the adoption of mobile payment system timely?
2. Is mobile payment system convenient to households?
3. Is mobile payment system preferred by the households?
4. Is mobile payment system cost efficient for the households?
5. What are the challenges hindering mobile payment?

#### 1.5. Significance of the Study

This study is expected to be a pioneer work on identifying the challenges and opportunities of adoption of mobile Payment in PSNP households located in Bosat Woreda of Oromia Regional State. The study investigated the opportunities and challenges gained after adoption of mobile payment system in terms of timeliness, convince household preference and cost effectiveness. The first significance of the study is to explore what kinds of opportunities came along after the adoption of mobile payment for further scaleups. The second significance of the study was to identify the challenges faced by the households and come up with a concrete solution for the growth of mobile payment and financial inclusion. Finally, it is expected to be a good reference material for further studies around the topic in the area.

#### 1.6. Scope and limitation of the study

In pursuance of the objective of the study, the research paper focused on examining the challenges and opportunities of mobile payment for PSNP households located in Bosat Woreda in terms of timeliness, convivence, client preference and cost efficiency.

The scope of the study was limited to the analysis of the demand side examining the challenges and opportunities of mobile payment for PSNP households located in Bosat Woreda in terms of timeliness, convivence, client preference and cost efficiency. Further the sample used for this study was limited in both coverage and size. The coverage of the study was limited only to the three rural kebeles of Boset Woreda and the sample size is limited to 300 household heads. This is due to the financial constraints and especially difficulty of moving long distance among rural kebeles due to lack of transportation services. Lack of well documented data sources in the study area was the main challenge we faced during this study.

## 1.7. Definition of Major Concepts

Mobile payment is a way to transfer money with a mobile device. It is referred to as “a type of payment transaction processing in which the payer uses mobile communication techniques in conjunction with mobile devices for initiation, authorization, or completion of payment” (Goeke and Pousttchi, 2010). With mobile payment you can pay a wide range of services and goods digitally without using cash, credit cards or checks.

According to Wikipedia technology adoption is defined as the extent by which a given technology becomes accepted and incorporated into approved social practices

Timeliness is defined as the fact or quality of being done or occurring at a favorable or useful time according to Wikipedia. Not all payments are time-critical, but users of the system should at least have options available that provide timely payment. Timeliness has at least two elements. In some cases, such as emergency government payments, the timing of the availability of funds to the recipient is critical.

Convenience means the state of being able to proceed with something without difficulty(Wikipedia).

Cost -effectiveness is the degree to which something is effective or productive in relation to its cost. (Wikipedia).

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

## 18. Organization of the paper

This paper consisted of five chapters with different sections and sub-sections. Chapter one presented the introduction for the main part of the paper, and chapter two stated the theoretical and empirical literature review about the adoption of mobile payment. Chapter three discussed research methodology. Chapter four focused on results and discussions. Finally, the last chapter (chapter five) gave conclusion and recommendation of the study.



## CHAPTER TWO: LITRATURE REVIEW

### 2.2. Theoretical Framework

The high rate of mobile phone adoption and usage has attracted attention from many researcher's world over. For instance, studied mobile phone appropriation are increasingly noting that mobile money can serve as a general-purpose technology platform on which other services can develop (Jennifer B, et.al, 2004:314). A study conducted in various SSA represents a new way to promote financial inclusion by "building the payment 'rails' on which a broader set of financial services can ride on" (Mas, I., et.al, 2010:357) using a mix of three perspectives, that is, Information and Communication Technologies for Development, Sustainable Livelihoods Approach to Poverty Reduction, as well as Innovation, Adoption, and Technology Appropriation. Indeed, the Kenyan Safaricom-operated mobile money standard is increasingly being adopted for services such as interest-yielding bank accounts, customer-to-business payments (such as electricity bills or tickets), and even insurance and credit services all of which require an understanding of the payment behaviors in Africa (Kendall, J., et.al, 2012).

According to Sadana (2011), the existing evidence on adoption of mobile money services beyond peer-to-peer transfer is mixed (Sadana, M., et.a, 2011), it is clearly not a marginal influence on the financial inclusion activities. This section presents current debates surrounding mobile money transaction (MMT) activities in the provision of social protection and in the implementation of SCG under SAGE in the Ministry of Gender Labour and Social Development (MGLSD). The literature review is based on the country specific and international policy and academic literature on MMT and SAGE implementation. The effectiveness of using mobile phone in transmitting money or in cash transfer to the target SAGE beneficiaries taking into consideration its challenges to the users was reviewed. The literature acknowledges that there are both formal and informal transfers of SAGE benefits under SCG.

Although the increase in the growth of mobile money expertise in Uganda is a phenomenon that has been particularly remarkable and welcomed by both the urban and rural users largely because of the prepaid service model. As a result, almost classes of society now have access to financial

services as people become increasingly familiar with a mobile-money service system. In fact, mobile technology, is viewed as a payment or banking channel, has the potential to allow two important questions to be addressed at the same time: on the demand side, it represents an opportunity for financial inclusion among a population that is underserved by traditional banking services (Eduardo et.al, 2001-2011:3). On the supply side, it opens up possibilities for financial institutions to deliver a great diversity of services at low cost to a large clientele of the poorest sections of society including the elderly persons (ibid). Therefore, the use of mobile money in Uganda is a cosmological achievement in the communication industry utilized by Individuals, groups, state and non-state actors (NSAs) in different ways. The growth of mobile money in Uganda, and in other east African countries (EAC) in general is phenomenal.

This growth is expected to continue as Government of Uganda is currently implementing social assistance grants for empowerment (SAGE) programme through the MTN mobile money service to remit money to different selected beneficiaries across the country. The success of mobile money in countries such as Kenya and Tanzania are due to its inclusiveness – ability to reach and tap into the rural population. With about 80% of Ugandans said to be living in rural areas, of which 50% own a mobile phone. It is easier to access mobile money services compared to banking services, especially for the village folk. That is why mobile money has experienced phenomenal growth in Uganda and hence attracting the interest of different stakeholders which did not spare the GoU. It enables easy and cost-effective transfer of money from urban to rural areas as people in the village are net recipients of mobile money.

According to Bank of Uganda (BoU) Annual Supervision Report December (BoU,2012), “during 2012, mobile money transfer services continued to register strong growth. The number of registered customers increased from 2.9 million in 2011 to 8.9 million in 2012, while the amount transferred by customers rose from UGX.3.7 trillion to UGX.11.7 trillion over the same period.” Unlike microfinance, traditional banks major target market is the middle class and high-end segments. Mobile money is a convenient way of reaching the mass market especially the rural communities at a low cost. The potential of mobile money to extend financial services to the rural poor is immense as this led to the Cabinet of Uganda approval Agency banking guidelines (see *The New Vision*, 2nd October 2013).

This means that mobile money agents like kiosks, shops and street vendors can now provide general mobile money services to the public and in particular the elders benefiting from SAGE programme. The mobile money ecosystem is composed of several players – telecoms, banks, regulators, agents and merchants. In Uganda, telecoms are regulated by the Uganda Communications Commission (UCC) under the UCC 2013 Act. Banks are regulated by Bank of Uganda (BOU) through the 2004 Financial Institutions Act (FIA). FIA does not mandate BoU to regulate non-financial institutions like telecoms. Although the UCC Act 2013, provides for regulation of ‘mobile value-added services’ these are not clearly defined in the act. To provide mobile money services, telecoms must partner with a bank that is prudentially regulated. All these entities operate within the cyber laws of Uganda, issued by the Uganda National Information Technology Authority (UNITA) in 2004. The Uganda cyber laws include (i) Computer Misuse Act (2011), (ii) the 2011 Electronic Transactions Act, and (iii) the 2011 Electronic Signatures Act. These laws provide regulatory environment for tackling cybercrimes, intellectual property rights, copyrights protection, enabling e-commerce and facilitating trade as well as regulating the use of electronic signatures. At the moment, there is no specific law that regulates mobile money services in Uganda. This expose and puts SAGE programme at risk which eventually will affect the intension of programme in empowering the vulnerable poor especially those benefiting from SCG under SAGE. Therefore, a law is needed as soon as yesterday as a lot of tax payers money is involved.

In the study conducted by Buys, Dasgupta, Thomas and Wheeler in 2009, the growth of mobile phone coverage across Africa has shown a strong positive correlation with population density, but other factors matter as well. Using a spatially disaggregated dataset of mobile phone coverage and geographic characteristics, they find that the probability of having a mobile phone tower in a particular location is strongly and positively associated with potential demand factors, such as population density and per capita income, as well as the competitiveness of the mobile phone sector within the country. They also find that factors associated with higher costs – namely, higher elevation, steeper slopes, and distance from a main road and major urban centers are negatively associated with mobile phone coverage.

### 2.2.1 The User of Mobile Money Services in Uganda

According to a report done by African Institute for Strategic Research Governance and Development (AISRGD) on Effectiveness and Challenges of using Mobile Money Services in the Implementation of the Social Assistance Grants for Empowerment Programs in Uganda ,there are four Mobile Phone Money operators in Uganda, with MTN being the largest. (Of the over 6 million Mobile Phone Money users, MTN has a market share of about 4 million with 7,336 MTN mobile money agents, Uganda Telecom (UTL) has 520,000 users with 3,500 M-Sente mobile money agents, Airtel has 120,000 users with 120 Zap mobile money agents, and Warid Telecom has 2 million users with 44 Pesa mobile money agents (Ministry of ICT status reports, 2012). According to Ministry of ICT status reports 2012, overall daily Mobile Phone Money transfer in Uganda hit Ushs 50billion (or US\$20million) by June 2012 up from Ushs30billion (US\$12million) in early 2011, signifying the important place Mobile Phone Money has in the financial market deepening in Uganda (Orotin et al, 2013).

Mobile money transfer in Uganda has grown at an astounding rate and continues to follow a steep trend. Services through mobile money transactions have continued to be utilized and opted for by different social groups - rich, middle and poor; young and older persons; state and non-state actors especially in person-to-person transfer of money; purchase of goods and services from business individuals and companies either on Bulk Payment Services; or on Bill Pay per Service. Some of the mobile money users for bulky payments in Uganda include: USAID Uganda, Government of Uganda through its Social Assistance Grants for Empowerment (SAGE) programme and Indoor Residual Spraying project<sup>3</sup>, World Food Program (WFP), British American Tobacco (BAT), some schools, and Mpanga tea (USAID, 2012).According to USAID (2012), MTN is the most popular and established brand in the mobile money field in Uganda and most importantly has the best mobile money agent network and is at present the best option for larger remittances.

Empirical evidence suggests that these factors partially explain the rollout of mobile phone service within countries as well, but depend upon the topographical features of a particular country (Jenny,2010). The mobile money transfer (MMT) service is an aspect of a broader concept emerging in the electronic payment and banking industry referred to as Mobile Money. Even though mobile money has not been well defined in literature it can be said to include all the

various initiatives (long-distance remittance, micro-payments, and informal air-time topping schemes) aimed at bringing financial services to the unbanked using mobile technology. According to (Jenkins, 2008), Mobile Money can be defined as money that can be accessed and used via mobile phone (ibid). Mobile Network Operators (MNO) in most developing countries are at different stages of MMT implementations.

## 2.2.2 Conceptual and theoretical perspectives on social protection

Different scholars have defined and interpreted social protection differently. Holzmann (1999), they define social protection (SP) as public measures to provide income security for individuals in terms of the provision of social protection in the form of public interventions to assist individuals, households and communities to better manage their income risks (Holzmann et.al, 2001). In contrast, the African Union (AU) defines Social Protection as a "package" of policies or programmes with the aim of reducing poverty and vulnerability of large segments of the population (Taylor, 2008) rather than addressing risk. In Ugandan context, the definition and boundaries of social protection are far from agreed, and different sets of stakeholders perceive social protection in different ways. The Draft National Social Protection Policy Framework for Uganda has come close to extensively defining social protection in the Ugandan context:

*Social protection entails all public and private interventions that address risks and vulnerabilities associated with being or becoming poor. It refers to all formal and informal initiatives that provide direct income support to extremely poor individuals and households; social insurance to mitigate risks and consequences of livelihood shocks; and social care to reduce social vulnerabilities and enhance the capacity of vulnerable groups to cope with and overcome social vulnerabilities. In the Ugandan context social protection comprises social security (Social Insurance and Direct Income Support) and social care services (Republic of Uganda (RoU,2013).*

Therefore, the report identified five potential mechanisms through which mobile phones can be used in providing social and economic benefits to the SCG and other consumers and producers of goods and services in the agriculture realm. Firstly, mobile phones can be used to improve access to and use of information, thereby reducing search costs, improving coordination among SAGE beneficiaries and SAGE implementers at policy level thereby increasing market efficiency. Secondly, this increased communication between all stakeholders improves trust and



confidence between the recipients and the stakeholders involved in a productive efficiency by allowing them to better manage their supply chains. Thirdly, mobile phones create new jobs to address demand for mobile-related services, thereby providing income-generating opportunities for rural based households and employment for semi-urban based individuals and companies. The fourth, mobile phones can facilitate communication among social networks in response to disaster shocks and other risks associated to floods, theft, robberies, and or death thereby reducing households' exposure to risk. And finally, mobile phone-based applications and development projects that we refer to as "money in pocket" have the potential to facilitate the effective financial inclusion of the previously un-banked cash and in purchase of services such as meeting treatment cost, agricultural farm inputs, and payment of their grandchildren educational fees for the case of elderly person. We have attempted to discuss this in the study finding sections. In all of these cases, the evidence on mobile money is quite recent and new especially to the senior citizens (SC) SAGE beneficiaries.

