MIDLANDS STATE UNIVERSITY

FACULTY OF COMMERCE

DEPARTMENT OF BUSINESS MANAGEMENT

THE IMPACT OF MOBILE FINANCIAL SERVICES ON HOUSEHOLDS IN THE CASH SHORTAGE ERA IN ZIMBABWE.

By

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DEDICATION

I dedicate this project to all those who have confidence in my abilities and capabilities. These include Roselyne, Nicole, Nicholas Benjere and Alington Mhungu. Their support has been instrumental in the completion of this academic journey.

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ABSTRACT

The study focused on the effect of mobile financial services on households in a cash strapped society. This research was prompted by the increase in usage of mobile money services due to increasing mobile penetration and internet usage in the Zimbabwean society. It was expected that with increase in use of mobile phones would assist in reducing the need for cash by integrating mobile phone usage and mobile money transfer as the country is experiencing liquidity challenges. Evidence in the body of literature points to the possibility of reducing the need for handling cash in a community which has embraced mobile money transfers. On the contrary, despite increasing mobile phone usage in Zimbabwe and the rise of mobile financial services, there persist increasing outcry over cash shortages. This study adopted a descriptive survey research design in order to investigate the extent to which mobile financial services have eased the problems associated with cash shortage. This research was conducted through a survey where pre-coded structured questionnaires were administered to users of Ecocash, OneMoney and Telecash platforms. The questionnaires were pilot tested with 20 users selected Dzivaresekwa 2 High School. Out of the 150 issued questionnaires, 124 questionnaires representing 82.6 % of the total questionnaires distributed were returned fully completed, while 26 questionnaires were not returned representing 17.4 % of the total number of respondents. These questionnaires were eventually used for further data analysis and presentation of results upon which this study is based on. The significance level is $0.001 < 0.05$ which shows that model is valid because p-value is less than 0.05. As such, the regression model was a good fit for the current data. The study found out that mobile financial services frequently used pertained to mobile money transfer, followed by mobile banking and mobile finance. Also, on the factors hindering the uptake of mobile financial services in Zimbabwe, macroeconomic factors like inflation and economic output were the major driver of factors hindering the uptake of mobile financial services. The inability of using mobile money to procure from outside the country has result in the demand for cash as people and businesses require cash to import goods from other countries. ese influenced the actions and reactions of mobile money operators and the individual users of mobile financial services. The regression results obtained revealed that mobile financial services have had a

moderate impact on the need for cash in Zimbabwe. Amongst the available mobile financial services, only mobile payments had a positive impact on the need for cash. It was recommended that the government should develop and implement policy frameworks which encourage the usage of mobile money. Also, there should be measures to avoid rating of mobile money against physical cash. This enables physical cash to be considered at par with mobile money and this increases its usage.

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER I

GENERAL INTRODUCTION

1.0 Introduction

The study focused on the effects of using mobile financial services to address the cash shortage problem. Prior studies have confirmed that increasing usage of mobile financial services has the potential to reduce the need for cash in a country, thereby helping in dealing with the cash shortage problem. However, in the Zimbabwean scenario, despite the increasing usage of mobile financial services since the turn of the millennium, increasing outcry of cash shortage persists. Therefore, this study sought to ascertain ways through which mobile financial services can be effectively utilized to reduce the cash shortage problem. This chapter introduces the study by outlining the background to the study, objectives, significance, limitations and delimitations.

1.1 Background of study

Both in development research and policy, there is an increasing interest in the use of mobile phone technology in developing countries and its impact on economic development and growth. Mobile money, as one manifestation of such technology, stimulates welfare of households and small business in many African countries and consequently increases the circulation of money in poorer communities. Increasing evidence shows that it also promotes savings in households via formal bank accounts. Individuals use mobile money for safety considerations, when travelling for instance. Moreover, mobile money technology provides additional advantages such as enabling easy access to market information, market prices, and enhancing market participation of users in remote communities.

Mobile technologies are changing the socio-economic life in developing countries, wheremany people are using cell phones for a range of financial transactions, such as receiving and sending money transfers. Indeed, mobile money is already being used by banks and mobile network operators to provide millions of unbanked consumers a way to store and access money digitally.

Mobile financial services, known as "mobile money", allow unbanked people to use their phones as a bank account: to deposit, withdraw and transfer money with their handset. People can now use mobile systems to pay utility bills and pay for goods in merchant shops. "Mobile money" services started earnestly in Kenya in 2007 through M-PESA ("M" for "mobile", "pesa" for "money" in Swahili). It is a very popular mobile money service offered by a local mobile network operator, Safaricom. Since then, the mobile money industry has rapidly expanded, particularly in developing economies in Africa and South Asia such as India, Bangladesh, and Pakistan.

Lack of access to financial services can exclude people with need for capital (Johnston and Murdoch 2008). More inclusive financial systems can help the poor smooth the flow of their finances and insure themselves against economic vulnerability owing to illness, accidents, theft and unemployment. It could allow them to save and borrow, build their assets, and make investments that can improve their livelihoods (World Bank 2012). It can also improve people's credit-risk profiles, which can lower the prices they must pay for financial services, reducing personal stress, and helping them to gain access to lower-cost sources of credit (Caskey 2002). Hence, improving access to financial services is important for development, because it can facilitate economic growth and help reduce income inequality.

However, over half of the world is unbanked, and does not use formal financial services to save and borrow (Chala et al. 2009). This was reiterated in a more recent World Bank (2012) study, which reported that only around half (51%) of the world's adult population held accounts with a formal financial institution. This figure is lower in middle-income countries (43%) and in low-income countries (23%) (World Bank 2012). Given the growth in access to mobile phones in developing countries, there had been considerable optimism regarding the use of mobile phones as a medium for reaching the unbanked, particularly through the development of mobile phone-based financial services. In 2009, for instance, it was reported that 1bn people were without access to banks, but had access to mobile phones, with this figure projected to grow to 1.7bn by 2012 (Pickens 2009).

In recent years, there has been a lot of investment in technologies that use mobile phones to deliver financial services, together with discussion of the potential benefits for the poor and unbanked (Porteous 2006, Porteous and Wishart 2006, Vodafone

2007, Bangens and Soderberg 2008). Among the foreseen benefits of using mobile financial services is the ability to transfer funds at a distance, particularly small amounts of money, at a lesser cost compared to other alternatives available to the poor. Moreover, there was also an assumption that, by providing financial services to the unbanked via mobile-phone networks, the poor may benefit from improved savings rates, increased income and resilience to financial shocks, among other benefits (Donner and Tellez 2008). This intervention was expected to broaden access to, and reduce the cost of offering, formal financial services, while also increasing the efficiency of payment systems, and reducing reliance on cash as a transactional medium (Porteus 2006). Before discussing the emerging evidence on the impact of mobile financial services, thesucceeding sections briefly describe the intervention and the underlying assumptions in respect of how it has impacted development. Mobile money services have spread rapidly in many developing countries. However, only a handful of these initiatives have reached a sustainable scale, in particular GCASH and Smart Money in the Philippines; Wizzit, MTN Mobile Money and FNB in South Africa; MTN Mobile Money in Uganda; Vodacom's M-PESA and Airtel in Tanzania; Celpay Holdings in Zambia and MTN Mobile Money, Orange Money in Côte d'Ivoire. In 2004, Globe Telecom launched GCASH. This service provides a cashless method for facilitating money remittances, settle loans, disburse salaries or commissions and pay bills, products and services via text message.

In South Africa, MTN Mobile Money was launched in 2005 as a joint venture between the country's second largest network operator MTN and a large commercial bank, Standard Bank. In Uganda, MTN was the first operator to launch mobile money services in 2009 and remains, by far, the market leader.

In Zimbabwe Econet Wireless, is currently the largest provider of telecommunication services in terms of subscribers (around 7 million) launched Ecocash, a local money transfer product on 30 September 2011. Zimbabwe had a largely 'unbanked' informal trade sector and rural populace that Econet also targeted. The introduction of the Ecocash product into the Financial Services sector was expected to bring convenience and access to banking services to the population at large.Telecash was launched by Telecel in January 2014.At the close of the third quarter in 2017 Telecash had 78180

active mobile money subscriptions compared to Econet's 3738146 and One Money 's 51440.

NetOne had the One-Wallet product that was run on its mobile platform and was initially limited to FBC bank clients. They have since rebranded and rolled out the One Money brand. NetOne is now Zimbabwe's second biggest mobile operator, with 1,103,124 Registered mobile money subscribers, 11,093 Active Subscribers .Therollout payment systems were enacted in conjunction with Moonlight, Telone, Grain Millers Association of Zimbabwe and Metbank. Netone was the first to launch a mobile money service. Recently One Money introduced a debit card which is Zim Switch enabled, it then means it is integrated with ZIPIT.

Telecel and Kingdom bank introduced the Skwama mobile banking product which allowed its subscribers to use their cellphone to buy air time, pay bills, withdraw cash, transfer and deposit money.

The third quarter 2017 Telecoms report by the Postal and Telecommunication Regulatory Authority of Zimbabwe (POTRAZ) reported an increase in Zimbabwe's mobile penetration rate from 97% in the second quarter to 100.5% in the third quarter .A study by FinMark in 2012 had revealed that 65% of the Zimbabwean population stays in the rural area and that only 5% of rural people have access to a bank which is within 30minutes reach. The cash shortage scourge hit Zimbabwe up until this day. The citizens have resolutely withstood the shortage even with the introduction of the bond note. Mobile financial platforms have played a critical role in easing the pain and help the economy stay afloat. It is undeniable that the plight of the economy in times of cash shortage would have been ghastly to contemplate without the advent of mobile financial services.

Figure 1.1 Mobile Money Transfer kiosks

1.2 Research Gap

Current research on this topic is mainly concentrated on the impact of mobile banking on traditional banking and reviewing key success factors of already established and implemented mobile financial services and ecosystem (e.g Kenya's M-Pesa). As the use of mobile phones for money transfer is relatively recent, there are no comprehensive studies on the subject apart from for analysis focusing on specific countries, sectors, and case studies. The research sought to establish the impact of mobile financial services on the volume and frequency of remittances, consumption habits and livelihoods in terms of productivity and income.

In Zimbabwe, studies have been confined largely to the impact on traditional banking. This study seeks to explore the current scenario in Zimbabwe with respect to Ecocash, Telecash and OneMoney. The mobile financial system has been described by policymakers, the media and mobile phone companies as a prospective means to economic development and poverty reduction.Recent statistics from the central bank show that Zimbabweans are holding on to their United States dollars as the unpredictable economic environment deteriorates.

Statistics from the Reserve Bank of Zimbabwe (RBZ)'s monthly economic report show that in April 2017, the country circulated about US$334,61 million before the figure declined to US$290,67 million in May. It further declined to US$138,98 million in June and US$101,82 million in July.

Zimbabwe has been experiencing an economic crisis which has lasted for almost two decades. The crisis is showing no signs of abating.

The crisis is characterised by the debilitating liquidity crunch, company closures, retrenchments as well as a cash crisis which has resulted in long winding bank queues.

In a bid to survive in this kind of environment, financial institutions have had to adopt different measures and strategies. In particular, banks have been struggling with their mandate of providing cash to their customers as many walk away empty handed.

Most banks no longer gave out cash in US dollars, but gave out either bond notes or coins. Some banks reduced maximum daily withdrawals to as little as $10 in coins. This resulted in an upsurge of usage of mobile financial systems.

This has not been supported by adequate evidence that this study wishes to explore. The researcher will use an exploratory research design that is qualitative in nature to seek data and evidence combined with a quantitative approach for authenticity and balance.

1.3 Statement of the Problem

Zimbabweans have not been spending as much as they used to a few years ago due to shrinking incomes while the liquidity challenges have contributed to consumers' reprioritisation of spending obligations The cash shortage still persists but citizens still managed to make day-to-day transactions and pay for services and products. The economy hung in limbo. Competition in the telecommunications industry continued to mount resulting in the players becoming innovative to get market share. This too forced banks to review and change their operations in order to remain viable or else fail to survive. Stiff competition from companies in the telecommunication sector gave pressure to banks to develop growth strategies along the mobile money transfer services by streamlining their operations in order to reach greater heights in a bid to bridge the gap between the banked and unbanked individuals. Mobile network operators have infringed on the market for the banking sector as even the bank's clients are switching to mobile financial services which are convenient and within proximity that as a result threatens their clientele base. The extent of this infringement has not been established. The Ministry of Information Communication Technology

6

and Cyber Security has encouraged the Mobile Network Operators (MNOs), who offer digital financial services, to consider making their services completely interoperable and integrating wallet to wallet funds transfer. The fact that Ecocash, OneMoney and TeleCash money transfers will be possible through all the three cellular network providers gives every cell phone holder equal opportunity to use the product. The lack of Interoperability of the mobile money platforms of the networks has been a major barrier to effective competition and stalled further progress in the development of mobile money services.