### 2.2.3 Conceptual understanding and functions of social protection

Social protection has 5 general functions and objectives (Taylor, 2008; Devereux et.al, 2004:10). It has a protective function when measures are introduced to save lives and reduce levels of deprivation in a society. Social protection has a preventive function because it seeks to assist people from falling into deeper poverty or becoming vulnerable to risks and contingencies arising from natural disasters, crop failure, accidents and illness. The promotive function of social protection aims to enhance the capabilities of individuals, communities and institutions to participate in all spheres of activity. The transformative function focuses on reducing inequities and vulnerabilities through changes in policies, laws, budgetary allocations and redistributive measures. Social protection also has a developmental and generative function by increasing consumption patterns of the poor, local economic development and enabling poor people to access economic and social opportunities (Holzmann et.al, 2003:1). Social protection, especially in form of cash transfers, is also credited for positively impacting on the livelihood and well-being of recipients, increasing the asset base of beneficiaries, economic multiplier effect that strengthens the local economy in terms of stimulating economic growth in depressed pockets of the economy and creating jobs that ultimately improves the tax base (Kerry, et.al, 2012).

According to (Barrientos, 2010) in many countries in Africa, state social protection instruments serve mainly the protection and preventive functions. The helpless elderly persons with no social support, people with disabilities, women mainly (widowed, single mothers, separated and divorced), orphaned and neglected child households, the landless (particularly ethnic minorities and indigenous peoples living in and around forest and wildlife protected areas); those affected by HIV/AIDS (especially in instances where the bread winner is ill or has died); the long-term sick, the internally displaced person as a result of conflicts and isolated communities, people living in marginal areas, particularly those which are prone to disasters, and those who often rely on their own among others requires urgent attention especially in form of social protection (DRT, 2008). For the purpose of this study, we examined social protection as and understood to be consisting of public interventions aimed at assisting individuals and households to better manage and overcome income risks or shocks. It includes social assistance, social investment and development funds, labour market interventions and pensions and other insurance type programmes.

Despite the potential benefits of social protection, the degree to which social protection is supported by governments varies. Some development analysts have pointed out, if contested arguments, that social protection schemes are unaffordable in poor countries. Second, social protection schemes promote dependency. Third, social protection schemes are difficult to implement (Lwanga, 2009). The first point suggests that poor countries cannot afford social protection and that the country's development ought to be put on economic growth, with the current stress of government policy being the enhancement of household incomes through increased production and productivity. Social protection proponents are always quick to add that even poor countries can afford basic social protection if they prioritize it because the amounts required of government expenditure required for a cash transfer, for instance, is a smaller proportion of the overall economy or expenditure (DRT, 2008). Furthermore, in the long run, the net fiscal costs of providing a minimum social security benefits could eventually become zero as such costs might be offset by positive economic and fiscal returns, increased productivity of an educated, healthy and nourished work force. According to advocates for social protection the opportunity costs of no social security benefits would be a weaker labour force, unhealthy children, social tension, high mortality and human suffering (Lwanga-Ntale, 2009).

The second belief that creates resistance towards social protection initiatives is that free-handouts create dependency and a culture of entitlement and often seen as ‘free cash for the poor’ (Lwanga-Ntale, 2009). It is argued that such handouts reduce the incentive for the unemployed to seek work. Critics also fear that poor people cannot be trusted to make good use of the cash received. Other fears relate to diversion of scarce resources away from the productive sectors and possible leakages during implementation. However, proponents of social protection are quick to argue that generalized dependency is unlikely: the amounts received are usually too small for all beneficiaries to depend on, so they will continue to work; that assistance by the state might reduce dependence on family members; that assistance might induce poor and vulnerable people to participate in the labor market, improve social networks, support savings, human capital development, investment and enterprise (DRT, 2008).

Arguing from a different perspective Hickey (2007), warns that social protection programmes may be implemented or boosted with a view to retaining regime legitimacy. In addition, lack of a political contract between states and citizens around issues of social protection constitutes arguably the largest barrier to the institutionalization of social protection programs. In other words, in the absence of a binding contract, social protection policies are liable to become instigated for other reasons, for example political risk assessments, and ultimately distorted by other prevailing forms of politics such as patrimonialism (Samuel, 2007).

According to Devereux (2006), vulnerability can only be sustainably reduced if social protection measures are institutionalized within national governments, where citizens have enforceable claims, rather than implemented and financed at the whim of donors and international NGOs (Devereux, 9-10 2006). Cash transfer pilot projects, which have become more popular in African countries in recent years, must become part of nationally owned social protection programmes. This requires citizens to mobilize to claim these rights, and it requires accountable and responsive governments which may not be the case in Uganda. In order for social protection to be a viable policy option, countries must already have high levels of institutional capacity and bureaucratic integrity (Hickey, 2007). The organizational culture, political commitment and political capacity of bureaucratic actors within government to advocate for, and implement, social protection initiatives are more important for social protection to take root. In countries

that have organizational and institutional bottlenecks, there are bound to have deep obstacles to effective policymaking and management of social protection programmes (Lwanga-Ntale, 2008).

Politicization is usually characterized negatively, as interference in policy processes and allocation of resources for political purposes, subverting technocratic decisions made on an objective assessment and prioritization of needs (Devereux et.al, 2008). In the context of social protection, adverse politicization is associated with patronage-based allocations of social transfers and distortion of targeting procedures that should be objective, needs-based and politically neutral. In Africa and around the world, under all dispensations governments are routinely accused of favoring their supporters and depriving opposition groups or regions of equitable access to public resources (ibid). In other words, social protection can become politicized by both ruling and opposition parties, especially in the lead-up to local or general elections when pledges to provide handouts to the electorate can buy crucial votes. On the other hand, positive politicization of social protection could result in social protection gaining prominence on the political agenda.

Devereux and White 2008; (Devereux, 2010.) and (Bosworth, 2008) emphasize the role played by various actors like governments, donors and civil society organizations in social protection. Governments have a stake in social protection, and in some cases they are driving the agenda independently of donors, or even against the advice of donors (Devereux, et al, 2008. Yet according to Bosworth (2008), the most effective social protection programmes have been those where governments have acted alone, without development partner support; or where development partners have supported a clearly government-led and owned programme. In the absence of government leadership, it can be difficult to expand and sustain social protection programmes. Civil society organizations are also very important actors in social protection (Mugerwa, 2008; Devereux, 2010) especially in mobilization around the struggle to secure social protection and social justice for – and by – poor and vulnerable people and advocating for good number of reforms in the social security sector. In addition, the media can play a critical role in keeping the debate on going through publication of articles and updating the public on the progress. However, in many African countries, civil society is much weaker - more dispersed and unorganized, less vocal and critical, in some cases even actively repressed by government (Devereux, 2010).

#### 2.2.4 Implementation of the Social Protection initiatives – The SAGE program

The question of what explains the latest attempts at implementing the cash transfer program as a form of social protection can best be answered using a political economy perspective. The political economy analysis is concerned with the interaction of political and economic processes in a society: the distribution of power and wealth between different groups and individuals and the processes that create, sustain and transform these relationships (DFID, 2009). This definition draws particular attention to politics, understood in terms of contestation and bargaining between interest groups with competing claims over rights and resources. Political economy analysis will be useful to help us understand what drives political behavior and how this shapes particular policies and programmes like social protection schemes? Who are the main “winners” and “losers” and what the implications are for development strategies and programmes?

Since 2002 the World Bank and DfID have been promoting social protection in Uganda. They devised a strategy of influencing government of Uganda policy on social protection via the establishment of a Social Protection Task Force (SPTF) within Ministry of Gender Labour and Social Development (MGLSD) (Hickey et al., 2009). Hosted by MGLSD, the SPTF included representation from the donor community, civil society and key government departments, including Health, Education and Finance. Its key role was to promote SP as a cross-cutting issue within the review process for the third PEAP. Social protection did get several mentions in the revised PEAP, which gained Cabinet approval in November 2004 and World Bank approval in July 2005. Since the start of 2006 DfID has been at the forefront of cash transfers which is the focus of this study

From 2006, Uganda has worked to develop a coordinated approach to social protection (DRT, 2013; Niringiye, 2013). In 2010 the Expanding Social Protection Programme was launched. This is a five-year programme meant to complement existing basic services and poverty reduction programmes. The programme seeks to reduce chronic poverty, address inequality and promote inclusion of recipients in development. It is funded by contributions from the Government of Uganda, DFID and Irish Aid worth 50 million pounds sterling with UNICEF providing technical advice. It is important to note that the current government contribution is UGX 2 Billion in cash and 6 billion (in kind)<sup>4</sup> (Average exchange rate for year 2014 1USD = UGX 2600).

According to a report submitted to the Institute for Money, Technology and Financial Inclusion, University of California , Irvine by African Institute for Strategic Research Governance and Development SAGE programme has two main components: According to the above report , Interview with the Commissioner in charge of the SAGE programme Ministry of Gender, Labour and Social Development

- i) Policy support to strengthen leadership and commitment to social protection across the government, developing a national social protection framework and generating evidence on the impact of social protection in general.
- ii) Social Assistance Grants for Empowerment (SAGE) which is a pilot cash transfer programme aimed at providing benefits of social assistance in 14 districts of Apac, Kabaramaido, Katakwi, Kiboga, Kyenjojo, Moroto, Nakapirpirit, Nebbi, Amudat, Kyegegwa, Kyankwanji, Zombo, Napak and Kole (ibid quoted from MLGSD) out of a total of 112 districts as of the time of writing this report. A fifth district (Zombo) was added after a presidential directive (See figure 1 below).

According to Niringiye (2013) in addition to their poverty rates, the districts were chosen basing on the following six indicators:

- Proportion of children in the district population;
- Proportion of older persons in the district population;
- Number of orphans and vulnerable children as a proportion of the total child population;
- Incidence of risky births;
- Proportion of households living more than 5 km from health facilities; and
- School attendance rates among children aged 6 – 12 years.

In turn SAGE has two components;

- a. The Senior Citizens Grant which is non-contributory pension or old age grant, to older persons. This is a disbursement of a small but regular monthly cash transfer to all individuals over 65 in the pilot districts (or 60 years in Karamoja region).
- b. The vulnerable Family Grants are disbursements to households with limited labour capacity. The households typically have high dependency ratios (containing older people, people living with disabilities, orphans, and vulnerable children or large numbers of children (DRT, 2013: 37).

Both programmes aim to reach 600,000 people in 95,000 households in the pilot districts during the pilot phase. The beneficiaries receive approximately \$10 a month which will be revised annually due to inflation. After the pilot phase, the whole country is expected to be covered (Niringiye, 2013 and DRT, 2013 quoting MLGSD)

#### 2.2.5 The need for Social Protection in Uganda

The introduction of social protection policy in Uganda by the GoU, under the Ministry of Gender, Labor and Social Development (MGLSD) and the implementation of SAGE, is aimed at addressing poverty and vulnerability. We define the policy objective as that ensures adequate and acceptable standard of living for a country's vulnerable and excluded citizens. The 2005 Uganda Chronic Poverty Report presents and highlights those households in chronic poverty (UNDP & MFPED, 2014:8-9). On 16th June 2010, the Government approved the Expanding Social Protection Program including one of its core components the Social Assistance Grants for Empowerment (SAGE). This program aligns with the global consensus of promoting and protecting the poor through cash transfers to the elderly and vulnerable families to enable them meet their basic needs. The results of the mid-term evaluation indicate that enrolled households have gained more consumption power and can access social services than before and if scaled up, this program has the potential to significantly contribute to the reduction of chronic poverty among the beneficiaries. If the scope of social protection is limited to smoothing out consumption or income fluctuations, then it would be effective against transient poverty, but less effective against chronic poverty.

However, conceptualization of social protection alone will though not solve the problem of chronic poverty. It needs to be complimented by deliberate redistributive measures to improve the quality, access and participation of the poor in health and education as well as increased state support for agriculture, where majority of Ugandans (not only the poor) derive their livelihoods Republic of Uganda (RoU, 2010:5-8). Uganda is dominated by both inter-generational chronic poverty and large social deficits, which requires more innovative approaches aimed at reducing poverty such as social protection. They contribute to asset redistribution and that includes measures to address the structural basis of poverty and social exclusion. Social protection

mechanisms in Uganda include cash transfers to vulnerable groups; pensions for the elderly, grants to children headed households and people with disabilities.

The demand for comprehensive role of social protection mechanisms that should include; access to social services such better health care services, education, housing and education (Ouma, 1995). The ultimate development objective of the 5-year Programme is to embed a national social protection system that benefits Uganda's poorest as a core element of the country's national policy, planning and budgeting process. The goal of the Expanding Social Protection (ESP) programme in Uganda is to reduce chronic poverty and improve life chances for poor men, vulnerable women and children. It will complement on other poverty reduction policies and programmes enable the poor and marginalized to access mainstream development, complements traditional Ugandan social protection and to draw on lessons from other countries in the region.

### **2.3. Empirical Framework**

In their study of Brazil, Colombia, Mexico and South Africa, Bold et al, (2012) bases the influence of social cash transfers on financial inclusions in three broad views encompassing: (i) the government's design and implementation of cash transfers such as long-term transfer interventions, adopting payment approaches that link to financial services and promote use of these services; (ii) uptake of financial services by the poor based on consistent income, financial literacy and attitudes; and (iii) the ability of financial institutions to provide financially inclusive services to beneficiaries on a profitable basis. Evidence from the four countries with well-established social cash transfer programmes revealed a contradictory attitude on the uptake and benefits of financial inclusion, the social cash transfer agencies generally agreed that electronic payments are safer than cash, affordable, and eventually have a sense to inevitably move recipients toward financial inclusion. Recipients of social cash transfers appreciate the convenience of electronic payments, however, on gauging the level of use of financial services such as saving, they found that many factors are at work, including: recipients are hesitant to utilise new financially inclusive accounts; there is lack of awareness of account features and a fear of being disqualified from social transfer programmes for being able to save. They opined that as recipients become familiar with their options, they would start to explore and use additional financial products.



The study presented in ‘Portfolios of the Poor’ recognises that money management is, for the poor, a fundamental and well-understood part of everyday life. It is a key factor in determining the level of success that poor households enjoy in improving their own lives. It demonstrated that poor households in Bangladesh, India, and South Africa use on average eight different kinds of savings, insurance, payment, and credit instruments throughout the year (Collins, et al., 2009). They observed that if poor households enjoyed assured access to a handful of better financial tools as opposed to informal instruments, their chances of improving their lives would surely be much higher. The CGAP and DFID paper “Banking the Poor via G2P Payments” (Pickens, et al 2009) identified that one of most powerful tool used by the government’s in financial inclusion is to drive transaction volume through government-to-person (G2P) electronic payments, including social cash transfers.

In India, Burgess and Pande (2005) argued that financial inclusion led to reduction in poverty. They provided evidence that financial inclusion by opening branches of commercial banks through state-led policies was associated with poverty reduction in rural unbanked locations of India. This study despite being insightful did not look at the usage of the products or services but merely the presence of bank branches which studies have shown does not give a complete picture of financial inclusion. The study does not depict the channel through which increased bank presence reduced poverty. Another study using Randomized Controlled Trials (RCT) method in Western Province of Kenya by Dupas et al., (2012) revealed that simply expanding banking services is not likely to massively increase formal banking use among the majority of the poor unless quality can be ensured, fees can be made affordable, and trust issues are addressed.

According to Demirguc and Klapper (2012), there are many reasons why individuals or groups may not take full advantage of mainstream financial service providers. Globally the most frequently cited reason for not having an account is the lack of enough money to use one. The next most commonly quoted reasons are that banks or accounts are too expensive and that another family member already has access to an account (a response identifying indirect users). The other reasons reported include banks being too far away, lack of proper documentation, lack of trust in banks, and religious reasons. Aduda and Kalunda (2012) observed that lack of access

to finance can be the critical mechanism for generating persistent income inequality or poverty traps, as well as lower economic growth hence financial inclusion attempts to reduce market frictions caused by information asymmetry. Theoretical and empirical literature confirms that households in poverty face binding credit constraints. They have difficulties in providing collateral to secure loans from financial institutions, especially as the urgency of their consumption needs makes them more likely to default (Banerjee, 2005). In Bolivia, a social pension Bono Dignidad is paid once a year to persons aged 60 and over. At US\$246, it is a significant injection of liquidity for rural farmers who have land but lack sufficient cash or credit to purchase seeds and other agricultural inputs. Barrientos (2012) reviewed the Latin study of Martinez which estimated that among pension beneficiaries in rural areas, overall consumption rises by twice the amount of the benefit, suggesting that improved household production was facilitated by the transfer. Social transfers can also help lift credit constraints for poorest households as a component of a package of interventions including micro-credit. Direct evidence of improved access to credit is available for BRAC's 'Challenging the Frontiers of Poverty Reduction—Targeting the Ultra Poor program in Bangladesh' (Munshi, 2009). This program provides a mix of transfers in kind and cash to households in extreme poverty in preparation for more standard micro-credit programs after 18 months. A sample of selected beneficiary households was compared with a sample of eligible but non-selected households, the latter slightly better off, in 2002 at the start of the program and in 2005 (Ahmed, et al. & Das, 2009; Rabbani, et al. 2006).

Beneficiary households showed significant improvements over time in the incidence and size of loans they held, in part explained by their access to the micro-credit component of the program. The studies also show a shift in the motivation for credit among selected households. In 2002, credit was primarily a means of smoothing out, consumption, but in 2005 the dominant motivation was investment in productive assets. There is still however limited research in order to be able to determine if increases in savings are a direct consequence of the transfer or what other elements may be behind the decisions to save (Winder, 2010). Studies have also shown non income effects of social transfers relating to access to credit. Barrientos (2012) quoted Latin studies by (Schwarzer, 2000; Delgado & Cardoso, 2000) which revealed that in Brazil, Previdencia Rural, a social pension, was introduced in 1991 to cover informal workers and their households. The regularity of the pension benefit enables pension beneficiaries to access loans

from banks, by showing the magnetic card which is used by them to collect their pensions. A detailed study of the program observed a high incidence of investment in productive capital among beneficiaries. training and access to financial services. Similarly to the case of Colombia, results showed a very low level of financial inclusion, where only 7.5% of the beneficiaries in the sample reported having savings account. Funds were used mostly to finance micro-entrepreneurial activities or education or as buffers to counteract changes in income or loss of capital. Furthermore, the study also showed that among those with a savings account, 64% received no interest and in cases where they did, 22% were not aware of the exact interest rate amount (Winder, 2010).

Several studies have observed improvements in asset holdings among beneficiaries of social transfer programs. Ethiopia's Productive Safety Net Programme addresses persistent food insecurity through a public works component, which helps prevent asset depletion and build community assets. Participants in the public works component can also access productivity-enhancing interventions and asset transfers. A study comparing outcomes between this group and a control group 18 months after a baseline survey observed improved food security (0.36 months), increased borrowing for productive purposes (12 percentage points), and increased use of fertilizers (10.7 percentage points) (Gilligan et al.,2008). Kabubo and Kiriti (2013) investigated the effect of cash transfers on enterprise development and asset accumulation by vulnerable households and women in Kenya. They found that cash transfers have important implications for household welfare in that they help to raise the standards of living and provide resources for the poor and vulnerable households to cater for basic needs (food, health, and education); and facilitate asset accumulation and enterprise development. They noted that most beneficiaries thrived on informal financing as a result social protection from the cash transfers.

Haushofer and Shapiro (2013) conducted a randomized controlled trial (RCT) of the unconditional cash transfer program implemented by the NGO GiveDirectly in Western Kenya between 2011 and 2012, in which poor rural households received unconditional cash transfers through the mobile money system M-Pesa. They found that cash transfers notably increased the level of investments in long term assets, some of which were used for income generating activities. However, in response to the project's lump sum cash transfer Goldstein (2013) expressed the view that poverty levels of beneficiaries may not improve significantly due to

under developed financial systems that make it hard for them to access small business loans from banks for business expansion.

Designs of transfer programmes play a critical role in promoting financial inclusion and asset accumulation. CGAP and the Ford Foundation have been exploring how adaptations of BRAC's Targeting the Ultra-Poor program to a "graduation model" can create pathways out of extreme poverty for people living in diverse geographies. The model is a comprehensive and intense approach to moving people out of extreme poverty in a sustainable and time-bound manner. It is structured around the careful sequencing of five core "building blocks": targeting, consumption support, savings, skills training and regular coaching, asset transfer. The term "graduation" refers to participants moving out of safety net programs and "graduating" into income-earning activities that let them sustain themselves without external subsidies. In the pilot programme where this model was applied, the asset base of the poor grew significantly although savings were not as much. Responses indicated that savings were converted into assets with time. (Hashemi & de Montesquiou, 2011).

Sarma and Pias (2011) using the index of financial inclusion focused on identifying the factors that were significantly associated with financial inclusion in cross country level. The study found that levels of human development and financial inclusion in a country move closely with each other, although a few exceptions exist. The findings of their study strengthen the assertion that financial exclusion is indeed a reflection of social exclusion, as countries having low GDP per capita, relatively higher levels of income inequality, low levels of literacy, low urbanisation and poor connectivity seem to be less financially inclusive. Recipients of the Kalomo social cash transfer in Zambia found that other community members were more willing to loan them money, for instance, suggesting a revaluation of their social position within the community (Wietler, 2007).

The key to increased uptake of financial services is financial innovations. Recent financial innovations like 'Mobile Banking' and 'Branchless Banking' have addressed various quality aspects, this has increased the level of using financial services availed to clients. Mobile money—sometimes considered a form of branchless banking—has allowed people who are otherwise excluded from the formal financial system to perform financial transactions in a

relatively cheap, secure, and reliable manner (Jack & Suri, 2011). Many mobile money accounts—such as those provided by M-PESA in Kenya or GCash in the Philippines—are not connected to an account at a financial institution, but the providers are often required to store the aggregate sums of the accounts in a bank. In recent years the proliferation of branchless banking has also received growing attention as a way to increase financial access in developing countries, particularly among underserved groups (Mas & Kumar, 2008). One mode of branchless banking centres on expansion of point of service delivery through bank agents, who often operate out of retail stores, gas stations, or post offices. By capitalizing on existing infrastructure and client relationships, operators have expanded financial access in a more cost-efficient manner.

## **2.4. The Productive Safety Net Program in Ethiopia**

Since its inception in 2005, the PSNP has served more than eight million Ethiopians and the number of participants is expected to reach ten million by 2018 (World Bank, 2016). Although reported statistics vary, approximately half a million Ethiopian households or three million individuals have “graduated” from the program, indicating that they have acquired enough assets to greatly diminish their dependency on emergency aid, while enhancing their resilience to shocks (Haile, 2015).

Implemented by the Ministry of Agriculture in collaboration with the Ministry of Finance, the PSNP is currently in its fourth iteration, known as PSNP IV, which will run from 2015-2020. It is expected to reach ten million households at a total cost of USD 2.6 billion (World Bank, 2016). It is funded by the GoE (14 percent) and a consortium of eleven donors including the United Kingdom’s Department for International Development (DFID), the World Food Program, and the World Bank (Slater et al., 2016). Unlike previous phases, PSNP IV specifically focuses on livelihoods support, gender, disaster risk management, and improved management and delivery infrastructure. It is designed to build systems and structures to enhance resilience and to mitigate the need for emergency aid. It also includes several key elements of gender sensitivity and concern for the most vulnerable community members.

As part of the larger PSNP, the Government of Ethiopia provides complementary livelihoods services to enable participating households to enhance existing income streams and better

manage their limited resources. These services include agricultural training, health workshops, and financial literacy classes. In 2015, the GoE decided that these services to include a focus on promoting financial capability amongst PSNP recipients, as beneficiaries are increasingly able to access new payment mechanisms and a wider range of financial products and services.

Financial literacy was first incorporated into the PSNP Program in 2008 as part of USAID's complementary initiative: PSNP Plus (Fowler et al.). In 2015, when the Government of Ethiopia decided to focus extensively on financial capability among the PSNP beneficiaries, the Household Asset Building Program (HABP) was merged into PSNP as the livelihoods component. While HABP as a standalone program focused more on income-generating activities, namely using credit for productive purposes and building assets, it also housed a financial education program since its inception. The financial education toolkit developed for HABP has served as the basis for the most recent financial education effort under the PSNP since 2015.