1.4 Research objectives

The study's main objective is to investigate the effects of mobile financial services on the cash shortage in Zimbabwe.

 Other objectives of the study include;
- To determine the level of mobile financial services usage in Zimbabwe.
- To ascertain the hindrances to the uptake of mobile   money   services   and strategies to enhance usage.
- To evaluate the extent to which mobile financial services are useful in overcoming the effects of cash shortages amongst Zimbabwean households.
- To recommend strategies for enhancing the applicability of mobile financial services in alleviating the problem of cash shortages

1.5 Research questions
The study seeks to answer the following questions;

- What is the level of mobile financial services usage in Zimbabwe?
- What factors hinders the uptake of mobile financial services in Zimbabwe.
- To what extent are mobile financial services useful in overcoming the effects of cash shortages amongst Zimbabwean households?
- How can mobile financial services be effectively applied to alleviate the problem of cash shortages

1.6 Statement of Hypothesis

This research seeks to explore whether usage of mobile financial services lead to elimination of cash shortage problems.

It is hypothesized that countries that make use of mobile financial services are most likely to succeed in reducing the need for dealing in hard cash, thereby overcoming cash shortage problems.

1.7 Significance of the Study

Mobile money is a relatively new technology, which was introduced at the turn of the century. Some recent reviews (e.g. Duncombe and Boateng 2009) have called for more empirical investigation of the impact of mobile financial services (with respect to Ecocash, OneMoney and Telecash). This systematic review addresses this call, and investigates the empirical evidence. Furthermore, this systematic review provides a starting point for further research into mobile financial services, so that comparable studies can be developed towards a meta-analysis of mobile-money services, as they continue to be implemented around the world. The results of the systematic review can assist inform policy-makers, mobile money transfer providers in respect of integrating mobile money into the delivery of services, whether in payments systems, conditional cash transfers, or in salary distribution.

Scope of the Study

The study was focused only to the users of Ecocash, Telecash and OneMoney of all ages no mater they are single married, divorced or widowed. These included the agents themselves. The study did not deal with financial institutions like banks and other money transfer agents like Western Union and Mukuru. Mobile banking is another area of study not considered here.

1.8 Assumptions

It is assumed the findings in the study do take into consideration the usage of the rand, the U.S .dollar and the bond note.Payment of goods and services was also being done through the use of mobile banking (ZIPIT).As OneMoney and Telecash are just coming to the fore, it was envisaged that the study would be dominated by Ecocash as

they have a robust system and the bulk of mobile money transfer users.It was assumed that smaller players like My Cash contribute insignificantly to the mobile money transfer ecosystem.The study assumed that the sample which was used was the true representation of the population. This was important to ensure that results would be reflecting the true picture of the entire population. To ensure that, correct information will be captured and bias will be minimised

1.9 Delimitations

The study only focuses on the impact of mobile money transfer services as offered by the major local players Ecocash, OneMoney and Telecash There are other money transfer agents utilized by the diaspora (e.g. Western Union) Therefore, the findings of this study shall not be generalized to other smaller agents and mobile banking. The study did not deal with financial institution like banks even if they provide mobile money transaction services. The research was carried out from July 2017 to September 2018.The research is largely concentrated in the urban centers although the rural folk are represented.

1.10 Definition of terms

Mobile Money Transfer

This is the use of a mobile phone in order to transfer funds between banks or accounts, deposit or withdraw funds, or pay bills. This term is also used for the broader realm of electronic commerce; it can refer to the use of a mobile device to purchase items, whether physical or electronic (Agrawal, 2009)

Mobile Money Transfer Agents

A mobile transfer agent is one who acts for, or in the place of money transfer providers, such as Econet and OneMoney, by authority from them (Pulver, 2009).

Mobile banking

When customers access a bank account via a mobile phone; sometimes, they are able to initiate transactions.

Mobile money

A service in which the mobile phone is used to access financial services.

Mobile money transfer

A movement of value that is made from a mobile wallet, accrues to a mobile wallet, and/or is initiated using a mobile phone.

Mobile payment

A movement of value that is made from a mobile wallet, accrues to a mobile wallet, and/or is initiated using a mobile phone. Sometimes, the term mobile payment is used to describe only transfers to pay for goods or services, either at the point of sale (retail) or remotely (bill payments).

Mobile wallet

An account that is primarily accessed using a mobile phone

1.11 Summary

The chapter introduced the research carried out on investigating the impact of mobile money transfer services in the cash shortage era. The proliferation and evolution of mobile money has changed the face of trade and payment of services as mobile platforms have become the order of the day. The rapid technological changes have influenced the new orientation in remittances. Some background aspects of this research study have been addressed in this chapter. The statements of the problem and research questions have been formulated. The next chapter seeks to explore a deeper understanding of the relevant literature related to area under study. Chapter three shall seek to explore the research methodology and the research design that was chosen as well as the research instruments in order to gather accurate, adequate and reliable information. Chapter four shall seek to present the gathered data and interpret as well as discuss the findings of the researcher. Lastly, chapter five is meant to sum up all the chapters in a nutshell by providing a short summary and give a snapshot of conclusions as well as the recommendations on the strategies that the mobile money transfer providers can implement in view of newer technologies and legislature.

CHAPTER II

LITERATURE REVIEW

2.0 Introduction

This chapter contains a review of theories which inform the foundations of the study. It also contains general and empirical literature that informs the study. This section critically reviews literature on mobile money, starting from the definition down to the mobile money ecosystem; narrowing down to the underlying technologies and processes. Mobile money components and technologies are also critically reviewed. This critical review of literature forms the basis for an evaluation of the work that has already been done in the broad field of mobile money gradually narrowing to mobile money and organisational infrastructure and processes. It further demonstrates the relationship that exists, between published research findings and the research question, highlighting any bias or omissions. This review of literature demonstrates how far existing work goes in answering this research question through a comprehensive review of available and relevant literature (Learning Information Services, 2012). Critical literature reviewing according to Saunders *et al*. (2007) provides the foundation on which research is built. (Saunders *et al*.2007) further argued that critical refers to the judgment that one exercises after reading related work.

2.1 Theoretical Framework

The section contained review of theories relevant and which inform the theoretical background of the research subject matter. The theories reviewed are: financial intermediation theory and the modern development theory.

2.1.1 Financial Intermediation Theory

Financial intermediation was a process which involved surplus units depositing funds with financial institutions who then lend to deficit units. (Bisignano, 1998) and (Leland and Pyle, 1977) identify that financial intermediaries could be distinguished by four criteria. First, their main categories of liabilities (deposits) are specified for a

fixed sum which was not related to the performance of a portfolio. Second, the deposits were typically short-term and of a much shorter term than their assets. Third, a high proportion of their liabilities were chequeable (can be withdrawn on demand) and fourthly, their liabilities and assets were largely not transferable. The most important contribution of intermediaries was a steady flow of funds from surplus to deficit units. According to Scholtens and van Wensveen (2003), the role of the financial intermediary was essentially seen as that of creating specialized financial commodities. These were created whenever an intermediary finds that it could sell them for prices which were expected to cover all costs of their production, both direct costs and opportunity costs. Financial intermediaries exist due to market imperfections. As such, in a 'perfect' market situation, with no transaction or information costs, financial intermediaries would not exist Numerous markets are characterized by informational differences between buyers and sellers. In financial markets, information asymmetries are particularly pronounced. Borrowers typically know their collateral, industriousness, and moral integrity better than do lenders. On the other hand, entrepreneurs possess inside information about their own projects for which they seek financing (Leland and Pyle, 1977). Moral hazard hampers the transfer of information between market participants, which is an important factor for projects of good quality to be financed

2.1.2 Modern Development Theory

The theory studied the evolution of growth, relative income inequalities and their persistence was unified in models (Galor&Zeira, 1993). In many of these models, financial market imperfections played a central role in influencing key decisions regarding human and physical capital accumulation and occupational choices. Market imperfections determined the extent to which the poor could borrow to invest in schooling or physical capital. In theories stressing entrepreneurship, financial market imperfections determined the extent to which talented but poor individuals could raise external funds to initiate projects. Thus, the evolution of financial development, growth and intergenerational income dynamics are closely intertwined. Finance influences not only the efficiency of resource allocation throughout the economy but also the comparative economic opportunities of individuals from relatively rich or poor households. Financial market imperfections are often at the core of this line of

thought because inequalities persist because of these imperfections. For example, in the model of Galor and Zeira (1993), it is because of financial market frictions that poor people cannot invest in their education despite their high marginal productivity of investment. Haber (2004), Pagano and Volpin (2001), Rajan and Zingales (2003) focus on how political economy forces shape national policies toward financial development and influence and change the political power of entrenched incumbents. According to this view, closed political systems are more likely to impede the development of financial systems that promote competition and threaten entrenched powers than open political systems. This is because centralized and powerful states are more responsive to and efficient at implementing policies that protect the interests of the elite than decentralized and competitive political systems with an assortment of checks and balances. One implication of these modern development theories is that redistribution of wealth can foster growth. Economic growth needs to be sufficiently inclusive if its benefits have to be shared among all or else the growth process itself shall be jeopardized and derailed (Mehrotra, Puhazhendhi, Nair &Sahoo, 2009). Modern development theory studies the evolution of growth, relative income inequalities, and their persistence in unified models. Finance influences not only the efficiency of resource allocation throughout the economy but also the comparative economic opportunities of individuals from relatively rich or poor households. This crucial focus on the financial sector in economic modeling has been strengthened with historical development of views on the links between economic growth and income inequality.

2.1.3 Savings Theory

Savings could be in many forms of assets such as intangible goods, human capital and giving out loans. Economic theory predicts that the absolute amount of savings increased income. This was because people with more income had more resources available to save. Theory also predicts that savings relative to income, the savings rate, would increase with income (Deaton, 1992b). This occurs because people with more income also tend to consume more. As they consume more, the marginal benefit from additional consumption decreases. The current cost of saving, in terms of

foregone benefits from consumption, is lower for people who consume more, and this increases savings. Empirical evidence clearly indicates that higher-income households save a larger portion of their incomes, and accumulate greater wealth, than lower-income households. In fact, most low-income households or organizations have very low or negative saving rates and very limited or negative asset accumulation (Carney & Gale, 2001; Hubbard, Skinner, &Zeldes, 1994, Wolff, 1998). However, this theory ignores some important issues. For example, the level and rate of savings also depend on expected variation in income and subsistence requirements. The poor face greater risks, and this tends to increase their saving, both absolutely and relative to their income. Of course, the poor likely saved less in the past; if not, then they would not be poor. However, they may have saved at higher rates relative to resources available. Also, the poor may save at higher rates when they save, but dissave at higher rates when they dissave. This theory is relevant to this study in that it elaborates how individuals or organizations save dependent on their level of income. This implied that an individual with a high level of income was likely to use mobile money transfer services as opposed to an individual with low level of income.

2.1.4 Theories Of Money And Mobile Payment Services

Classical and neoclassical theories of money treat money primarily as the means of exchange with historical roots in barter trade. Traditional payment instruments, methods and habits may be unpractical and complicated in some exchange situations for example when mobile content is purchased.

According to classical and neoclassical economic payment instruments, methods and habits compete with each other for the attention of parties that participate into an exchange transaction. This means that payments with a mobile device (=a payment habit) must increase productivity and/or decrease costs for both parties and other stakeholders of the ecosystem (Smith, 2000). Classical and neoclassical theories of money do not recognize vested interested of parties, such as float, but propose that markets take care of such issues The social theory of money(Hunt,2003) is close to the classical andneoclassical theories of money but takes a sociological stance and builds on the work of especially(Simmel,1978) and (Weber,1978) Money is considered a social construct, which is continually renegotiated and which is

14

constituted in the social relations between the monetary and other economic agencies of a society(Smith,2000) . Hence it is possible to renegotiate the role of incumbents (e.g banks) by providing socially more desirable money services. Social theory of money is also helpful for understanding the interests of various stakeholders.

A mobile payment service provider needs to identify such merchant, consumer and public sector payment (use of money) needs to which traditional payment instruments (use of money) fit poorly, and/or which incumbents (banks, credit card companies) ignore. The replacement of physical cash is a potential candidate in addition to payments for mobile content and services. The handling of cash may not interest banks as it has limited cash management and float value to them.

The identification of new payment needs strengthens the negotiation power of a mobile payment service provider and offers also in-roads to other payment scenarios. This is exactly what Google and Apple have in their application stores and which make Google Wallet and Apple Pay so interesting. Another means for mobile payment service providers is to support the society to control its monetary and fiscal system. That means cooperation with governments, central banks and financial supervisors.