While the existing financial literacy curriculum based on HABP has many strengths, it no longer aligns with the PSNP's operations. In 2013, the PSNP first piloted e-payments in select Woredas in Amhara. Efforts continued in 2015, when the PSNP piloted cash transfers to two selected Woredas in Oromia (Bosat and Adami Tulu-Jiffo Kombolcha) and Amhara (Libokemkem and Angolela Tera) using mobile payments and biometric point-of-sale (POS) systems respectively. Given the pilots' successes, the PSNP expanded the initiative into an additional 6 Woredas in Oromia, 7 Woredas in Amhara, 4 Woredas in Tigray, and 3 Woredas in SNNPR in 2016 (World Bank, 2016). As the broader PSNP continues to evolve and e-payments are introduced more widely, the financial capability models must undergo a shift as well. The HABP curriculum does not address digital financial services nor e-payments despite efforts to utilize these channels. Beneficiaries, therefore, often lack the knowledge requisite to capitalize on the financial services afforded by electronic technologies. Financial education for PSNP beneficiaries will thus need to evolve accordingly as noted in the Program Implementation Manual.

In addition to transforming the existing financial education curriculum offered the PSNP recipients, the GoE is also in the process of replicating the social safety net program in urban areas. Known as the Urban Productive Safety Net Program (UPSNP), this initiative strives to

support 4.7 million people scattered across more than 950 urban areas. Rollout, which will be a gradual process anticipated to last more than five years, has only just begun in March 2017. The learning needs of UPSNP beneficiaries will be assessed at a later stage when the program is deployed to a reasonable majority through e-payments. It is anticipated that the needs of UPSNP recipients will differ as they benefit from significantly more access to electronic payments and the UPSNP will most likely capitalize on their proximity to ATMs to distribute via this channel.

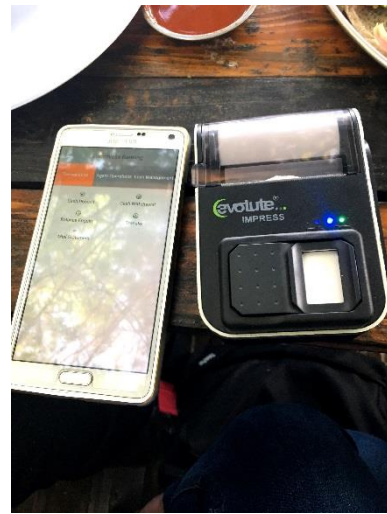
#### E-Payment Processes in PSNP E-Payment Pilots

According to (World Bank 2017), from the Woredas visited for the qualitative research where PSNP e-payments have been implemented, PSNP beneficiaries receive a basic account at the regional MFI that partners with the PSNP program in their region: ACSI in Amhara, DECSI in Tigray, OMO in SNNPR, OCCSO in Oromia, and SMFI in Somali region. To deliver the financial services to beneficiaries in rural areas, MFIs have partnered with different technology providers: in the Woredas visited in Tigray, Oromia, and SNNPR, beneficiaries use mobile money service M-BIRR provided by M.O.S.S. to receive their PSNP support. In the Woreda visited in Amhara (Lebokemkem), a biometric POS terminal provided by Kifiya is used in combination with an MFI field staff's smartphone. In Somali region, where e-payment are currently being rolled out, mobile money provide Hello Cash is partnering with Somalia Microfinance Institution and the PSNP program to deliver PSNP support via e-payments.

To verify a beneficiary's identity before withdrawing money using the M-BIRR system, beneficiaries must show their government-issued PSNP ID card and enter their personal PIN code into the agent's phone. To verify a beneficiary's identity before withdrawing money using the Kifiya system, beneficiaries must show their government-issued PSNP ID card and record their fingerprint in the biometric POS terminal. For cases in which the device cannot read a person's fingerprint, Kifiya is temporarily using a card-based system in lieu of the fingerprint while they are working to optimize the precision rate of the biometric sensor (IBID).

Kifiya does not have any agents in the field that interact directly with PSNP beneficiaries, instead financial services are provided by MFI field staff using Kifiya's technology. Both M-BIRR and Hello Cash have a network of agents in the field who provide financial services in return for commissions (IBID).

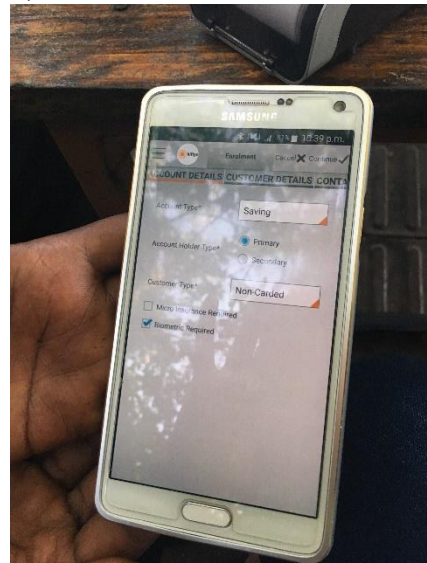
In Amhara, ACSI (MFI) also distributed a physical savings book to PSNP beneficiaries in which their account balance and all transactions are recorded. Beneficiaries reportedly bring this savings book with them when they collect PSNP payments at the ACSI/M-BIRR agent. After specifying the amount of money, they want to withdraw, they receive a paper transaction receipt from the Kifiya biometric POS terminal, which is often stapled into the savings book. Stakeholders interviewed in Amhara noted that this savings book has been a great help building trust in the e-payment process, as well as familiarize beneficiaries with the concept of an account and raise savings awareness (IBID).



*Picture 1 & 2: Kifiya's biometric POS terminal used in combination with a smartphone application in Lebokemkem, Amhara*



*Picture 3: Paper receipt issued by Kifiya's POS terminal*



*Picture 4: Kifiya's smartphone app interface*



The suite of financial products available to PSNP beneficiaries is not consistent across the country; it depends on the product offerings of the regional partner MFI. Kifiya’s branchless banking service manager Eskedar Amensissa explained that the reason PSNP clients in Amhara can currently only use deposit and withdrawal services at the MFI’s field staff is that a commercial agreement between Kifiya and ACSI covering a broader suite of financial services was reportedly in the final stages of negotiation, as of 17 January 2017. Once this agreement is signed, more financial services would be made available via the Kifiya platform, such as loan applications, loan management, microinsurance, and P2P transfers. At the time of the visit, there was already an option for microinsurance present in the Kifiya platform’s interface (see picture 4 above), but it was unclear whether this service was already activated at the time of our visit. (IBID)



**Picture 5:** M-BIRR mobile money platform demonstrated on an agent’s phone in Enderta, Tigray



**Picture 6:** Options menu for PSNP clients demonstrated on an agent’s phone in Enderta, Tigray

In Enderta, Tigray, an M-BIRR agent demonstrated the M-BIRR platform used for the disbursement of PSNP e-payments (see pictures 5 & 6 above). Here, only withdrawal, and transaction functions were available to PSNP clients via the M-BIRR platform but according to the agent, only the withdrawal functions was currently actively used. Mobile transfers to other registered M-BIRR users as well as non-registered users *who have a mobile phone* are already available to PSNP beneficiaries. If an M-BIRR user sends money to a person who does not have

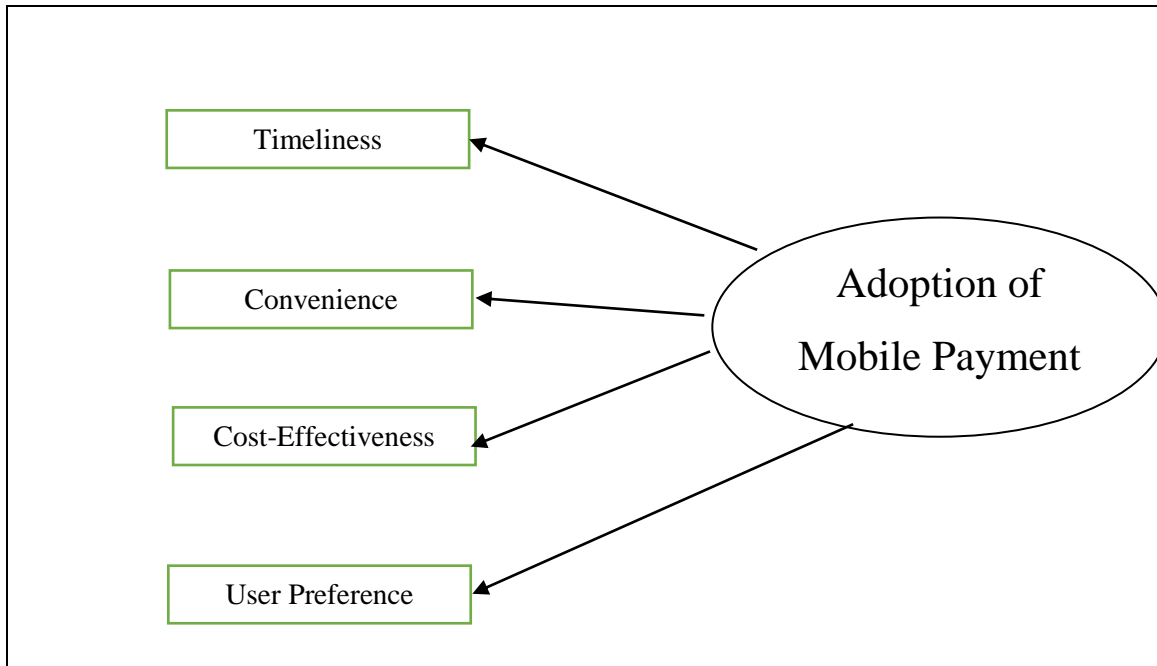
an M-BIRR account, the recipient receives a money voucher via SMS, which can be exchanged for cash at an M-BIRR agent. Hello Cash, provides the same service to send money to someone who owns/uses a mobile phone but is not registered with Hello Cash.

However, despite expressed demand for digital, long distance transactions among beneficiaries, this transaction feature is not currently used by beneficiaries because of a lack of awareness about mobile transactions among agents, MFI field staff, and PSNP beneficiaries.

At the request of MoFEC, M.O.S.S. has developed different savings account options for the M-BIRR platform: a regular savings account and a block savings account where savings are linked to a specific purpose and cannot be withdrawn for six months. This block savings account was developed specifically with PSNP clients in mind and can be opened via M-BIRR's mobile application, according to M.O.S.S. CEO Thierry Artaud. Both savings products carry interest at a rate that is determined by the partner MFI.

However, these products were not yet available at the MFI or M-BIRR agents in the Woredas we visited. PSNP beneficiaries that participated in the FGDs all used an agent rather than using the M-BIRR application themselves on their own phone, if they owned one. In Tigray, for example, complaints were heard from PSNP staff that the regional MFI DESCi does not yet offer an interest-bearing savings product to PSNP clients, only a basic transaction account. The M-BIRR mobile platform also has the functionality for loan disbursements and loan repayments in regions where their partner MFIs offers loan products through M-BIRR. (Loan applications must still be made in person at the MFI branch and are not possible through M-BIRR.)

Generally, the technology for offering other financial services via digital platforms in Ethiopia is already functional but availability of product offerings depends on legal and commercial agreements – or the lack thereof - between technology providers of digital financial services and financial institutions, which can be slow in responding to client demands and technological innovations. With regards to developing appropriate financial education materials about digital financial services, it should be noted that this space is fast-changing as new agreements are continually being made and new products are likely to be added to the existing digital platforms over the course of the next few years. E-PSNP Payment Process and stakeholders are put under Annex 3 for in-depth understanding.



Frame work of the study indicating uses of adoption of mobile payment

## **CHAPTER THREE: RESEARCH METHODOLOGY**

### **3.1. Introduction**

This chapter focuses on the research design, target population, sampling design as well as data collection and analysis applied during the study.

### **3.2. Description of the Study Area**

Boset is one of the woredas in the Oromia Region of Ethiopia. Part of the Misraq Shewa Zone located in the Great Rift Valley, Boset is bordered on the south by the Arsi Zone, on the west by the Awash River which separates it from Adama, on the north by the Amhara Region, and on the east by Fentale. The administrative center of the woreda is Welenchiti; other towns in Boset include Bofe, Bole and Doni.

This woreda is predominantly level land with undulating features; almost 90% is less than 1500 meters above sea level; Boset Guddo is the highest point. Rivers include the Tebo. A survey of the land in this woreda shows that 26.2% is arable or cultivable, 30% pasture, 15.8% forest, and the remaining 28% is considered barren, degraded or otherwise unusable. The Nura Era and Tibila State Farms are major agricultural centers. Fruits and vegetables are important cash crops.