They on the other hand have genuine interest to promote competition between payment habits and payment service providers with the objective to increase productivity provided that the monetary system remains stable and controllable. The anti-trust cases against VISA and MasterCard(Hunt,2003) are clear examples of this. On the other hand, for the same reasons Google and Apple may not be the prime candidates to increase competition due to their dominant role in mobile service markets. The neo-chartalist or state theory of money builds on Knapp(1976) and its later extensions by Keynes(1936) . They regard money as fundamentally state money, which is why this approach has become also labeled neo-chartalist(Wray,1998) . Independent central banks are given the "vested" power of the state or several states such as in the US or in Euro-area Europe to issue money, to control money flows, to support taxation, growth of economy and price stability.

Central banks use their power through monetary operations and by controlling the monetary system. The state theory of money's significance becomes obvious if one looks money from the monetary economy rather than the real economy perspective.

The real economy perspective is typical to classical and neoclassical thinking. Hence most theories of money adhere to the real economy perspective, which means that money is seen as the viral neutral commodity needed to make exchanges happen. The real economy perspective does not place much value on money accumulation, that is, on the role of money in storing value. Smithin(2000) describes, that most crises in the economy are related to money. During bear markets companies may face difficulties in financing themselves and during bull markets price stability could the threatened. The bankruptcy of Lehman Brothers with its consequences, and the debt crises of several European countries are just the latest examples of monetary crises. The implications to mobile payment service providers are in the long run to support central banks and states to control the issuance of money, money flows, taxation, and price stability. At the moment this seems far-fetched due to the limited role of mobile payments.

Governments and central banks, however, do not like surprises in the monetary system. One means to achieve this to secure that the unit of account for mobile payments is state money or that currencies used to make payments are exchangeable to state money through a liquid exchange service markets. The credit theory of money (Parquez and Seccareccia, 2000) also known as the theory of monetary circuit (Smithin, 2000)   has probably most direct implications to mobile payment service providers. The approach to money is totally different to those discussed earlier. In this approach money is seen primarily as debt related to future payments needed to reimburse and repay the debt. Thus credit may, and usually actually exists, prior to money. "Banks" create debt to allow companies, public sector organizations or states to begin the production of goods and services.

Debt is granted so that they are able to acquire necessary resources to do so. Debts are then reimbursed when the debtor is able to acquire a sufficient quantity of "banks'" own outstanding liabilities ("money"), for example from the sales of the debtor's production output. The "money" received from sales is used to repay principal and interest to the "bank" and to generate profit to the debtor. In other words, "money" is seen as the by-product of balance sheet operations by third party agents, which are called "banks". Money is born as a debt issued by the bank (third party agent) on itself, and which has a counterpart in the credit simultaneously granted to buyers of

goods and services within an economy. The issuance of credit cards to consumers is just an extension of the described activity.

According to the credit theory of money, it is not necessary to have physical money, because digital money is able to perform all the roles of money with lower costs and higher productivity. Google Wallet, Apple Pay and Danske Bank's MobilePay clearly all build on credit card infrastructure and implicitly on credit theory of money. Other mobile payment (platform) service providers could adopt similar role in the payment ecosystem as credit card companies have currently. They could issue credit lines to their mobile payment customers, secure compatibility with merchants' point-of-sale (POS) and other devices used to execute payments (in addition to proving the means of exchange to mobile content and services) and to reimburse debt. By providing periodic clearance against banks' deposit/checking accounts the mobile payment service provider could ally with merchants, banks and companies especially if fees for the payment transactions could be reduced and the security element improved. Banks and merchants may consider them to be too dependent on current major credit card companies. Thus, banks have the interest to ally, if that helps them to keep float and to refinance their balance sheet with the clearing of credit with the banks. Alternatively mobile payment service providers could ally with credit card companies similar to the examples discussed. Acceptance from central banks and states is again recommended. Central banks have from time to time been worried about the indebtness of consumers. Post-Keynesian theory of money with the concept of endogenous money has similarities to the credit theory of money. The source of the endogenous money concept has been described in many ways. What the different descriptions have in common is that money is seen to flow into the monetary system as the results of one or more expenditure type growing rapidly, and often money is even more obvious. Some other writers (e.g. Howells, 1996) emphasize the role of households, that is, consumer consumption Implications to mobile payment service providers are similar to those that the credit theory of money suggests. Massive debt security purchases conducted by a central bank could have the same effect as bank debt.

2.2 Mobile financial services usage

Mobile banking and mobile payments play an important role in the financial services delivery especially in transforming and driving financial inclusion. Financial services delivered via mobile phones can help to reach the large percentage of the world's population that has access to these devices but which remains un-served by formal financial services providers (AFI, 2012). Alexandre and Eisenhart (2013) posit that mobile money is potential for financial inclusion because it has the potential to reach millions of customers including those who are at the bottom of the pyramid. They further identified that mobile money is key to financial inclusion and integrity because of the following: (1) mobile money reduces dependency on cash which they argue that it is the common enemy of financial inclusion and financial integrity, (2) mobile money generates data which are instrumental to the growth of financial inclusion, and (3) mobile money encourages the development of account which is the key to financial inclusion and financial integrity.

To the unbanked potential customers a mobile money account is often the first one they have and has the potential to integrate them further into the formal financial services ecosystem by providing access to other accounts that cover the range of their financial services needs (Alexandre and Eisenhart, 2013). Alexandre and Eisenhart (2013) regards mobile money as a Gateway to an account while an account is taken as a gateway to using a wide variety of financial services. Haushofer and Shapiro, (2013) regards mobile money as a bank account in the SIM card protected by four digit PIN code. According to AFI (2010) mobile financial service as a mechanism of financial inclusion play two roles: (1) as channel for providing electronic financial services and (2) as a payment mechanism that enable the transfer of payment orders between electronic accounts or electronic wallets.

Mobile money has introduced new channels of financial service delivery to the under banked and unbanked population which will bring them into the formal economy using mobile phone (Ondiege, 2012). The new technology drastically reduces the cost of convenient and real time financial transaction, expands access points and lessens the need to carry cash by introducing by introducing e-money (Hannig and Jansen 2010; Alexandre and Eisenhart 2013). It has the capacity of reducing cost for both users and financial institution by using the existing infrastructure. Alonso et al (2013)

posits that mobile money provides the opportunity to create new products and innovative business model that can be offered to a large segment of population with mobile phones who do not have banking product for saving.

The notable achievement in mobile financial services in Kenya changed the financial habit and approach to financial inclusion by professionals and central bankers (Brooking, 2011). Safaricom in Kenya has in 2009 had more than 7 million registered customers many were previously unbanked. The survey on the e-money in Kenya the shown that mobile financial services has a positive impact on financial inclusion where the use of semi formal financial services including M-PESA had increased from 8.1% in 2006 to 17.9% in 2009 and the population with access to only informal financial services decreased from 35% to 26.8% (Hannig and Jansen 2010).

AFI adds that mobile financial services delivered by a range of providers most of them private can reach every one who can use them including disabled, poor, rural and other excluded population. The United Nations (UN) and AFDB define financial inclusion as "the provision of access to credit for all bankable people and firms; access to insurance for all insurable people and firms; and access to savings and payments services for everyone". WB, (2010) define financial inclusion as the absence of price and non price barriers to us financial services. Srijanani (2012) compares financial inclusion with the delivery of public goods in the sense that there should be unrestricted access to all. As banking services are in the nature of public, it is essential that the availability of banking and payment to the entire population without discrimination be the prime objective of the public policy. Aduda and Kalunda (2012) explain financial inclusion as a process of advancing banking sector outreach which is the process of availing an array of required financial services, at fair price, at the right place, form and time, and without any form of discrimination to all members of the society. At the institutional level financial inclusion entails designing products and training staff to deliver financial services and products that meets the needs of the unbanked (Aduda and Kalunda, 2012).

Diverse and competitive market place encourages efficiency in the operation of financial service providers. The competitive market place reduces dominance and exploitation of the users of financial services. Evidence also shows that a competitive market place forces financial services providers to consider the unbanked as a market

opportunity and it is important driver to diversity in the in the range products provided in the market (GPFI, 2010).

WB, (2008) recognizes that though financial service provider may be competitive and use the best financial technology, prices, interest rates charged, loan sizes, and insurance coverage in the market economy it will depend on the creditworthiness and capacity of the customer. Also even worth customers in advanced financial economies do not use all of the financial services available in the economy or they may not borrow money even if the loan is provided at a favourable interest rate. More over some financial products are not attractive to some customers on ethical or religious grounds; non usage in these circumstances cannot be linked with lack of access (WB, 2008). Child and Youth Financial International (CYFI) , (2012) explain that to be financially capable people must be more than financially literate, confident and motivated to use financial service, they must also have a good access to the required financial products that allow them to act in their best financial interest. Also people must be able to understand, assess and act in their best financial interest (Johnson and Sherraden 2007, p. 124 in CYFI 2012). This is also consistent with the idea that people makes financial decision basing on their ability, knowledge skills and their circumstances (CYFI 2012). Financial capability influences the behaviour of people like the poor regarding banks and some financial products as suitable for the rich thus resulting in self exclusion and social exclusion to access and use of financial services.

The scope of financial inclusion has evolved from being limited to a bank account and a saving account to include insurance, remittance, payment, loans and financial counselling (Sahrawat, 2010). Sahrawat, (2010) concludes that full financial inclusion should include banks accounts, saving, affordable credit, insurance, payment service, remittances, and financial counselling. Aduda and Kalunda, (2012) adds sufficient education and support to help customers make informed financial decision in the full suite of financial inclusion.

2.2.1Technology Acceptance Model and adoption of Mobile Financial Services

Several studies which have used the technology acceptance models (TAM) to study the adoption of mobile financial services. These studies used the original TAM variables and other variable which like perceived risk, trust and perceived cost of mobile financial services.

Munir and Idrus, (2013) used the original TAM model with perceived ease of use and perceived usefulness to study the acceptance of mobile financial services in Makassar City. Their findings revealed that perceived ease of use and perceived usefulness have significant influence on the adoption of mobile financial services. Perceived usefulness was found to have a greater influence on the adoption behaviour than perceived ease of use.

Sayid, Echchabi, and Aziz (2012) conducted a study in Somalia on mobile financial service adoption using the TAM. The model used the original variables of perceived ease of use and perceived usefulness including security, perceived risk and social influence. The study found perceived usefulness and social influence to be the only significant factors influencing the adoption of mobile financial services. Perceived ease of use, security and perceived risk were not significant in the adoption of mobile financial services. The finding on the perceived ease of use is inconsistent with many studies conducted on the basis of TAM which have shown a significant influence on adoption (Dass& Pal, 2011).

Masinge (2010) used the model which included trust, perceived risk and perceived cost in studying the adoption of mobile banking in the bottom of the pyramid in South Africa. The study found that perceived ease of use and perceived usefulness has a strong positive influence on the adoption of mobile banking that the other constructs. Perceived cost and perceived risk were found to have a negative influence with mobile banking adoption. It was also revealed that trust has a negative relationship with perceived risk. The findings supported the findings of studies which used the constructs basing on the technology approaches.

Dass and Pal (2011) also used TAM in exploring the factors affecting the adoption of mobile financial service in the rural under-banked in India. Their model has seven constructs which were Demand for banking and financial services, Hardships faced in existing channels of banking, Perceived usefulness of MFS, Trust, Technology readiness, Ease of Use and Perceived financial cost. The study found that lack of trust, financial cost, and technology were significant barriers to mobile financial adoption in rural unbanked population.

Omwansa, Waema, and Lules, (2012) in their study of the M-Shwari (mobile banking service) adoption in Kenya which used the extended TAM they argue that the original model with only two constructs were mainly used in the field of information system (IS). They identified that the model was used in the organization context and not for everyday use like using to study mobile financial services. Because of this limitation they argued that it is necessary to include other variables which influence the adoption of mobile financial services. They extended the model to include perceived self-efficacy, perceived credibility, perceived cost and perceived normative pressure. And they found that the all variables have a significant influence in mobile M-Shwari service in Kenya.

Micheni, Lule, and Muke, (2013) investigated the influence of transaction cost and facilitating condition on the adoption of mobile financial services in Kenya their study revealed that transaction cost was not significant in influencing the adoption of mobile financial services. Facilitating condition was significant in influencing the adoption of mobile financial services. The findings are contrary to the findings of Omwansa, Waema, and Lules, (2012) who found cost significant in influencing the adoption of mobile banking.

Aboelmaged and Gebba (2013) in the study on mobile financial service adoption they integrated TAM and the variables of the Theory of Planned Behaviour (TPB). The theory of planned behaviour assumes that individuals are rational decision maker (Li, 2010). Their decisions are influenced by three constructs which are perceived behaviour control, perceived subjective norms and attitude (Azjen 1991 in Li, 2010). Their combined model has five constructs which are perceived ease of use, perceived usefulness, perceived behaviour control, perceived subjective norms and attitude. Aboelmaged and Gebba, (2013) found that attitude; subjective norm and perceived usefulness had a significant influence on the mobile banking adoption while perceived ease of use and behavioural control indicated no significant impact on the adoption.