Industry in the woreda includes 19 small scale industries that employed 28 people, as well as 576 legally registered business enterprises which include 69 wholesalers, 318 retailers and 189 service providers of differing types. There were 31 Farmers Associations with 6208 members and 7 Farmers Service Cooperatives with the same number of members. Boset has 97 kilometers of dry-weather and 103 of all-weather road, for an average of road density of 136.8 kilometers per 1000 square kilometers. About 87% of the urban, 36% of the rural and 45% of the total population have access to drinking water.

According to the 2007 national census, a total population for this woreda of 142,112, of whom 73,925 were men and 68,187 were women; 26,514 or 18.66% of its population were urban dwellers. The majority of the inhabitants said they practiced Ethiopian Orthodox Christianity, with 60.57% of the population reporting they observed this belief, while 15.64% of the

population were Muslim, 14.45% of the population practiced traditional beliefs, and 8.37% were Protestant.

Based on figures published by the Central Statistical Agency in 2005, this woreda has an estimated total population of 158,253, of whom 76,410 are men and 81,843 are women; 33,348 or 21.07% of its population are urban dwellers, which is less than the Zone average of 32.1%. With an estimated area of 1,461.88 square kilometers, Boset has an estimated population density of 108.3 people per square kilometer, which is less than the Zone average of 181.7.

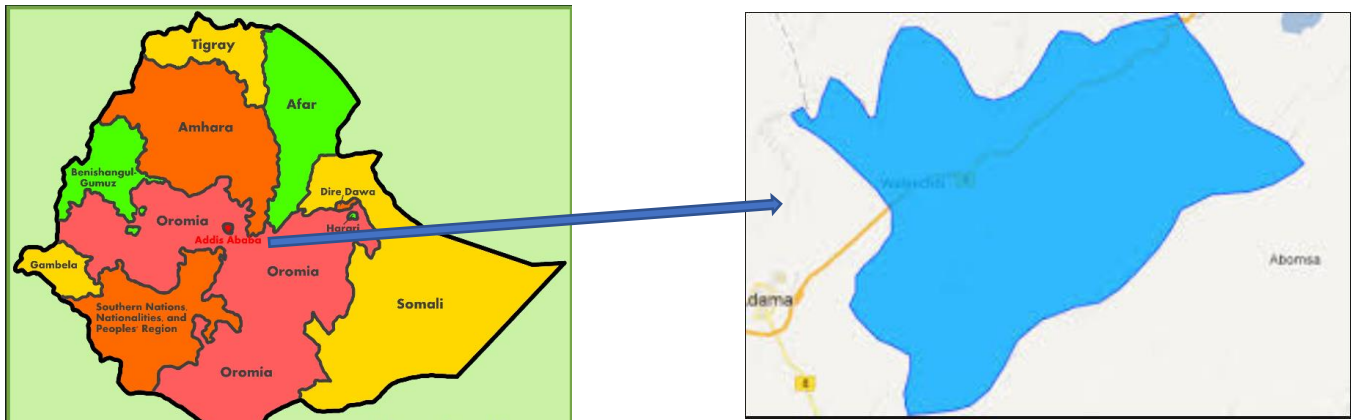


Figure 1: Location map of the Study area

### 3.2. Research Design

Burns and Grove (2003:195) define a research design as “a blueprint for conducting a study with maximum control over factors that may interfere with the validity of the findings”. Parahoo (1997:142) describes a research design as “a plan that describes how, when and where data are to be collected and analyzed”. Polit et al (2001:167) define a research design as “the researcher’s overall for answering the research question or testing the research hypothesis”. The purpose of the study is to assess the opportunities and challenges of adoption of mobile payment in the PSNP households located in Boset Woreda in terms of timeliness, convience, cost efficiency and client preference. The study adopted both qualitative and qualitative research design.

### 3.3. Target Population

The study is restricted to the demand side focusing on the beneficiaries of social cash transfer only. 330 self-prepared questioners were developed and distributed to PSNP households located in Boset Woreda. This Woreda contains three Kebeles named Sifa Bete , Nura Hasi and Kombe Gugsu in which questioners are dispatched equally.

### 3.4. Sample Design

To determine the sample size the study used purposive sampling method for selecting Bosat Woreda. The reason for selecting Bosat Woreda is because this Woreda is the first Woreda mobile payment was launched in February 2015, implemented both cash payment and mobile payment modality and hence can draw sufficient lessons using this Woreda than any other Woredas. The study used simple random sampling to select he households located in this Bosat Woreda. This Woreda consists of 1181 households and 3 Kebeles.

$$n = \frac{p(100-p)}{Z^2 E^2}$$

n is the required sample size

p is the percentage occurrence of a state or condition

E is the percentage maximum error required

Z is the value corresponding to level confidence required

### 3.5. Data Collection Methods and Techniques

The data for the study is collected from both primary and secondary sources. For the primary data collection, 330 questionnaires were distributed for PSNP Bosat Wereda HHs which has three Kebeles named ; Sifa Bete , Nura Hasi and Kombe Gugsu Kebeles . All distributed questioners are successfully completed and returned from the HHs , hence the sample size of this study is 330. The questioner is self designed based on the objective of the study. It includes both open ended and close ended questions. Secondary data were also employed from different studies and reports.

### **3.6. Data Analysis**

For achieving the objectives of the study, the collected data will be processed and analyzed with descriptive statistics using Statistical Package for Social Scientists (SPSS). Throughout the analyzing process, percentages, mean, standard deviation , frequency distribution are employed. Moreover, tables and charts will be used to present the findings of the study. Qualitative and quantitative data analysis will also be employed.

# CHAPTER FOUR: DATA ANALYSIS RESULT AND DISCUSSION

## 4.1 Introduction

This chapter presents the findings of the study, analysis of the findings and interpretations. The purpose of the study was to assess the opportunities and challenges of adoption of mobile payment in the PSNP households located in Bosat Woreda, Oromia in terms of timeliness, convience, client preference and cost efficiency. Data was collected from a random sample of three hundred thirty (330) respondents benefitting from PSNP program located in Bosat Wereda.

## 4.2. Data Analysis

The data generated was coded and entered in SPSS version 23.0 software for statistical analysis. Descriptive statistics like mean, standard deviation, frequency distribution and percentages were used to examine the opportunities and challenges of adoption of mobile payment in the PSNP households located in Boast Woreda, Oromia.

### 4.2.1. Analysis of biographical date of respondents

The data was analyzed in this section by means of descriptive statistics, utilizing charts to understand the sample under consideration. Figure 1 below illustrates the share of the gender of respondents indicates that 60.3% were male and 39.7% were female.

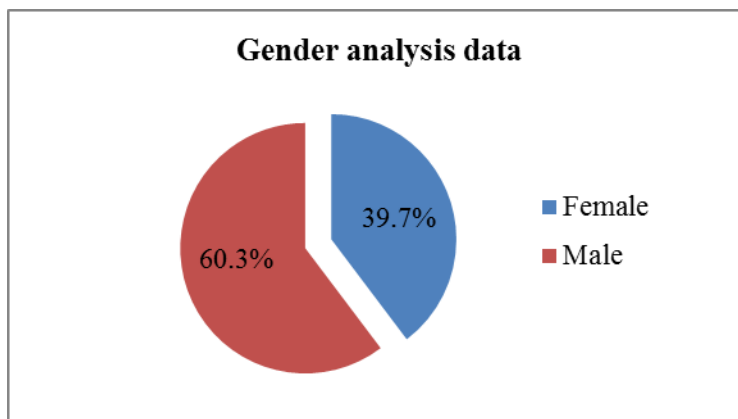




Figure 2: Gender Analysis Data

Table 1 Presents the profile of the respondents in terms of their age and education level. The table shows that the average age of respondents is 43 years old which implies that the HHs heads are adults and this could be a potential challenge in the process of applying new technology in their livelihood system. The table below also shows that the average grade of respondents took education only until grade two. These shows that the respondents are highly illiterate. Given mobile payment system is not sophisticated, it may not hinder them from using the mobile payment scheme. Overall, new technology introduction is expected to consider the age distribution and education level of the users. To this end, based on the age and education level evidence of the respondents, effective usage of mobile money service in this Woreda may require short term training for the users .

	Mean	Minimum	Maximum
Age	42.9303	16	85
Education level	2.4091	0.00	10
Obs.	330		

Table 1. Age and education level analysis of respondents

#### 4.2.2. Analysis of mobile ownership, usage and how to protect PIN

In terms of ownership of mobile, Figure 2 indicates that 50.9% of the respondents own mobile phones for personal use. This shows that those who doesn't have mobile are getting the information of payment from Development Agents, neighbors, Kebele officials or by going to the agent in person when they go to the market.

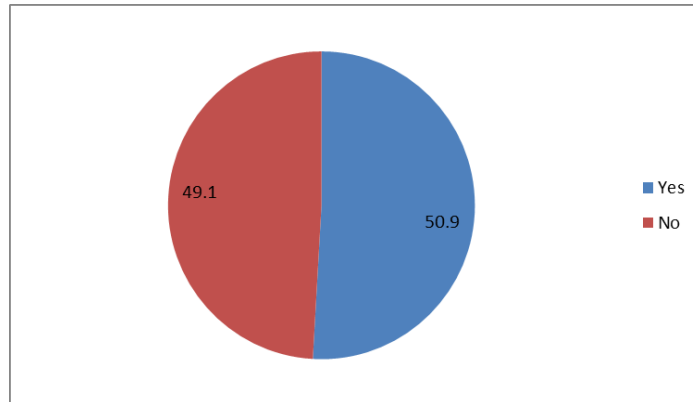


Figure 3: Ownership of mobile

Figure 3 shows that 56.1% of respondents know how to use mobile phones for withdrawals of payment other than the basics; calling, receiving, texting, while 43.9 % don't know how to use mobile phones.

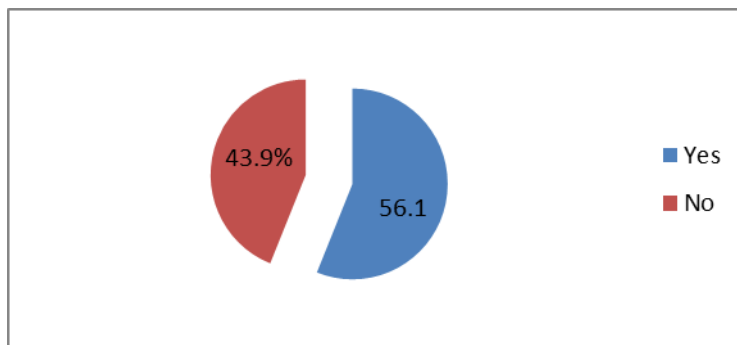


Figure 4: Usage of Mobile Phone

The below figure further highlights that 81.2% of the respondents said they are aware of why the PIN is important whereas 18.8% doesn't have awareness why the PIN number is important. This shows that majority of the respondents know how to protect their account and keep their PIN confidential and not share with other people. Hence, it would be helpful to provide awareness creation for the remaining HHs.

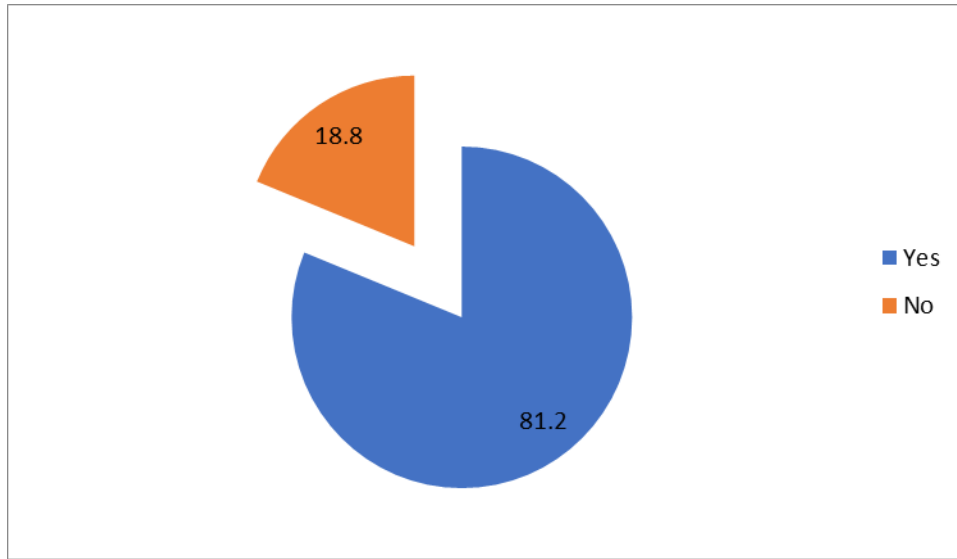


Figure 5: Knowledge on the purpose of PIN

#### 4.2.3. Analysis on Financial inclusion

About 65% of Ethiopians currently do not have access to financial services, and most of these people belong to low-income rural population. E-payment based social transfer is a gateway for financial inclusion of unbanked rural population (LSMS, February 2017).