Chitungo and Munongo (2013) used the extended TAM in which they added other constructs in studying the mobile banking adoption in the unbanked rural Zimbabwe. They extended the original TAM by including relative advantages, personal innovativeness, social norms, perceived risk and costs. Their study found that relative advantages, personal innovativeness and social norms have significant positive

influence on user's attitude. The result of Perceived risks and perceived costs revealed a significant negative influence on the adoption of mobile banking. The findings reveal that perceived risk and perceived cost deterred the adoption of the service and have negative relationship with the adoption of mobile financial services.

2.3 Hindrances to the uptake of mobile money services

Efforts to effectively utilise mobile money services are said to be hindered by factors which encompass macroeconomic factors, firm specific factors and individual user characteristics. Chatain*et al.* (2011) conducted a study on the financial crimes associated with mobile money. The gist of their study rested on the need to contributeand provide guidance on policy, regulatory and the supervisory on anti-money laundering and combating financial terrorism (AML/CFT) of mobile money. In the documentary review and the survey done globally it was revealed that there is a substantial supportive opportunity, but the abuse can risk mobile money to support financial inclusion. In the study, the author categorizes four major risks associated with mobile money which are: anonymity, elusiveness, rapidity, and poor oversight. The first three risks are inherited in the operation of the mobile money business model; poor oversight creates conditions that increase the likelihood of emerging of other three risks. The authors then emphasize that the mobile money enabling environment must entail effective regulating and supervising of any potential risk.

Merritt (2010) has different views about mobile money risks. In the study concerning with development in mobile money transfers, based on observation and documentary review done in the USA revealed that the risks inherited in retails payments systems also present in mobile money payment, they include money laundering, lack of privacy and security, lack of consumer protection, credit risk, and liquidity risk. Realini (2011) in the survey conducted in different countries in Africa and Asia expresses the fear that risks and security may pose new challenges to the development of Mobile Money. The author argued that there is Mobile Money risks and security which all associated with data security, financial fraud and money laundering that are to be managed. In order to manage them, mobile financial services providers have to know about identities of users, the origin, and destination of funds, and the authenticity to conduct transactions with those funds.

Harries *et al.* (2013) in the surveys and documentary review conducted the study about private and security concerns associated with MM in Africa. Results from this study contrast that of Realini which need the exposure of the user identification. The researcher here argues that the needs of not conducting MMT anonymously and the mandated by regulations to maintain consumers record for some years, limit the privacy protection which leaves personal information susceptible to theft or leakage, ultimately damaging user's trust and limiting adoption and use of MM. The researcher again argues that mobile phones link directly to financial accounts and rich data sets, it increase the desirability to hackers. Smartphone is susceptible to the same danger that personal computer (PC) can face viruses, worms, and botnets that may create an environment for a user to lose not only personal information but also money and being in danger to other forms of crime through exposure via the mobile phone. Wamuyu (2014) also conducted a survey about mobile money usage and found that fraud and making a transaction to the wrong number as the major risking factors of mobile money services in Kenya. A similar survey done by Senso and Venkatakrishnan (2013) at Singida about challenges of mobile money transfer services, declared nearly the same results. The researchers here observed that fraud, a swap of SIM card, fake money, fake transaction request text message, PIN leakage and unfaithful workers are among the risk associated with MMS in Tanzania facing both mobile money customers and agents.

However, of the all exposed risk of mobile money services, most African countries do not have proper regulations and Acts that can safeguard the operations. Ally (2014), in the study about 'the prospects and legal challenges posed by mobile money in Tanzania', showed a concern of legal and security issues in association with mobile money. The author reviewed several documents and found that the nature of transactions needs legal and regulatory governance, a framework to determine important legality aspects to address the relationship between the financial institutions and consumers. A researcher pointed out that the mobile money transaction in Tanzania is not legally safeguarded. Therefore, it can expose Tanzanian to money laundering and terrorism-related activities in which the Anti-money Laundering Act of 2006 does not include cyber-related acts as its part. Mshana (2015) conducted a survey in Tanzania and came up with the same views. The author actually concurs

with the previous researcher that there is no special Act which has been established to combat data related crime activities. The regulatory authority does not have any clear Act which protects users against cyber crimes. In supporting this Villasoner (2013) in his survey and documentary reviewed about mobile money and digital inclusion argues that technology alone is not enough to serve all unbanked population without regulations. Regulation is the biggest factor in determining quick move of the unbanked population to a fully digital and financial inclusions. The researcher again pointed that the MM is sometimes exploited with crime activity, therefore, the regulations to fight crime should not impede MM services, instead should adapt the traditional financial systems of combating crime to MM industry in appropriate ways.

Mobile money risks go hand in hand with barriers. An in-depth interview conducted by Chipchase*et al* (2011) reveals that in Afghanistan numerous barriers face the growth of MM. The barriers identified are illiteracy, some people do not own mobile phone, agent lack of liquidity, legal document transactions authentication, and agent flat commissions for every transaction.

Related studies conducted in Ghana and the other in Tanzania come with different results. Dzokoto and Appiah (2012) interviewed a number of people in Accra and identified several barriers facing MMT which are the persisting government regulations are not openly encouraging the mobile financial services inclusion and the educational barriers. InterMedia (2013) interviewed a number of people in different areas in Tanzania and revealed that the most limiting factors of mobile money users in Tanzania are: mobile users are not aware of mobile money service (13%), some have insufficient understanding of mobile money services (12%) and the low liquidity of the mobile money service agents.

In Kenya, Nyaga and Ogollah (2015) explored the challenges of effectively providing mobile money transfer services. That study established that innovative products attract customers to such services. Notably, initial customer experience with that service provider determines whether s/he remains loyal or moves to another provider. The study did not address the challenges facing those who use money transfer services or mobile devices for the same purpose - a terrain which this article aims to address.

Using a qualitative research technique, Otieno et al. (2016) investigated the challenges of using and adopting mobile phone money services. Their findings, based on rural poor communities in Kenya, identified as problematic a lack of documents (e.g., national ID cards/passports, required to register as a mobile phone money user), a shortage ofmobile phone money agents, and the paucity of information on how to access and operate certain features on the mobile money platform. Their study did not delve into respondents' use of mobile phone money services as an application to pay for goods using e-commerce, nor did they use grounded theory as methodology which could have led to possible development of theory in mobile phone money services.

2.4 Conceptual framework

The conceptual framework was developed basing on the third objective which sought to evaluate the extent to which mobile financial services are useful in overcoming the effects of cash shortages amongst Zimbabwean households. Figure 2.1 shows the relationship amongst the variables of the study.
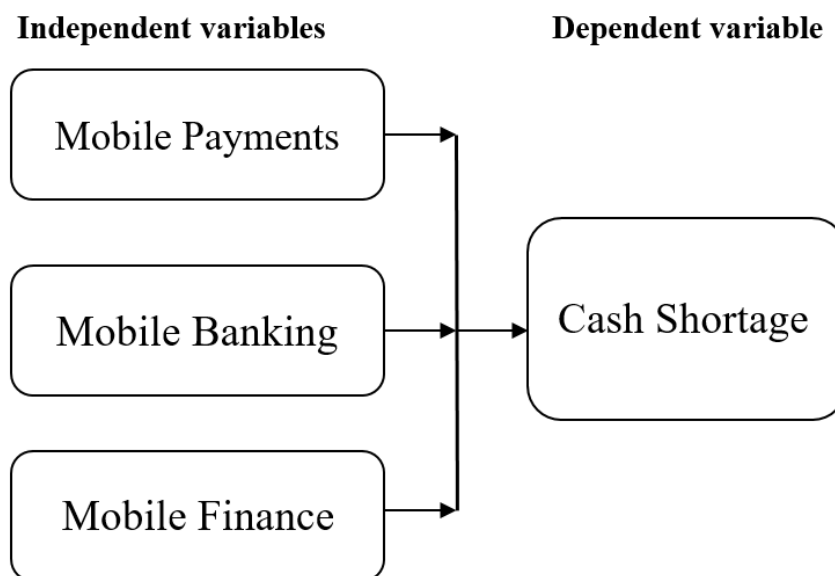
Figure 2.1: Conceptual framework

Cash shortage is the dependent variable. It is determined by the extent to which people are in need of cash to meet their daily needs such as paying for services and giving to their friends and relatives. Where such cash is in need and is not found, it

becomes cash shortage. The expectation is that with the development of mobile financials services, the need for cash will decline as this is addressed by mobile transfers. As such, it is expected that mobile transfers will take the position of cash.

2.5 Summary

The various literature sources indicate a lot of information about research that has been done on the subject under study, but there is little literature depicted in the Zimbabwean context. This is the gap to be filled by this study. Much has been reviewed in this chapter as the chapter focused on the related literature of the effects of mobile transfer services in other countries especially in Kenya. The overall analysis was on the views of different authors and scholars on the subject of mobile money transfer services. The next chapter seeks to look at the research methodology and its primary focus is to find out the research instruments that were used and the methods, procedures and processes that will be employed to gather the data.

CHAPTER III

RESEARCH METHODOLOGY

3.0 Introduction

This chapter seeks to give a detailed description on how the research was conducted. Researchmethodology is understood as a science of studying how research is done scientifically. It is a way to systematically solve the research problem.Descriptive research used here includes surveys and fact-finding enquiries of different kinds. The major purpose of descriptive research is description of the state of affairs as it exists at present. The focus is to outline and discuss the research design of the study, the population and the sampling techniques used.Methodology ought to consider the logic behind the methods used. The systematic review involved searching through grey literature and electronic databases, using a set of inclusion and exclusion criteria. To be included, studies had to be published after 2000, be conducted on low- and low middle-income countries, be about mobile money, involve the use of mobile phones, and report a quantitative measure of short-term (e.g. frequency and volume of remittances, consumption of goods, etc.) and long-term (e.g. savings, livelihoods) impact. In developing the model, we reviewed existing literature extensively and then interviewed Mobile Money professionals of telecom providers who have either launched or about to launch their products and a selection of consumers. Based on the results of the interviews the researcher developed our survey instruments.

3.1 Research Philosophy

R research is underpinned by some philosophy of research or what other authors would like to call research paradigm (Denzin, 2008). According to Saunders et al. (2016) research philosophy is an over-arching term relating to the development of knowledge and the nature of that knowledge. The different philosophies identified by Saunders et al. (2016) include positivism, interpretivism and pragmatism. This study was based on the positivism philosophy. According to Bryman and Bell (2011) positivism is a worldview which considers the researcher and research participants as being objective during the data collection process. It involves the application of the

collection of quantitative data which is analysed using statistical methods to determine patterns and trends from the data. Positivism led to credible data addressing the relationship between mobile financial services and cash shortage.

3.2 Research Design

This research sought, not only to gather facts, but to increase understanding to which exploratory research is the best (Ngulube, 2015). The exploratory research design was found appropriate as it enabled the conducting of a study in the face of limited literature on the usage ofmobile financial services and related impact on cash shortages in Zimbabwe. Studies conducted so far on mobile financial services concentrated on its importance on enhancing financial inclusion, with no study focussing on its potential to bridge the gap left by cash shortages. Hence the need for the current study to consider the scenario of a financially distressed economy of Zimbabwe in which cash shortage is rampant despite increasing use of mobile financial services. The exploratory research design allowed the researcher to be highly investigative and objective as the data sought was highly quantitative in nature. The design permitted a throughput tracking down of facts and ideas in the examination of the phenomenon under investigation to discover and explain the factors hindering the use of mobile financial services and how this may be effectively applied to overcome cash shortages. Prior researches have established that mobile financial services helps to conduct numerous transactions, () and this could be leveraged to bridge the vacuum created by the lack of cash in the economy. The study design permitted the researcher, not to only explain the usage of available mobile financial services from the opinions of the population under study, but also deduce meaningful information on how these may be effectively embraced to deal with the cash shortage problem adversely impacting the livelihoods of households.

3.3 Research approach

The nature of this inquiry premised on evaluating the impact of mobile financial services on the problem of cash shortages in Zimbabwe, utilizing the quantitative research approach. Quantitative data was gathered from the questionnaire survey. According to Creswell (2014), quantitative research methods measure a phenomenon using numbers, in conjunction with statistical procedures, in order to process data and summarise results. Quantitative data includes closed information such as that found in

attitude, behaviour or performance instruments. Collecting this kind of data involves using a closed checklist, against which the researcher evaluates the behaviour that is observed (Saunders, Lewis & Thornhill., 2016). This method requires the use of standardised measures, so that the varying perspectives and experiences of people can fit into a limited number of predetermined response categories to which numbers are assigned (Leedy&Ormrod, 2014). This made it possible for researcher to confirm or disapprove anticipated perceptions.The quantitative approach is desirable as itmay produce quantifiable data that is reliable. This makes it possible to generalisethe results to a larger population. The quantifiable data enabled the testing of a causal relationship amongst the several types of mobile financial services and cash shortages.