Figure 5 illustrates the types of services that the respondents are getting from mobile payment service. Accordingly, as part of financial inclusion account usage beyond payment withdrawal is low. From the below graph only 33% know they can save part of their transfer. Of those who know they can save but do not, most suggested they simply do not have enough money to save while others responded that they didn't have awareness and some thought that if they saved their money will not be returned. Consistent with the finding in the World Bank document (WB, October 2017) this study confirms that the majority of the users are only using the account for money withdrawals. This implies that further training not only for users but also for agents and MFI are required on how beneficiaries could utilize the type of services that are linked with the mobile payment.

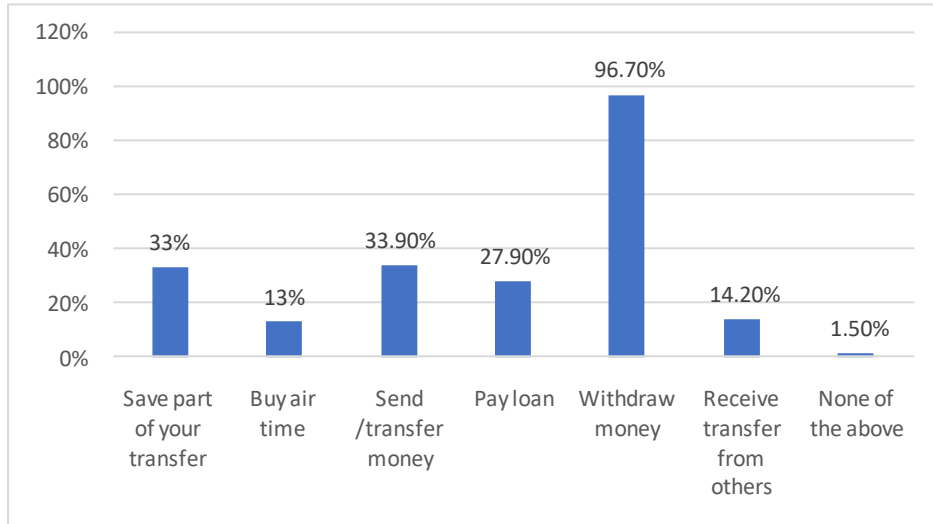


Figure 6: Types of services HHs know they can get from the agent

#### 4.2.4. Analysis on Source of information when payment is ready

According to Figure 6, 50% of the respondents know when the payment is ready through mobile message from the agent. While 35.5% get the information form other PSNP HHs. The remaining 8.2%, 3% and 2.7% understand that payment is available from Development Agent, Kebele and by personally going to the agent’s location, respectively. Which means that majority of the respondents are using their mobile phones and using the text message from the Agent.

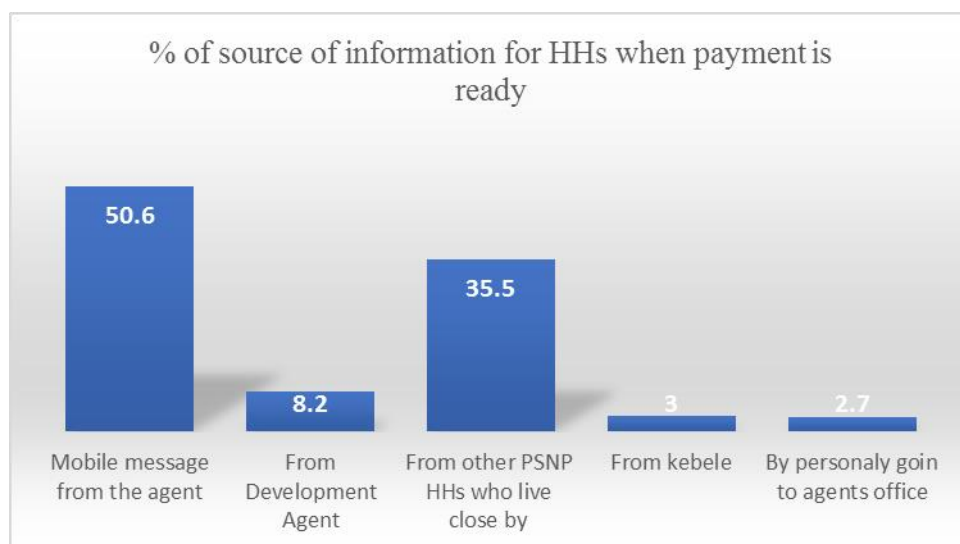


Figure 7. Source of information when payment is ready

#### 4.2.5. Analysis on which type of payment modality enables HHs to access payment in terms of time, convenience and cost -efficiency

##### 4.2.5.1. Timeliness

According to the figure 7 below, 78.2% of the respondents indicates that mobile payment modality enables them to access payment on time whereas 21.8% preferred cash-based payment to access payment on time. One of the fundamental principles of the PSNP is to ensure timely transfer of resources to beneficiaries. Hence, mobile payment modality compiles with the principle and saving time of HHs for other activities.

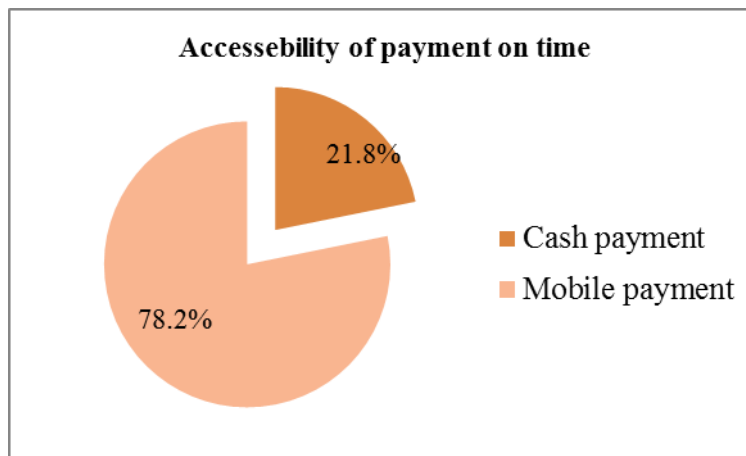


Figure 8: Timeliness of payment in terms of cash payment and mobile payment

According to the below table, in terms of duration from payroll to payment, M-Birr payment method has the least duration with an average duration of two days to credit all accounts and start payment to all beneficiaries in all kebeles (technically, crediting accounts of beneficiaries takes only few minutes). Manual cash payment need to travel from kebele to kebele to effect payment, and the number of days for payment is at least equal to the number of kebeles. For instance, it takes about 10 days to effect payment.

Travelling time to payment center is inversely related to the number and distribution of payment centers. With an average of 2 or 3 M-Birr agents per kebele, travelling time to M-Birr agents is shorter when compared to cash payment modality. Usually, PSNP transfers using direct cash

payment method happen at payment centers at each kebele; and it can be considered that there is one payment center per kebele.

In terms of waiting time once the beneficiaries reached the payment center, it takes about half a day to withdraw money using the direct cash payment method. The long waiting time is associated with long queues which in turn resulted from the fact that all beneficiaries line up at the same time.

Overall mobile payment provides timely service compared to direct cash payment which takes more time to make the payment.

	M-Birr payment	Direct Cash Payment
Duration from payroll to payment	2 days	10 days
Travelling time to payment center	Shortest	Medium
Waiting time at payment centers	Few minutes	Half day
Duration to payout a person	3 minutes	1.5 minutes

Table 3: Comparison of timeliness of payment in Direct cash payment and Mobile payment

#### 4.2.5.2. Convenience

According to the respondents, figure 8 shows 60.6% believe they are able to access mobile payment compared to cash /manual-based payment anytime they want. Which means unlike manual payment system, HHs don't have to worry if they have missed the cashier or not and hence can access the payment at their conveniences. The remaining 39.4 %believe they are not able to access payment using mobile payment anytime they want. Based on field observation and other variables and the survey data this could be due to network problem, agents being unavailable, shortage of money by agent, longer waiting time and payment not ready on time.

Figure 9 shows that only 35.5% believe agents are located near to HHs living area. While 64.2% believe agents live further from the living areas of HHs. Compared to cash payment mobile payment may be more accessible but government needs to give due attention to this issue while allocating agents.

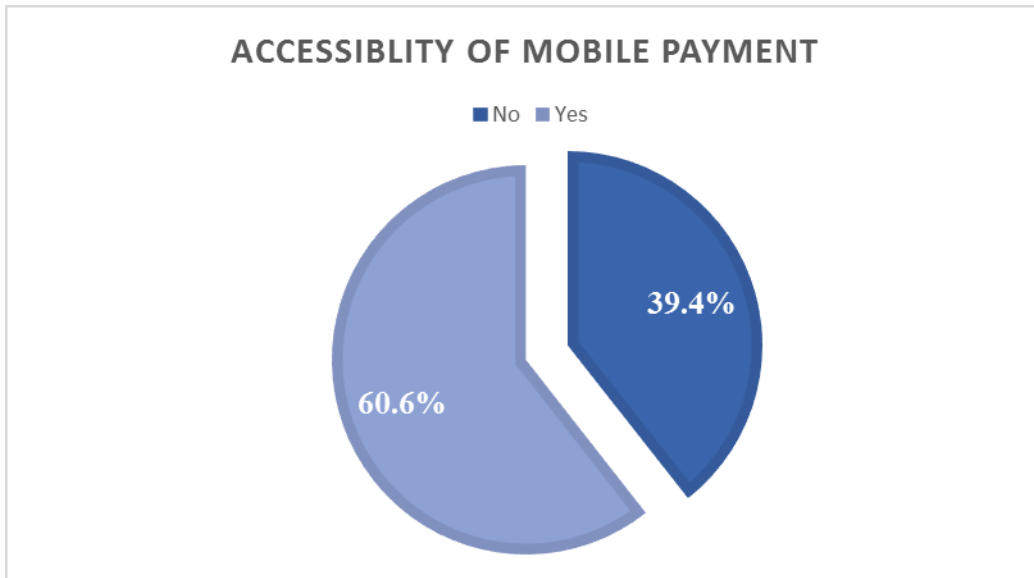


Figure 9: Accessibility of mobile payment

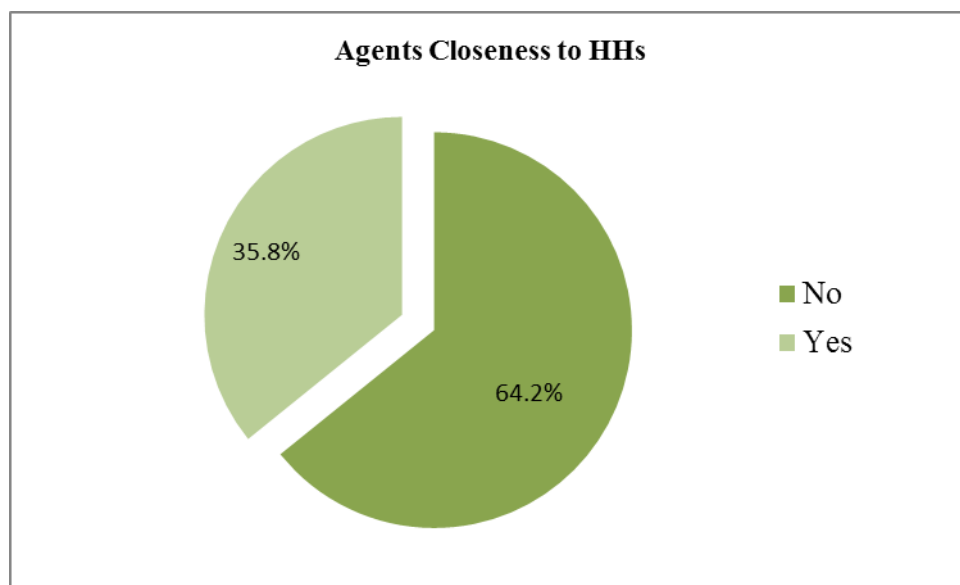


Figure 10: Closeness of agent's location

#### 4.2.5.3. Cost – Efficiency

The below table shows that respondents paid an average of birr 42.5 for transport during cash based payment while respondents paid on average of 19.1 birr for transport in the case of mobile payment . From the below table we can indicate first the cost is reduced by half and enabling the HHs to use this money for other purpose. Two, the reduction of money shows that they have to travel shorter distance to access mobile payment and saving them time to conduct other activities. Thus, after the adoption of mobile payment, HHs life became easy and affordable.