3.4 Data collection strategies

Data collection was done in Harare, Chegutu and Kadoma. The sample size for the study was 300 respondents who were agents or merchants or ordinary users across the three platforms.Agents were preferred as these would be able to provide figures of their transactions as well as portray   how their business have transformed their lives .The towns were chosen and used as samples to represent the rest of the population. Descriptive survey research is defined as based on collection of primary data using tools such as questionnaires and interviewing(Hart,2007).It is a process in which researchers translate a research problem into questionnaires, then use these with respondents to create data(Neuman,2000).Therefore the questionnaire used to collect data on mobile money transfers and to establish the effects of mobile money as a payment platform for goods and services as opposed to using cash and the value it has created as well as establishing and exploring the market potential for mobile financial services in Zimbabwe. Survey research is defined by Leedy and Ormrod (2010:187) as "involving acquiring information about one or more groups of people –perhaps about their characteristics, opinions, attitudes, or previous experiences by asking them questions and tabulating their answers." In this vein, people were asked on remittances made and usage of mobile money transfers. The data collected from the respondents was analysed to come to a logical conclusions.

3.5 Data sources

3.5.1 Primary data

Descriptive survey research is based on collection of primary data using tools such as questionnaires and interviewing (Hart, 2007). (Neuman, 2000) defines survey research as a process in which researchers translate a research problem into questionnaires, then use these with respondents to create data. Therefore the questionnaire used to collect data on mobile money and financial inclusion sought to establish to what extent mobile money transfers have impacted on general trade of goods and services. Survey research is also defined as involving acquiring information about one or more groups of people –perhaps about their characteristics, opinions, attitudes, or previous experiences-by asking them questions and tabulating their answers (Leedy and Ormrod, 2010). In this vein, people were asked whether they have benefited in their households through the use of mobile money.

3.5.2 Secondary data

Secondary data means data that are already available i.e., they refer to the data which have already been collected and analysed by someone else. When the researcher utilises secondary data, then he has to look into various sources from where he can obtain them. In this case he is certainly not confronted with the problems that are usually associated with the collection of original data. Secondary data used was either published data or unpublished data. Published data are available in: (a) various publications of the RBZ and POTRAZ; (b) various publications of foreign governments or of international bodies like ITU and their subsidiary organizations; (c) technical and trade journals like FinMark and TechnoMag (d) books, magazines and newspapers like News Day, The Independent and Financial Gazzette (e) reports and publications of various associations

connected with business and industry, banks, stock exchanges, etc.; (f) reports prepared by research scholars, universities, economists, etc. in different fields; and (g) public records and statistics, historical documents, and other sources of published information. The sources of unpublished data are many; they may be found in diaries, letters, unpublished biographies and autobiographies and also may be available with scholars and research workers, trade associations, labour bureaus and other public/ private individuals and organisations. The study used secondary data sources to gather

information relevant in reaching at the research objectives. The study's data collection source was justified by the fact that data on mobile money transfer agents, mobile money transfer customer enrolments, mobile money transfer transaction frequency and mobile money transfer deposit value were available from RBZ and POTRAZ.

3.6 Research instruments

3.6.1 Questionnaires

During the questionnaire, the researcher collected information was on basic household composition and demographic data, data on household wealth and assets, consumption, positive and negative shocks, and remittances. We also asked for information on the use of financial services, savings, etc., and collected detailed data on mobile phone use and knowledge in The population was made up of 8900 000 Ecocash,OneMoney and Telecash users, (Vogt et al, 2012). A sample of 150 ordinary users of Ecocash,One Money and Telecash with whom in-depth interviews were carried out (Dillman, 2000; Hill et al, 2003; Samuel, 2006; Saunders et al, 2007).

Questionnaires were used as they save time since they can be answered without the need for the researcher being present (Birmingham and Wilkinson, 2003; Saunders et al, 2009). This led to the reduction of errors as the researcher bias was removed due to non-participation as noted by Malhotra and Bicks (2003). Furthermore, the questionnaires employed the Likert non-comparative scaling technique and this is a widely used rating scale which requires the respondents to indicate a degree of agreement or disagreement with each of a series of statements or questions as illustrated by Albaum (1997). In addition, focus groups were used to collect information from Ecocash users and Ecocash agents.

The survey questionnaire consisted of four sections.Section Awas aimed at gathering demographic information about respondent, including, gender, age, employment status, education and income Section B was limited to gathering information on the respondent's usage of money transfer service in the past. Section C was aimed at obtaining information on whether the respondent has used or intended to use mobile money. The section is sub divided intothe various constructs with a total of 32 items ranging between 2 and 4 items per constructSection D aimed at gathering information relating to respondent mobile phone usage. It was used to measure the respondent's

mobile phone experience, which was based on the sum of the various usage indicated..

Hence, (Holland, 2000) notes that focus groups are critical in gathering data because they are easy to observe participants' body languages, have provision for further probing allowing grey areas to be clarified and also that they are faster in soliciting for information (Saunders et al, 2007). The data was analysed using SPSS (quantitative data) and Qualitative generaltransfer and what factors are likely to influence their adoption decision

3.6.2 Target Population

The target population comprises of all users of mobile financial services, more precisely the merchants and agents from whom all relevant data could be siphoned.

3.6.3 Non-probability sampling

Non-probability sampling is that sampling procedure which does not afford any basis for estimating the probability that each item in the population has of being included in the sample.Deliberate sampling which is also the same as non-probability sampling (or purposive sampling) was used in the study. This sampling method involves purposive or deliberate selection of particularunits (agents or merchants) of the universe (mobile money users) for constituting a sample which represents the universe. It is a form of convenience sampling too as particular population elements are selected for inclusion in the sample based on the ease of access.

3.7 Sample Design

While developing a sampling design, due attention was paid to the following points;

3.7.1 Type of universe: Cleary the set of objects under review, technically called the Universe, is the populace that uses mobile money transfer systems. The universe is finite although the total number is difficult to ascertain. In finite universe the number of items is certain, but in case of an infinite universe the number of items is infinite, i.e., we cannot have any idea about the total number of items. The users of mobile money transfer systems (Ecocash,OneMoney and Telecash) made up the finite universe.

Sampling unit: A decision was taken to have Harare,Chegutu and Kadoma(and their environs that include rural areas such as Mhondoro,Murombedzi and Sanyati) as sampling units.Harare is the hub of entrepreneurial activities while the latter are mining towns teeming with artisanal miners who provide brisk business to agents and merchants.

Source list: It is also known as 'sampling frame' from which sample is to be drawn. It contains the names of all items of a universe (in case of finite universe only). If source list is not available, researcher has to prepare it. Such a list should be comprehensive, correct, reliable and appropriate. It is extremely important for the source list to be as representative of the population as possible.

Size of sample: This refers to the number of items to be selected from the universe toconstitute a sample. This a major problem before a researcher. The size of sample shouldneither be excessively large, nor too small. It should be optimum. An optimum sample isone which fulfills the requirements of efficiency, representativeness, reliability and flexibility.The areas chosen were deemed to be an acceptable confidence level for the estimate. The size of population variance needs to be considered as in case of larger variance usually a bigger sample is needed. The size of population must be kept in view for this also limits the sample size. The parameters of interest in a research study must be kept in view, while deciding the size of the sample. Costs too dictate the size of sample that we can draw. As such, budgetary constraint must invariably be taken into consideration when we decide the sample size. It would have been costly to consider the whole country of Zimbabwe

Parameters of interest: In determining the sample design, one must consider the questionof the specific population parameters which are of interest. For instance, we may be interested in estimating the proportion of persons with some characteristic in the population, or we may be interested in knowing some average or the other measure concerning the population. In this study the parameter of interest is being a mobile money transfer user. The targeted population was chosen as it gives a representation of the whole population. This is where the sample will be drawn from. The researcher to use his or her judgment to identify respondents within proximity and those that are approachable and easy to contact.

3.7.1 Sample size

The researcher randomly selected the respondents from the sample frame. The researcher eventually settled for 150 respondents. Krejcie and Morgan (1970) model was adopted by the researcher in this particular study in order to determine a sample size for the mobile money transfer users from the population as provided by the POTRAZ Abridged Postal And Telecommunications Sector Performance Report. The researcher opted for convenience sampling because it was deemed convenient as respondents are selected based on their availability and it was also convenient as it reduces time for the researcher and it is cost effective.

3.8 Data Analysis

The data was modelled in a multiple linear regression. The analysis was conducted through a procedure ofvarious steps. After successful data collection exercise, the obtained data was verified andedited for completeness and consistency. A content analysis and descriptive analysis will be employed. Various assumptions were carried out to find out the causal and effect of the variables between the independent variables and dependent variables

First step was to analysis the data using descriptive and trend analysis that provides simple summaries about the sample and the observations that have been made. These summaries may either form the basis of the initial description of the data as part of a more extensive statistical analysis, or they may be sufficient in and of themselves for a particular investigation. Descriptive analysis provided results on measures of central tendency of the variables were presented. Trend analysis also provided graphical representation of the movement and changes of the variables during the cash shortage era was presented.

3.8.1 Study Variables and Model Specification

Cash shortage was the dependent variable used in this study, measured as the extent to which people still need cash for their transactions. Independent variables included the mobile financial services in Zimbabwe, such as mobile payments, mobile banking and mobile finance. The general model used to develop a specific model for this study is stated as follows:

$$Y = \alpha + \beta_1 X + \varepsilon$$

Where: Y= Cash shortage

    X=vector component of independent variables (mobile financial services)

    $\varepsilon =$ is the error term

The general model was modified and a specific model developed and this is stated as follows:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon$$

Where: *Y*= Cash shortage

α= Intercept

β= Coefficients of the variables

X_1=Mobile payments
X_2=Mobile banking
X_3=Mobile finance
ε= error

term

3.9 Chapter summary

In this chapter, the researcher focused on the research design citing the different designs which were used. The target population was identified, and the method of sampling explained. These sampling methods were the basis for coming up with the sample size as cited. Different sources of data are also highlighted in this chapter. The research instruments used were explained and justified, as well as how they were administered. The chapter also looked at how the data collected would be analysed and presented in the next chapter.

CHAPTER IV

DATA ANALYSIS, INTERPRETATION AND PRESENTATION

4.0 Introduction

The chapter examines information collected from the respondents to enable the researcher draw relevant conclusions and recommendations. The objectives of the study outlined in 1.4 (chapter one) was the principal guiding factors used. The data was interpreted according to research objectives and research questions. Appropriate data analysis and presentation techniques are used. The primary objective of the study was to establish the effects of mobile money as a payment platform for goods and services as opposed to using cash and the value it has created in households.

4.1 Response Rate

The study analysis shown on figure 4.1 indicate the response rate of respondent based on the one hundred and fifty (150) questionnaires that were distributed to the field
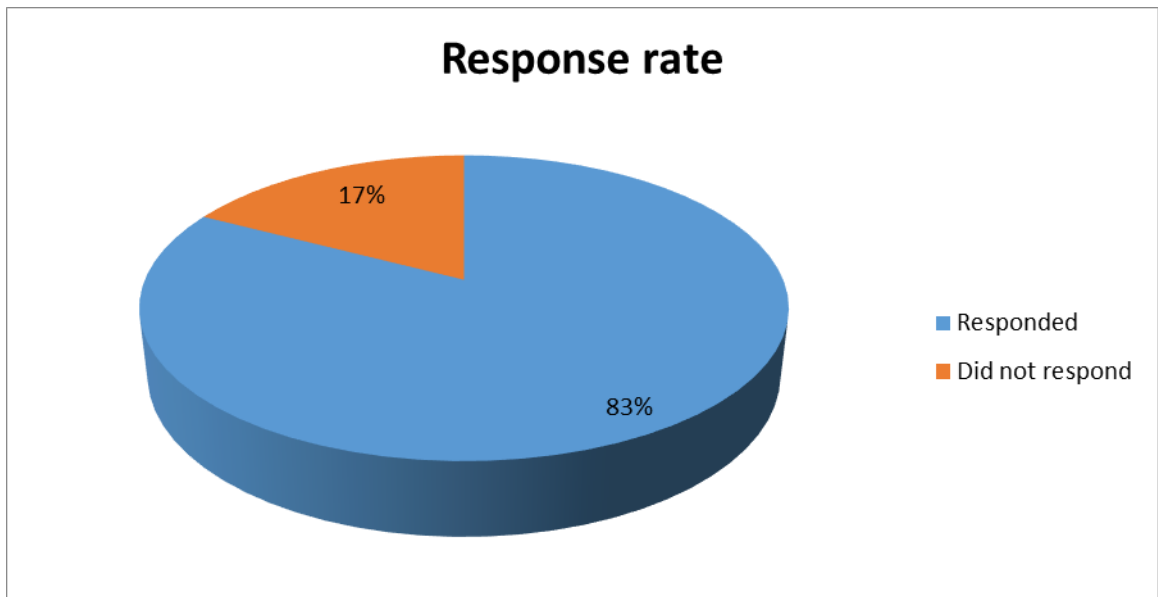
Figure 4.1: Response rate

Figure 4.1 above shows that out of the 150 issued questionnaires, 124 questionnaires representing 82.6 % of the total questionnaires distributed were returned fully completed, while 26 questionnaires were not returned representing 17.4 % of the total

questions distributed to the respondents. It can be inferred that the response rate was good. According to Mugenda and Mugenda (2003) a response rate of 70% and over is excellent for analysis and reporting on the opinion of the entire population.

4.2 Demographic Data Analysis

This section presents results on the demographic information of the participants.

4.2.1 Gender of Respondents

The result in figure 4.1 provides details information on the respondents' gender. This helps provide information on the sex group of individuals who use mobile money transfer more often and possibly which gender group is likely to be more affected by the cash crunch.
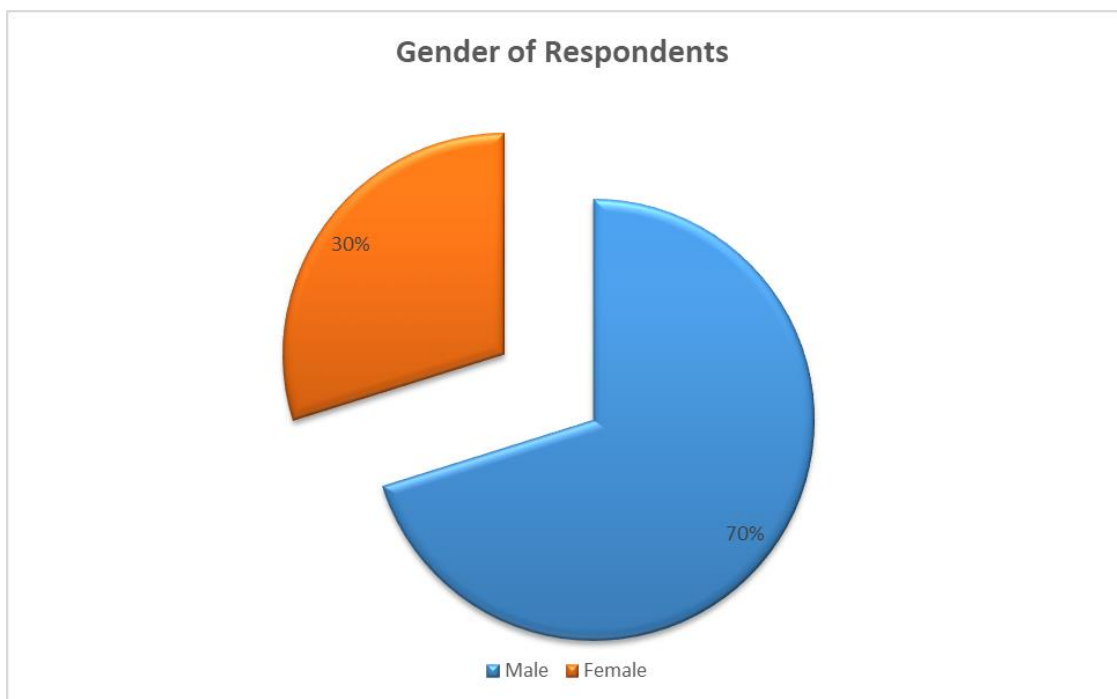
Figure 4.2: Gender of respondents

The study conducted on a total of 124 respondents out of which 87 respondents representing 65% were males and 37 respondents representing 35% were females. Costello (2003) indicates that male dominate mobile money transfers but in this case the respondents were chosen randomly, hence the figures do not depict anything. However, during the study it was discovered that males were more likely to enter into MMT business as majority of the respondents contacted for the study within the period of the research were male.

4.2.2 Age group of respondents

The question required the participants to indicate their age range. Table 4.1 shows the results obtained on the age of the respondents.

Table 4.1: Age group of respondents

Responses	Frequency	Percent
18 - 25 years	33	27
26 - 35 years	41	33
36 - 45 years	29	24
46 - 55 years	15	12
56 - 65 years	4	3
65 + years	2	2
Total	124	100

source: primary data

From the field data presented in Table 4.1, the study established that out of the total sampled population of 124 respondents, 27% (33) of them were within the age group of 18-25 years, 33% (41) of the respondents were within the age group of 26-39 years, 24% (25) of the respondents were within the age group of 36-45 years and 12% (15) of the respondents were within the age group of 46-55 years.3%(4) were within the age group of 56-65 years while 2%(2) were over the age of 65 years.

From the results obtained from the respondents, it was clear that at least all age groups use mobile money transfer systems. The difference in usage could be due to diverse needs which are more in the active and hyper active age groups. The study results showed clearly that MMT systems are recent monetary services which found more takers in the young generation than the older generation. The middle age most likely use MMT services to take care of their families. Diniz, Porto de Albuquerque and Cernev (2011) noted that MMT is a recent monetary service and will benefit the future generation in terms of their finances.

4.2.3 Number of Years Operating MMT services

The respondents were required to indicate their experience in MMT services. Figure 4.3 shows the results obtained.
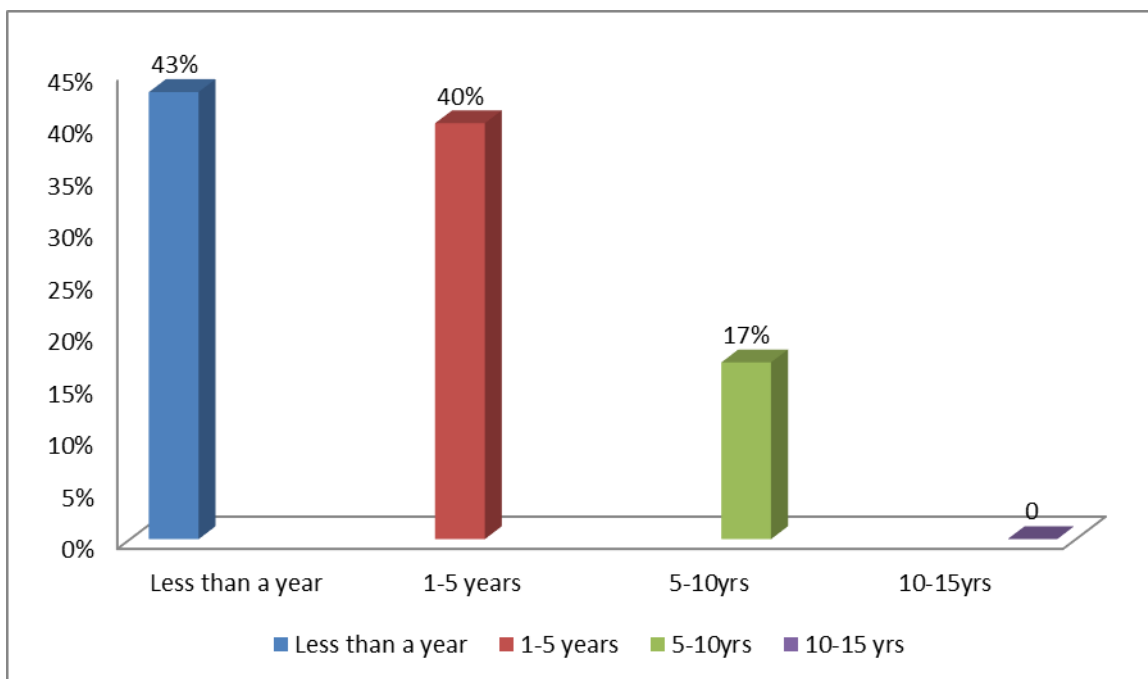
Figure 4.3: Number of Years Operating MMT services

The results show that 43% of the participants had been in the MT service sector for less than a year, 40% had 1 to 5 years while 17% had 5 to 10 years. The sample comprised of people of varying degrees of experience in the MMT services, and this helped to avoid obtaining data from a sample biased towards a specific working experience group.

4.4.4 Occupation of Mobile Money Transfer users

The respondents were required to indicate their occupation and this was assumed to have a likely impact on the usage of mobile financial services. Table 4.2 shows the results on the occupation of the participants.

Table 4.2: Occupation of Mobile Money Transfer users

Responses	Frequency	Percent
Government employee	10	8.1
Private Sector Employee	23	18.5

Self Employed	81	65.3
Student	5	4.0
Housewife	5	4.0
Other	0	0

Source: Primary Data

The data in table 4.4 showed that 18.5% (23) of the respondents in the study were private sector employees, 8.1% (10) of the respondent were civil servants, 65.3% (81) of the respondents were self-employed, 4.0% (5) of the respondents were students while 4.0% (5) were house wives.

4.3 Level of mobile financial services usage

The study sought to determine the level of mobile financial services usage in Zimbabwe.

4.3.1 Frequent purpose of using mobile money transfer

The question sought information on what frequent purpose do the participants found the mobile money transfer useful. Figure 4.4 shows the results obtained.

Figure 4.4: Frequent purpose of using MMT(source; primary data)

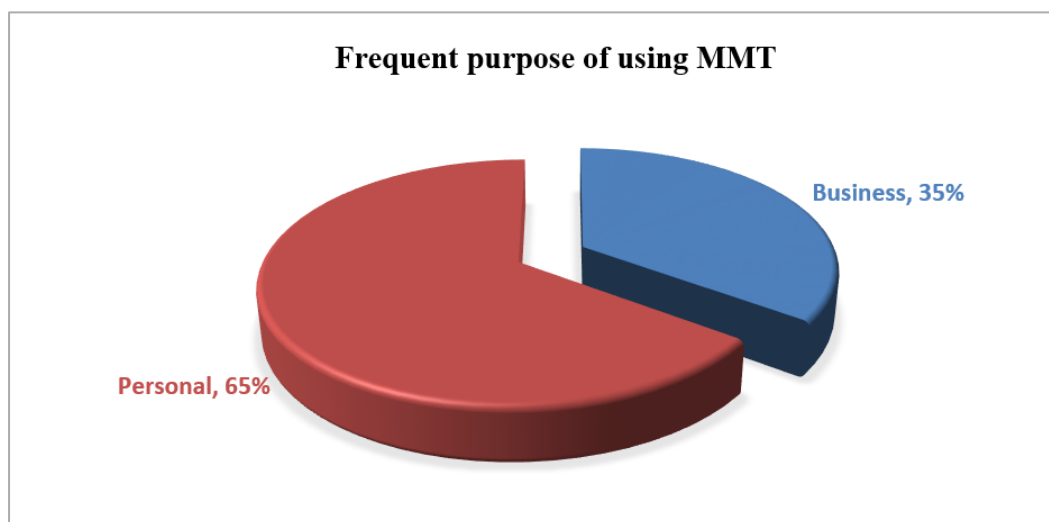Most of the participants were using the MMT services for their personal issues while 35% usage of MMT services was for business purposes. Therefore, amongst the general citizens who participated in this study, personal issues dominated the use of

mobile financial services, which increases the potential of MMT services to alleviate the need for handling cash on personal issues.Alexandre and Eisenhart (2013) posit that mobile money is potential for financial inclusion because it has the potential to reach millions of customers including those who are at the bottom of the pyramid. They further identified that mobile money is key to financial inclusion and integrity because of the fact that mobile money reduces dependency on cash which they argue that it is the common enemy of financial inclusion and financial integrity.

4.3.2 Mobile Money Transfer platform being used

This question required information on the MMT platform being used by the respondents. Table 4.3 shows the results obtained.

Table 4.3: MMT platform being used

MMT platform being used	Frequency	Percent
Ecocash only	109	87.9
OneMoney only	3	2.4
Telecash only	2	1.6
All three	3	2.4
Two platforms	7	5.6
Total	124	100

source: primary data

The data in table 4.8 shows that Ecocash (87.9%) is the dominant platform for the respondents, while 3% use OneMoney only and 2% use Telecash. Less significant numbers use two or all the systems together. Ecocash is the preferred choice as is being used to transact in almost every retail outlet, market stalls and money exchanges. It is clear that respondents preferred Ecocash.The majority would rather have Ecocash as their only MMT service than having multiple ones. In fact, respondents used the NetOne and Telecel lines for telephony and data purposes rather

than for mobile money transfers.Sayid, Echchabi, and Aziz (2012) conducted a study in Somalia on mobile financial services. The study found perceived usefulness and social influence to be the only significant factors influencing the adoption of mobile financial services.