This shows that after adoption of mobile payment households are able to reduce the cost of transportation to access their payment and hence usage of mobile money transfer making it economical and preferable for the households. Implying that the cost of accessing mobile payment represents a substantial improvement over the manual system.

<b>Cost of Transport</b>	<b>Average cost / birr</b>	<b>Minimum Cost</b>	<b>Maximin cost</b>
Cashed based payment	42.5	0	200
Mobile payment	19	0	100
Obs.	330		

Table 4: Cost of Transportation during cash based and mobile based payment

#### 4.2.6 Analysis of challenges while working with the agents

The below figure shows that 64.5% of the respondents faced different challenges while dealing with agents. Out of the total respondents, 30% mentioned that there is network problem. Rural HHs are sensitive towards technology and looks at technology suspiciously. If HHs are not able to withdraw payment due to network problem, they will hate the technology and withdraw from the mobile payment mechanism scheme. And it's not easy to make them rejoin this scheme after some time if they withdraw from the scheme due to such challenge after some time. Before this happens, stakeholders need to address this issue quickly. About 15% indicate that shortage of money from the agent's side. The other 11.8% responded agents are unavailable. About 3.3% mentioned longer waiting time and 3.9 % payment not ready on time. The remaining 35.5% indicated they didn't have any problems while dealing with agents. Network problem needs to be addressed by the government. Agents should make sure they are available, Woreda needs to send payment on time. And make sure all the challenges are addressed



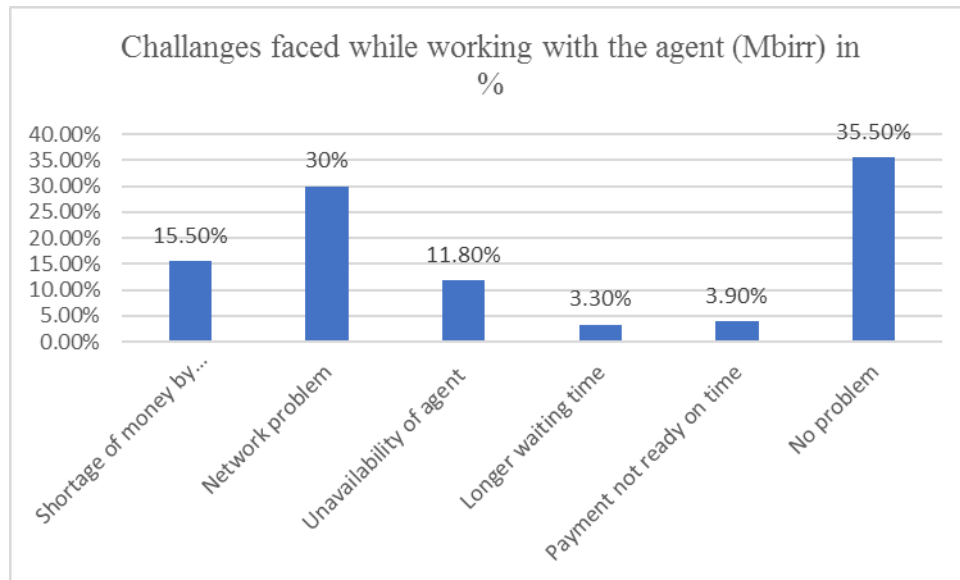


Figure 11: Summary of challenges faced by HHs while working with the agent

# CHAPTER FIVE: CONCUSSION AND RECOMMENDATION

## 5.1 CONCLUSION

One of the fundamental principles of the PSNP is to ensure appropriate, timely and accessible transfer of resources to beneficiaries. Several attempts have been made in the past to maintain this principle and considerable achievements have also been registered. Despite this it is still believed that the current payment method, cash-based payment could be significantly improved by introducing alternative payment methods that utilizes technologies and innovations. In line with this a pilot project to prove the concept of using e-payment for channeling transfers to programme beneficiaries came on board.

The problem of the study is: “What are the major challenges and opportunities of Adoption of Mobile Payment in PSNP beneficiaries located in Bosat Woreda” This study, therefore, tried to investigate the problems towards the adoption of Mobile Payment and harnessing the opportunity so that the HHs become beneficiary from such an emerging market. The overall goal and objective of the study assessed the opportunities and challenges of adoption of mobile payment in the PSNP households located in Bosat Woreda in terms of timeliness, convivence, client preference and cost efficiency. The data was collected from both primary and secondary sources. Primary data is collected from self-designed questioners for 330 respondents and analyzed by using descriptive statistics. Secondary sources were taken from reports and different studies. Both quantitative and qualitative methods were used to analyze the results of the findings.

The question that has been addressed in this study is if adoption of mobile payment has positive impact on the PSNP HHs in terms of time, convenience, cost effectiveness and client preference. The study also investigated the challenges faced by HHs to be addressed.

E-payment method offers the PSNP an alternative to cash disbursements to payout beneficiaries. Depending on availability of infrastructure and service provider, m-payment is best suited for use

to PSNP beneficiaries in Beset Woreda, Oromia region. The pilot demonstrated the potential benefits of using M-payment method to PSNP:

In terms of **timeliness** of payment, Mobile payment method allows sending the right funds to the right person in no time. Once payroll of beneficiaries is submitted to the financial institution, M-Birr payment method credits the accounts of all beneficiaries instantly. Beneficiaries are aware on the right time of withdrawals using this scheme.

When we come to **convenience**, Mobile payment method allows beneficiaries to withdraw their cash from any M-payment agent at any time. This removes the risk of beneficiaries missing their monthly payment due to illness or any circumstances that might prevent them or their proxies from presenting themselves at the former payment points and eliminates queues and long waiting times. Regarding **cost efficiency** similarly since M-Birr agents are distributed across all kebeles, beneficiaries can cash out their transfers without incurring additional cost for transportation or accommodation. Compared to cash payment cost of transportation reduced by half saving the HHs money to spend it on other activities. Hence M-payment is the least cost option when compared to cash-based payment.

Further, in terms of **lower transaction cost**, scaling up m-payment implementation to additional woredas (additional clients) incentivized m-payment service providers to lower the unit cost of service delivery. Payment processing is a low margin-high volume business, and financial service providers will likely lower the commission payment per transaction as the volume of their business increases.

Hence, it can be concluded that Mobile payment is the **ultimate choice** of HHs as it came along with opportunities such as timeliness, convenience and cost-effective way of receiving payment. Which also aligns with the central aim of PSNP, to achieve appropriate, timely and accessible payment delivery.

### 5.1.1. Challenges encountered and identified by the HHs while working with M-Birr agent

The study identified several benefits of Mobile payment service compared to cash transfers. However, challenges also existed. The challenges raised in this research are those raised by respondents.

The first challenge raised by the respondents is *Mobile Network problem*. From the questioner 30% of the respondents indicated that payment service was interrupted in Bosat Woreda due to mobile network outage. M-Birr payment method uses USSD protocol which operates during times of poor network. But the method doesn't work when the network is totally down.

*Shortage of cash by the agent* was the other challenge mentioned by the respondents. According to the survey, 15.5% of the respondents indicated that when they go to the agent to withdraw money, the agent runs out of money and they had to come another time to collect their payment.

*Unavailability of agents in their office* was the other challenge mentioned by the HHs. This means that when HHs go to the agent's office to collect their payment, the agent was unavailable. Out of the total HHs, 11.8% responded that agents are unavailable.

Sometimes, minority of the HHs also put that *longer waiting time* and *payment not being ready on time* came as a challenge for them to access mobile payment.

## 5.2. RECOMMENDATION

For further effective implementation and rollout of Mobile Payment system, the following issue needs to be addressed further to make the system appropriate, timely and accessible payment delivery.

In order to enhance limited financial inclusion in Boset Woreda of Oromia region, PSNP beneficiaries have an electronic account with OCSSCO which enabled previously unbanked rural population to access financial services. However, the financial access of beneficiaries is limited due to two factors: 1) the electronic account doesn't pay interest; 2) beneficiaries will pay Birr 3.45 whenever they withdraw money (so they prefer to withdraw their cash at once). Hence,

there is a need for OCSSCO to calculate interest fee on electronic accounts of beneficiaries to solve the problem of limited financial inclusion. Alternatively, OCSSCO should issue an interest paying saving account (backed by passbook) to all beneficiaries such that clients will be able to withdraw their money with no service charge, and interest is calculated on their saving.

OCSSCO (with the support of its technology service provider-MOSS) should provide a method which has offline functionality. Currently, MOSS (the technology service provider) is developing a method which has offline functionality to address the issue of mobile network.

The need to provide intensive technical and financial literacy to beneficiaries to solve the problem of payment security by OCSSCO. Beneficiaries usually share the PIN code with the agent and other individuals. This situation was exasperated since 41.9% of the beneficiaries do not have a phone and use the agents' phone as a proxy. There is no fraud reported so far, however, sharing the PIN code may pose risks in the future.

Woreda e-payment steering Committee to strengthen better monitoring system in place to manage the implementation of M-birr payment on a daily basis and solve the challenges related to M-birr such as agent being unavailable, shortage of money, longer waiting time and payment not being ready on time.

OCSSCO to consider/invite engagement of other mobile money service providers in addition to M-birr to improve service delivery for the mobile payment system.

## REFERENCE

- Barrientos Armando (2010): *Social Protection and Poverty-Social policy and development. Paper No. 42.*
- Bold, C., Porteous, D., & Sarah, R. (2012). *Social Cash Transfers and Financial Inclusion:*
- Bosworth Joanne (2008): *Statement from the Development Partners In Social protection for the poorest in Africa: Learning from Experience* Compedium of papers presented during the;International Conference on Social Protection September.
- Burns, N., & Grove, S. K. (2003). *The practice of nursing research (5th Edition).* Philadelphia: W.B. Saunders Company.
- CIPESA. (2011): *CIPESA How ICT Could Drive Open Government in Africa.* Retrieved 08 Monday, 2015, from [www.cipesa.org/news/1-latest-news/122-how-ict-could-drive-open-governmentinafrica-on-March-1st-2012](http://www.cipesa.org/news/1-latest-news/122-how-ict-could-drive-open-governmentinafrica-on-March-1st-2012).  
*Compedium of papers presented during the International Conference on Social Protection. Development.*
- Devereux Stephen (2010). *Building Social Protection Systems in Southern Africa -European Report on Development:* Paper prepared in the framework of the European Report.
- DRT Development Research and Training (2008). *Social Protection for the Poorest in Africa:* Eduardo Henrique Diniz; João Porto de Albuquerque & Adrian Kemmer Cernev. (2001-2011).  
*Mobile Money and Payment: a literature review based on academic and practitioner-oriented*
- Ethiopia Socio Economic Survey , LSMS – *Integrated surveys on Agriculture Ethiopia Socioeconomic Survey (ESS) , 2015/2016 , published on February 2017 , page #54 Evidence from Four Countries.* CGAP Focus Note 77  
*Foundation.*
- Fowler, Ben and Teshele Endalama. “*Savings Groups on the Pathway to Graduation: PSNP Plus in Ethiopia.*” ACIDI VOCA.  
<http://www.youtheconomicopportunities.org/sites/default/files/uploads/resource/Pathway%20out%20of%20Poverty%20Case%20Study.pdf>
- Haile, Mekuria. 2015. “*Ethiopia: Strategic Scale Up of Safety Net from Rural to Urban to Address Poverty.*” World Bank.  
<http://pubdocs.worldbank.org/en/865571448383282345/Nov-13-1-1-Ethiopia.pdf>
- Holzmann Robert & Jorgensen Steen . (1999). *Social Protection as Social Risk Management: Conceptual Underpinnings for the Social Protection Sector Strategy Paper, Social*

- Protection*. Washington D.C, World Bank: Discussion Paper Series (No. 9904) Social Protection Unit, HumanDevelopment Network, The World Bank.
- Holzmann Robert & Jorgensen Steen . (2001). *Social Risk Management: A New Conceptual Framework for Social Protection, and Beyond, International Tax and Public Finance*, . 8, 529–556, 2001.Kluwer Academic Publishers.
- Holzmann Robert & Jorgensen Steen. (1999). *Social Protection as Social Risk Management: Conceptual Underpinnings for the Social Protection Sector Strategy Paper, Social Protection*. Washington D.C, World Bank: Discussion Paper Series (No. 9904) Social Protection Unit, Human Development Network, The World Bank.  
[http://www.hks.harvard.edu/mrcbg/CSRI/publications/report\\_30\\_MOBILEMONEY.pdf](http://www.hks.harvard.edu/mrcbg/CSRI/publications/report_30_MOBILEMONEY.pdf)  
<https://www.google.com/search?ei>
- Hulme, D., Karen M., & Barrientos, A. (2009). *Assessing the insurance role of microsavings*. International Conference on Social Protection.
- Jenkins, B. . (2008). *Developing mobile money ecosystems*. Washington, DC: International Finance Corporation and Harvard Kennedy School. Retrieved from
- Jennifer Blechar, Ioanna Constantiou, and Jan Damsgaard. (2004). *Seeking Answers to the Advanced Mobile Services Paradox: Minimal Acceptance and use Despite Accessibility*. University of Oslo; Norway Copenhagen Business School, Denmark: University of Oslo; Norway Copenhagen Business School, Denmark.
- Jones N. & Shahrokh, T. (2013) *Social protection pathways: shaping social justice* Kampala - Uganda.
- Kendall, Jake, and Bill Maurer (2012): *Understanding Payment Behavior of African Households: A Vast and Untapped Market*. <http://pymnts.com/commentary/Tips-for-2012-Understanding-Payment-Behavior-of-African-Households-A-Vast-and-Untapped-Market>.
- Kerry Selvester, Lourdes Fidalgo and Nelia Taimo. (2012): *Transforming Cash Transfers: Beneficiary and community perspectives on the Basic Social Subsidy Programme in Mozambique* . United Kingdom UK : Overseas Development Institute-203 Blackfriars Road, London, SE1 8NJ.
- Lwanga-Ntale Charles (2008): *The imperative of winning political support for social protection in Uganda: In Social protection for the poorest in Africa: Learning from Experience Compendium 44 of papers presented during the International Conference on Social Protection September 2008*. Kampala - Uganda: Development Research and Training.