4.3.3 Mobile financial services frequently used

The respondents were required to indicate the mobile financial services they frequently utilise. Table 4.4 shows the results obtained.

Table 4.4: Mobile financial services frequently used

Mobile financial service	Frequency	Percent
Transfer/payment to another person	124	100
Transfer/payment to a business	124	100
Transfer/payment from business to another business	44	35
Receiving money from a business (e.g. salary, payment for service)	84	68
Transfer to a bank	97	78
Inquiring information from a bank	97	78
Obtaining credit facility	29	23
Payment of insurance	76	61
Saving personal funds	71	57

Source: Primary Data

4.3.4 Mobile payments

The results show that all the participants were using mobile financial services to transfer money or make payments to other people. These person to person (P2P) transactions may be in the form of sending money to children at school or to friends and relatives. All the participants indicated that they were using mobile financial

services to transfer money or make payments to business organizations. These person to business (P2B) is may include making payment to a supermarket for grocery bought. Most of the participants noted that often received money from a business (68%) through mobile financial services. These business to person (B2P) transactions may be in the form of salaries or payments for services performed or goods delivered. Fewer participants were using mobile financial services for transfers or payments from business to another business (35%). This represents all the individuals who indicated that they were using mobile financial services for business purposes. These business to business (B2B) transactions may represent payments for services rendered or goods delivered. These results suggests that mobile financial services were being used for mobile payments (MP) to a greater extent, by both businesses and individuals.

4.3.5 Mobile banking

Most of the participants noted that they used mobile financial services for transferring funds to their banks (78%). This represents transactions that can be made by an individual or business when transferring funds from their mobile phone to their bank account. This may be necessary when one is seeking to perform a transaction with a party that does not accept payments from a mobile platform. They may also want to transfer funds from their bank account to their mobile wallet. This may be necessary when one is seeking to perform a transaction with a party that prefers mobile wallet payments to those from a bank account. In both cases, there are associated charges are incurred as one transfers funds from their mobile wallet to the bank of from the bank to their mobile wallet. Most of the participants also indicated that they utilise mobile financial services when inquiring information on the status of funds banked (78%). Mobile money platforms provide a chance for their subscribers to check the status of their accounts at just a click of a command. This is useful as it may enhance preservation of peace of mind. One can keep track of their transactions and monitor the movement of funds. However, there are associated charges incurred which may reduce the funds in the wallet. To this end, the result suggests a high usage of mobile financial services for mobile banking.

4.3.6 Mobile finance

Most of the participants noted that they use mobile financial services in the payment of their insurances (61%). Some mobile financial service providers have developed insurance products to which users can subscribe. For instance, the Ecosure platform has received a higher number of subscribers. Insurance for assets such as motor vehicles has also been on the rise as mobile financial service providers seeks to ensure a one stop shop. Some insurance companies also allow their clients to pay using their mobile wallets as these businesses now have merchant codes and biller codes. This helps to avoid withdrawing money from the mobile wallet in order to perform a transaction.

Most of the participants noted that they use mobile financial services in the saving personal funds (57%). Mobile financial service providers have developed platforms for saving funds, for instance the Ecocash Save accessible through Ecocash. Instead of one withdrawing their funds and save in cash form, the money can be saved in electronic form and accessible by a click of a command. This has the potential to reduce the need for handling cash.

The results show that less than half of the participants were accessing credit facility (mean=23) through the mobile financial services. The case in point is the Ecocash Save loans which are accessible to Ecocash subscribers. They require one to have saved through Ecocash Save for at least 3 months in order to access the loan facility. The results suggest that facilities of this nature have had less subscription from the participants. To this end, the results on mobile finance suggests a mixed reaction amongst the participants. While some mobile finance services were being utilised, for instance insurance and savings, some such as credit facilities were receiving less attention.

4.4 Factors hindering the uptake of mobile financial services

The study sought to ascertain the factors hindering the uptake of mobile financial services in Zimbabwe. Table 4.5 shows the results obtained on the factors hindering the uptake of mobile financial services.

Table 4.5: Factors hindering the uptake of mobile financial services

Factors hindering the uptake of mobile financial services	Frequency	Percent
Poor service by network providers	47	38
Rating of the mobile money against physical cash	124	100
Lack of merchant codes and biller codes amongst businesses	84	68
Rejection of mobile money by friends and relatives	91	73
Rejection of mobile money by the business community	113	91
General desire to handle cash	76	61
Lack of confidence in mobile money	76	61
Security issues	49	40

Source: primary data

All the respondents noted that the current rating of the mobile money against physical cash was a major impediment to the use of mobile financial services. This has resulted in general lack of lack of confidence in mobile money (61%), culminating into a general desire to handle cash (61%). This rating of mobile money against physical cash was attributed to the rejection of mobile money by friends and relatives (73%) and the business community (91%). These results suggest that macroeconomic factors currently bedevilling the economy were having a greater impact on the users' confidence in mobile money. The inability of using mobile money to procure from outside the country has result in the demand for cash as people and businesses require cash to import goods from other countries. This has created a gap for enterprising individuals who sell cash for a discount on the part of a mobile money user. This has made physical cash more appealing than mobile money transfer.

The results also show that the lack of merchant codes and biller codes amongst some businesses (68%) was letting down the use of mobile financial services. This was coupled with the poor service by network providers (38%), often due to network disruptions which make the service unavailable when needed. As such, this adversely impacts on the reliability of the service. Added to the list is the security issues (40%) surrounding the use of mobile money. Having one's money handled in a server elsewhere brings some form of uneasiness to an individual who need some form of

control over their wealth. This is worsened by the risk of losing one's phone and password as this can give unauthorised persons' access to one's mobile money.

4.5 Mobile financial services and the effects of cash shortages

The study sough to examine the extent to which mobile financial services were useful in overcoming the effects of cash shortages amongst Zimbabwean households. Data was collected using a questionnaire with a Likert scale ranging from 'strongly agree' to 'strongly disagree' coded on a scale of 1 to 5. Frequencies per each response were computed as well as the mean response. The results were split into mobile payments, mobile banking and mobile finance.

4.5.1 Descriptive statistics on mobile payments

Table 4.6 shows the descriptive statistics on mobile payments.

Table 4.6: Descriptive statistics on mobile payments

Mobile payments have reduced:	SA	A	N	D	SD	Mean	Impact
The need for cash to pay other people	28%	8%	52%	12%	0%	2.48	High
The need for cash to pay to business organizations	24%	36%	16%	16%	8%	2.28	High
The need for cash to pay a business to another business	28%	24%	24%	16%	8%	2.32	High
The need for receiving cash from a business	24%	16%	28%	28%	4%	2.72	Moderate

Source: primary data

The results show that mobile payments have highly reduced the need for cash to pay other people (mean=2.48; 28% strongly agree, 8% agree). This suggest that people can easily transfer money through their mobile phones instead of transferring physical cash. It has also highly reduced the need for cash to pay to business organizations (mean=2.28; 24% strongly agree and 36% agree) and the need for cash to pay a

47

business to another business (mean=2.32; 28% strongly agree and 24% agree). Business organizations now have merchant codes and biller codes which makes it possible for individuals and other business organizations to easily make their payments using mobile wallets instead of physically paying in cash.

However, there was a moderate response on the view that mobile payments have reduced the need for receiving cash from a business (mean=2.72; 28% neutral and 28% disagree). This suggest that participants were not in favour of the idea of receiving mobile money transfers from business organizations for their salaries and amounts worked for. As such, these results suggests that while the participants welcome the idea of making payments using mobile wallets, they did not prefer to receive money using these mobile money platforms. To this end, one can be of the view that the respondents still preferred cash as they wanted to dispose mobile money transferred as soon as possible, while requiring to receive money in form of cash.

4.5.2 Descriptive statistics on mobile banking

Table 4.7 shows the descriptive statistics on mobile banking.

Table 4.7: Descriptive statistics on mobile banking

Mobile banking has reduced:	SA	A	N	D	SD	Mean	Impact
The need for cash to transfer to a bank	40%	36%	12%	8%	4%	2.00	High
The cost and effort needed to check cash balance status	16%	4%	36%	28%	16%	3.24	Moderate

Source: primary data

The results show that mobile banking has highly reduced the need for cash to transfer to a bank (mean=2.00; 40% strongly agree and 36% agree). Most banks have now been linked with mobile money platforms such that one can transfer money to their bank or transfer from the bank to their mobile wallet using their phone. This has reduced the need for handling cash and queuing in banking halls. However, there was a moderate response on whether mobile banking has highly reduced cost and effort needed to check cash balance status (mean=3.24, 16% strongly agree, 36% neutral

and 28% disagree). While checking the balance status of one's cash is easier, each time one does so, a fee is charged which reduces the balance available.

4.5.3 Descriptive statistics on mobile finance

Table 4.8 shows the descriptive statistics on mobile finance.

Table 4.8: Descriptive statistics on mobile finance

Mobile finance has reduced:	SA	A	N	D	SD	Mean	Impact
The need for cash when seeking credit	24%	16%	28%	28%	4%	2.72	Moderate
The need for cash to pay insurance	20%	8%	36%	0%	36%	3.24	Moderate
The need for cash for savings	4%	34%	59%	3%	0%	2.91	Moderate

Source: primary data

The results show moderate responses on the views that mobile banking has highly reduced the need for cash when seeking credit (mean=2.72; 16% agree, 28% neutral and 28% disagree), the need for cash to pay insurance (mean=3.24; 20% strongly agree, 36% neutral and 36% strongly disagree) and the need for cash for savings (mean=2.91; 59% neutral). The results suggest that mobile finance is likely to have had a moderate impact on the need for cash amongst households. Thus, the households continue to prefer having cash when seeking credit facilities, for paying insurance services and for their savings.

4.5.4 Overall impact of mobile financial services on the need for cash

This question sought information on the respondents' overall assessment of whether mobile financial services had assisted in reducing the need for cash. Figure 4.5 shows the results obtained.
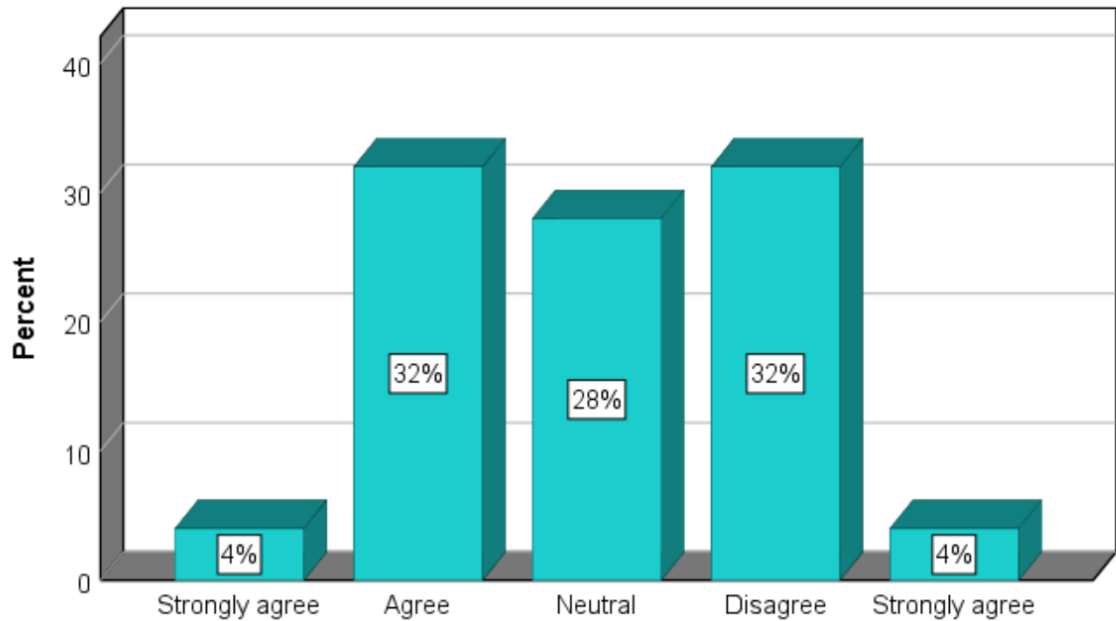
Figure 4.5: Whether mobile financial services have reduced cash shortage problem

The results show that 32% of the respondents agreed, 4% strongly agreed with the view that mobile financial services have assisted in reducing the cash shortage problem. On the other side, 32% of the respondents disagreed, 4% strongly disagreed with this view while 28% decided a neutral response. The results suggests a balanced view of the respondents regarding their views on the usefulness of mobile financial services in dealing with the issue of cash shortages. In Kenya, Nyaga and Ogollah (2015) explored the challenges of effectively providing mobile money transfer services. That study established that innovative products attract customers to such services. Notably, initial customer experience with that service provider determines whether s/he remains loyal or moves to another provider.

4.6 Data Analysis

4.6.1 Inferential statistics

The study sought to explore the effect of mobile financial services on households in a cash shortage stricken environment. Inferential statistics in the form of correlational analysis and regression analysis were thought to add insight into the relationship amongst the variables.

4.6.1 Correlational analysis of mobile financial services and cash shortage

Correlational analysis was performed to determine the correlation amongst variables on mobile financial services and cash shortage. Pearson correlations were computed and these are reported in Table 4.9.

Table 4.9: Correlation matrix of mobile financial services and cash shortage

	Cash shortage problem	
	Correlation	Sig.
Mobile payments	**-0.64**	**0.000**
Mobile banking	**-0.45**	**0.001**
Mobile finance	**-0.31**	**0.040**

source: primary data

The results show that mobile payments had a higher correlation with cash shortage (r=0.64) followed by mobile banking which had a moderate negative correlation with cash shortage(r=0.45). Mobile finance had a weak negative correlation with cash shortage(r=0.31). This shows that, though all the independent variables are correlated with cash shortage, mobile payments had a more statistically more correlated with the cash shortage, followed by mobile banking.

The results also show that there were very low correlations among the independent variables used in the study (r<0.7). These low correlations suggest the absence of autocorrelation in the dataset and, therefore, the variables can be entered in the regression model for analysis as they are.

4.6.2 Regression Analysis on mobile financial services and cash shortage

The study sought to establish the relationship between mobile financial services and cash shortage. A regression analysis was performed and the model summary was reported in Table 4.10.

Table 4.10: Model summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.315[a]	.465	-.351	3.93856

2	.705[b]	.497	-.510	4.16351

Table 4.10 shows, an R-squared value of 0.465 for the model in which mobile payments, mobile banking and mobile finance predicts changes in cash shortage. The model suggests that 46.5% of the variability in cash shortageis explained by mobile payments, mobile banking and mobile finance. Therefore, the selected independent variables explained a significant proportion of the changes in the dependent variables.

Table 4.11: Analysis of variances

Model		Sum of Squares	df.	Mean Square	F	Sig.
1	Regression	34.161	6	5.694	4.295	.001[b]
	Residual	192.234	145	1.326		
	Total	226.395	151			

source: primary data

a. Dependent Variable: Cash shortage

b. Predictors: (Constant), Mobile payments, Mobile banking, Mobile finance

From the ANOVA table it can be seen that significance level is 0.001<0.05 which shows that model is valid because p-value is less than 0.05. As such, the regression model was a good fit for the current data.

Table 4.12: Coefficients of the predictors of cash shortages

	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	34.698	0.509		3.337	0.001
Mobile payments	-0.164	0.083	-0.158	-1.963	0.002
Mobile banking	-0.135	0.086	-0.134	-1.567	0.079
Mobile finance	-0.104	0.074	-0.112	-1.405	0.162

a. Dependent Variable: Cash shortage

The results show that mobile banking (p>0.05) and mobile finance (p>0.05) were insignificant in predicting changes in cash shortage. Their p-values are greater than the threshold of 0.05 at the 5% significance level, hence basing on the current data, their impact on the dependent variable is insignificant. Therefore, these variables are excluded from the final fitted model. The results can be rewritten in standard algebraic form, the unstandardized regression equation becomes:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon$$

Where: Y=Cash shortage

α= Intercept

β= Coefficients of the variables

X_1=Mobile payments
X_2=Mobile banking
X_3=Mobile finance
ε= error

term

Substituting the "coefficients", the unstandardized regression equation becomes:

$$Y = 34.698 - 0.164 X_1 + \varepsilon$$

The results show a negative regression coefficient for mobile payments of 0.164, which was significant at the 5% level (p<0.05). This confirmed that an increase in mobile payments by one unit, *ceteris paribus,* results a decline in cash shortageby 0.164 units. Therefore, mobile payments statistically predict the changes in the need for cash. This is consistent with the results of a study by Tillman (2010) which established a negative correlation between mobile payments and the need for cash in the community. The same result had been obtained in by Weill (2012) who established an improvement in mobile payment services may help to reduce the cash shortage problems. However, they warned that mobile money usage should be accompanied by adequate structural reforms to avoid the users' continual need for holding cash, else the whole purpose of mobile money is defeated.

4.7 Chapter Summary

The chapter presented the results using descriptive statistics like means and standard deviations, along with the correlational and regression analysis. The results obtained revealed that mobile financial services have had a moderate impact on the need for cash in Zimbabwe. Amongst the available mobile financial services, only mobile payments had a positive impact on the need for cash. The next chapter focus on the summary, conclusions and recommendations emanating from the results of the study.

CHAPTER 5

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.0 Summary

The study focused on the effect of mobile financial services on households in a cash trapped society. This research was prompted by the increase in usage of mobile money services due to increasing mobile penetration and internet usage in the Zimbabwean society. It was expected that with increase in use of mobile phones would assist in reducing the need for cash by integrating mobile phone usage and mobile money transfer as the country is experiencing liquidity challenges. Evidence in the body of literature points to the possibility of reducing the need for handling cash in a community which has embraced mobile money transfers. On the contrary, despite increasing mobile phone usage in Zimbabwe and the rise of mobile financial services, there persist increasing outcry over cash shortages. This study adopted a descriptive survey research design in order to investigatethe extent to which mobile financial services have eased the problems associated with cash shortage. The results obtained revealed that mobile financial services have had a moderate impact on the need for cash in Zimbabwe. Amongst the available mobile financial services, only mobile payments had a positive impact on the need for cash.

5.1. Conclusions

5.1.1 Level of mobile financial services usage in Zimbabwe

The study sought to determine the level of mobile financial services usage in Zimbabwe. The results show that mobile money transfers were predominantly used for personal issues when compared to businesses. This increases its chances of solving cash shortages at the personal level. Most of the participants were using one mobile money transfer platform, specifically Ecocash. The mobile money transfer platforms were mostly used when transferring funds to friends and relatives and when making payments, for goods and services bought, or receiving money from businesses, for services rendered and goods delivered. They also used mobile money

transfer platforms to link with their banks so that money can be transferred to and from the mobile wallet connected to a bank account. The participants also made use of mobile wallets for saving purposes, while insurance and credit facilities were rarely used. Therefore, mobile financial services frequently used pertained to mobile money transfer, followed by mobile banking and mobile finance.

5.1.2 Factors hindering the uptake of mobile financial services in Zimbabwe

The study sought to ascertain the factors hindering the uptake of mobile financial services in Zimbabwe. These were grouped into macroeconomic factors, factors on the side of the service provider and those on the service user.OneMoney and Telecash needed to built up their networks of agents and merchants to match the levels of Ecocash.Mobile financial services were greatly hindered by the rating of the mobile money against physical cash which has eroded confidence in mobile money leading people and businesses to prefer dealing on a cash basis. This has been augmented by lack of support by other businesses who do not have merchant and biller codes to support mobile money along with poor service delivery and security issues.Villasoner (2013) in his survey and documentary reviewed about mobile money and digital inclusion argues that technology alone is not enough to serve all unbanked population without regulations. Regulation is the biggest factor in determining quick move of the unbanked population to a fully digital and financial inclusions. Therefore, the results suggest that macroeconomic factors were the major driver of factors hindering the uptake of mobile financial services.

5.1.3 Mobile financial services and the effects of cash shortages

The study sought to examine the extent to which mobile financial services were useful in overcoming the effects of cash shortages amongst Zimbabwean households. The results show thatMobile payments have reduced the need for cash to pay other people or businesses. However, they had minimal impact on reducing the need for receiving cash from a business. The participants preferred to pay using mobile payments while requiring receiving money in cash. This was largely attributed to their need to do away with mobile money and retain cash.

The results show that mobile banking has reduced the need for cash to transfer to a bank. Money within the mobile wallet can be easily transferred through the phone to

one's bank while the mobile wallet can also be loaded from the bank account. However, balance enquiry and most of the associated services charges a fee which reduces the overall wealth of subscribers. Also, the results show that mobile finance has had less impact in reducing the need for cash when seeking credit, paying insurance and savings. Therefore, the participants were mostly using mobile money transfer compared to mobile banking and mobile finance.The regression results obtained revealed that mobile financial services have had a moderate impact on the need for cash in Zimbabwe. Amongst the available mobile financial services, only mobile payments had a positive impact on the need for cash.

5.2 Recommendations

The studyrecommends that the government should develop and implement policy frameworks which encourage the usage of mobile money. For instance, there should be measures to encourage businesses to utilise mobile money.

The study found out that usage of mobile was adversely impacted by the rating of mobile money against physical cash. It is recommended that the government put in place measures to avoid rating of mobile money against physical cash. This enables physical cash to be considered at par with mobile money and this increases its usage.

There is need for awareness campaigns to enlighten businesses and the general public on the importance of utilising mobile money.

There is need for mobile network operators to improve their service provision to avoid disruption and denial of service when it is needed.NetOne and Telecel have to invest heavily in infrastructure and merchant networks in order to compete with Econet. This may help to build confidence amongst the mobile subscribers.

There is need for mobile money platforms to reduce service fees as higher fees may discourage usage of the facility. Fees should be scrapped on issues such as balance enquiry and transacting in smaller amounts.

Interoperability has worked successfully in Kenya.Ecocash has partnered with Botswana's Orange for remittances to be made among the users in the two countries.Kenya's M–Pesaare entrepreneurial as they are set to introduce a social platform that would compete with the established ones like Facebook. Such moves, if adopted in Zimbabwe could enhance the uptake of mobile money transfer systems.

This study focussed on local mobile money transfer platforms. It could be widened to encompass other mobile money transfer platforms that operate at international level, for instance, WorldRemit amongst others.

References

Appendix I: Questionnaire

Dear Sir/Madam

My name is Loki Benjere and I am currently studying Strategic Management and Corporate Governance at Midlands State University. The purpose of the research is to establish the impact of mobile money transfer systems on Zimbabwean households (Ecocash, Telecash and OneMoney). It also serves as a part fulfilment of the academic requirements for the award of Masters Degree in Strategic Management and Corporate Governance.

Kindly assist me with information by filling in the attached questionnaire. Please note that this research is purely for academic purposes and all responses will be treated in strict confidence.

For any queries, additions or further discussions, please contact me on 0712 980 332 or email: lbenjere@gmail.com or lbenjere@yahoo.co.uk

Section A: Demographic Information

1. Gender

Title	Mr/Mrs/Miss/ Other Specify
NAME	

Age of respondents

Age	18-25yrs	26-35yrs	36-45yrs	46-55yrs	56-65yrs	65+

Gender of respondents

Gender		Number of Dependants (tick appropriately)			
Male	Female	Non	1 to 3	4 to 5	5+

2. Profession

A) Government employee	
B) Private Sector Employee	
C) Business Person	
D) Self Employed	
E) Student	
F) Housewife	
G) Others (Specify)	

Section B: Level of mobile financial services usage

For what purposes do you often use mobile money transfer for?

   a) Business   YES/NO

   b) Personal   YES/NO

Which mobile money transfer platforms are you subscribed to?

Ecocash	Telecash	OneMoney	Other (Specify)

Kindly indicate the mobile financial services you frequently utilise

Mobile financial service	Yes	No
Transfer/payment to another person		
Transfer/payment to a business		
Transfer/payment from business to another business		
Transfer to a bank		
Inquiring information from a bank		
Obtaining credit facility		
Payment of insurance		
Saving personal funds		
Saving business funds		

Section C: Factors hinders the uptake of mobile financial services

What factors hinders the uptake of mobile financial services in Zimbabwe?

Section D: Mobile financial services and the effects of cash shortages

The following tables have statements about mobile money services. Rate your agreement with each of the statements by using the scale provided in the table. Hint: [Strongly agree=1; Agree=2; Neutral=3; Disagree=4; Strongly agree=5]

Mobile money/ financial services have reduced:	1	2	3	4	5
The need for cash to pay other people (e.g. for amounts borrowed)					
The need for cash to pay to business organizations					
The need for cash to pay a business to another business					
The need for cash to transfer to a bank					
The need for physical bank inquiries					
The need for cash when seeking credit facility					
The need for cash to pay insurance					
The need for cash for savings on personal funds					
The need for cash for savings on business funds					

Overall, the need for cash has been greatly reduced through the use of mobile financial services.

Strongly agree **[   ]**   Agree **[   ]**   Neutral **[   ]**   Disagree **[   ]** Strongly disagree **[   ]**

What measures can be taken to improve the use of mobile financial services to alleviate the problem of cash shortages