- Mas, Ignacio, and Daniel Radcliffe:. (2010. ). *Mobile Payments Go Viral: M-PESA in Kenya.*” In the “*Yes Africa Can: Success Stories from a Dynamic Continent*” series. . World Bank, Washington, DC (March). : <http://ssrn.com/abstract=1593388>.
- Mugerwa Keene-Lilian (September 2008): *Constraints and oppurtunities in developing sustainable political support for social protection in Africa: the case for Uganda: In Social protection for the poorest in Africa: Learning from Experience* Compedium of papers presented during the Niringiye Aggrey (2013): *An Assessment of the Social Assistance Grants for Empowerment Programme in Uganda* in Devereux Stephen and Getu Melese (eds) *Informal and Formal Social Protection Systems in Sub-Saharan Africa, OSSREA:* . Kampala - Uganda: Fountain Publishers.
- Orotin P., Quisenbery W. and Ted Sun. (2013, August). A Study on Factors Facilitating Access to Mobile Phone Money in Uganda. *Greener Journal of Business and Management Studies:ISSN: 2276-7827;Vol. 3 (6), pp. 279-291, August 2013; Swiss Management Centre University, Transknowlogy Campus, Baarerstrasse 112, 6302 Zug, Switzerland, 3. outcomes for the most marginalised now and post-2015.* Background Note. London: Overseas Development Institute.
- Parahoo, K. 1997. *Nursing research: Principles, process and issues.* London: MacMillan Press.
- Pilot. D.F., Beck C.T. & Hungler. B.P. (2001) *Essentials of Nursing Research: Methods, Appraisal and Utilization.* 5th Edition, Lippincott. Williams & Wilkins, Philadelphia. publications Brazil: FGV-EAESP – Brazil-Fundação Getulio Vargas; Department of Computer
- Ravi, A. & Tyler, E. (2012). *Savings for the Poor in Kenya. Nairobi, Kenya: New America*
- Sadana, M., Mugweru, G., Murithi, J., Cracknell, D., & Wright, G.A.N.: (2011:). *Analysis of financial institutions riding the M-PESA rails.* . Nairobi - Kenya: MicroSave.
- Samuel Hickey. (2007). Conceptualising the Politics of Social Protection in Africa: Creating and sharing knowledge to help end poverty. *University of Manchester - Brooks World Poverty Institute (BWPI Working Paper 4)*, 17.
- Slater, Rachel and Dharini Bhuvanendra. 2016. “*Is Cash Transfer Programming ‘Fit for the Future:’ Social Safety Ney Report. The Cash Learning Partnership.* <http://www.cashlearning.org/downloads/calpffannex3web.pdf>
- Social Policy and Development Programme:* United Nations Research Institute for Social
- Stephen Devereux and Rachel Sabates-Wheeler (2004). *Transformative social protection Stephen: IDS Working Paper 232 Transformative.* Brighton BN1 9RE, UK., ENGLAND: INSTITUTE OF DEVELOPMENT STUDIES Brighton, Sussex BN1 9RE.
- Stephen Devereux and Rachel Sabates-Wheeler (2004). *Transformative social protection Stephen: IDS Working Paper 232 Transformative.* Brighton BN1 9RE, UK., ENGLAND: INSTITUTE OF DEVELOPMENT STUDIES Brighton, Sussex BN1 9RE



Taylor Vivienne (2008). *Social Protection in Africa: An Overview of the Challenges: Prepared for the African Union*. African Union Commission on Social Protection.

The World Bank. 2016. "ET Productive Safety Nets Project 4 (PSNP 4)." Accessed 2017,

<http://documents.worldbank.org/curated/en/400581474579845112/pdf/ISR-Disclosable-P146883-09-22-2016-1474579831817.pdf>

The World Bank. 2016. "Tender: Ethiopia Financial Education Content Development." Devex.

<https://www.devex.com/funding/r?report=tender-208070&filter%5Bstatuses%5D%5B%5D=forecast&filter%5Bstatuses%5D%5B%5D=open>

The World Bank. 2017. "Advancing Electronic Food Security Payment in Ethiopia "

UNDP; MFPED. (2014). *Uganda Poverty Status Report: Structural Change and Poverty Reduction in Uganda: National Development Plan 2016-2020 (NDPII)*. Kampala - Uganda: Ministry of Finance, Planning and Economic Development: Economic Development Policy and Research Department.  
*Working paper*. DESA, 83.

## ANNEX I

Name \_\_\_\_\_ Education level \_\_\_\_\_

Age \_\_\_\_\_ Gender \_\_\_\_\_

- | I. General Questions  | Yes                      | No                       |
|---|--------------------------|--------------------------|
| 1. Do you own a mobile phone?   | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. Have you ever used a mobile phone?                                   | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. Do you understand what the PIN number is there for?                  | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. Has anybody explained to you how the system Works                    | <input type="checkbox"/> | <input type="checkbox"/> |
| 5. Has anybody explained to you and how to protect your PIN?            | <input type="checkbox"/> | <input type="checkbox"/> |
| 6. What types of service do you know you can get from the M-birr agent? |                          |                          |
| save part of your transfers   | <input type="checkbox"/> | <input type="checkbox"/> |
| receive transfers from others   | <input type="checkbox"/> | <input type="checkbox"/> |
| buy air time  | <input type="checkbox"/> | <input type="checkbox"/> |
| None of the above   | <input type="checkbox"/> | <input type="checkbox"/> |
| send/transfer money   | <input type="checkbox"/> | <input type="checkbox"/> |
| conduct transactions  | <input type="checkbox"/> | <input type="checkbox"/> |
| pay loans   | <input type="checkbox"/> | <input type="checkbox"/> |
| Withdrawal  | <input type="checkbox"/> | <input type="checkbox"/> |
| 7. How do you know when payment is ready?                               |                          |                          |

\_\_\_\_\_

\_\_\_\_\_

8. What problems do you face when dealing with agents?

\_\_\_\_\_

\_\_\_\_\_

II. Timeliness	Yes	No
----------------	-----	----

- |  |                              |                             |
|--|------------------------------|-----------------------------|
| 1. Do you experience delays in getting your payment from agents?                                       | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| 2. When do you get your payment from agents?   |                              |                             |
| _____  |                              |                             |
| 3. Which payment modality enables you to access payment on time; cash transfer or mobile payment? Why? |                              |                             |

\_\_\_\_\_

III. Convenience	Yes	No
------------------	-----	----

- |   |                              |                             |
|---|------------------------------|-----------------------------|
| 1. Are you able to get your payment using mobile payment anytime you want?          | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| 2. Are agents located close to your living area?                                    |                              |                             |
| 3. How do you compare the travel time during mobile payment and cash-based payment? |                              |                             |

\_\_\_\_\_

#### IV. Cost effectiveness

- |  |  |
|--|--|
| 1. How much did you pay for transport to get your payment on cash-based payment?       |  |
| _____  |  |
| 2. How much do you pay for transportation to get your payment on mobile based payment? |  |

\_\_\_\_\_

## ANNEX II

ስም \_\_\_\_\_

የትምህርት ደረጃ \_\_\_\_\_

እድሜ \_\_\_\_\_

ጾታ \_\_\_\_\_

- |  | አዎ                       | አይ                       |
|--|--------------------------|--------------------------|
| <b>I. ጥቅል ጥያቄ / አጠቃላይ ጥያቄዎች</b>                          |                          |                          |
| 1. የሞባይል ስልክ ባለቤት ነዎት ?                                  | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. በሞባይል ስልክ ተጠቅመው ያውቃሉ?                                 | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. የሚስጥር ቁጥር ለምን እንደሚጠቅም ያውቃሉ?                           | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. ከዚህ ቀደም ስለ ሞባይል ክፍያ አሰራር ያስረዳዎት ስው አለ (በቂ እውቀት አለዎት)? | <input type="checkbox"/> | <input type="checkbox"/> |
| 5. እንዴት የሚስጥር ቁጥር እንደሚጠበቅ ግንዛቤ አለዎት?                     | <input type="checkbox"/> | <input type="checkbox"/> |
| 6. ከ ኤም ብር ወኪልዎ ምን ዓይነት አገልግሎቶችን ማግኘት ይችላሉ ?             |                          |                          |
| ከፊል ገንዘብዎን ማጠራቀም <input type="checkbox"/>                | ገንዘብ መላክ እና መቀበል         | <input type="checkbox"/> |
| ከሌላ የሚላክልዎትን ገንዘብ መቀበል <input type="checkbox"/>          | ግብይት ማድረግ                | <input type="checkbox"/> |
| አየር ሰአት መግዛት <input type="checkbox"/>                    | ብድር መክፈል                 | <input type="checkbox"/> |
| ከላይ አልተጠቀሰም <input type="checkbox"/>                     | ገንዘብ ማውጣት                | <input type="checkbox"/> |
| 7. ክፍያዎች ሲደርስ በምን ያውቃሉ?                                  |                          |                          |
| _____  |                          |                          |
| _____  |                          |                          |
| 8. ከወኪልዎ ጋር ሲሰሩ ምን ዓይነት ችግር ያጋጥምዎታል?                     |                          |                          |
| _____  |                          |                          |
| _____  |                          |                          |

### II. ጊዜን ያማከለ

- |  | አዎ                       | አይ                       |
|--|--------------------------|--------------------------|
| 1. ከወኪልዎ ገንዘብ በፈለጉ ጊዜ የማግኘት ችግር ያጋጥምዎታል ወይ?  | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. ከወኪልዎ ገንዘብዎን የሚያገኙት በየትኛው ቀን ነው?  |                          |                          |
| _____  |                          |                          |
| _____  |                          |                          |
| 3. የትኛው የገንዘብ መቀበያ መንገድ ገንዘብዎን በፈለጉ ጊዜ መጠቀም ያስችልዎታል? የጥሬ ገንዘብ ክፍያ? ወይስ የተንቀሳቃሽ ስልክ ክፍያ? ለምን? |                          |                          |
| _____  |                          |                          |
| _____  |                          |                          |

### III. አመቺነት

- |   | አዎ                       | አይ                       |
|---|--------------------------|--------------------------|
| 1. በፈለጉት ጊዜ እና ሰአት ገንዘብዎን ማግኘት ይችላሉ?                                      | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. የ ኤም ብር ወኪልዎ በመኖሪያ አቅራቢያዎ ይገኛሉ?  | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. የጥሬ ገንዘብ ክፍያ እና የተንቀሳቃሽ ስልክ ክፍያን ለመፈጸም የሚወስድብዎትን የጉዞ ሰአት እንዴት ያወዳድሩታል? |                          |                          |

---

IV. ወጪ ቆጣቢ.

1. የጥሬ ገንዘብ ክፍያ በሚያከናውኑ ጊዜ ለመጓጓዣ ምን ያህል ብር ይከፍሉ ነበር?

---

2. በኤም ብር ወኪል አማካኝነት ክፍያ ለመቀበል ሲጓዡ ምን ያህል ብር ይከፍላሉ ?

---

## ANNEX III

### Key Differences in e-PSNP and Manual Cash Flow

