An evaluation of the disintermediation of Zimbabwean commercial banks by mobile money (2011 - 2013)

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STUDENT NAME

UNITY S. CHIBAKWE

REGISTRATION NUMBER
DEDICATION

I dedicate this work to my wife Olivia Kudakwashe Chibakwe and my daughter Akudzweishe Amy Chibakwe for their love, patience, encouragement and support.
ABSTRACT

Mobile money is a facility that allows individuals and corporates to make financial transactions using a mobile device. The advent of the mobile money transfer services has transformed the way the financial services industry conducts business, enabling organisations to develop new business models.

The purpose of this research was to determine if payment processing functions have increased for mobile money at the expense of banks, determine services being offered by mobile money which are required by the bank and non-bank users, and finally examine the factors that have led to the shift in use from banks to mobile money. The main objective was to determine if Zimbabwean commercial banks were disintermediated by mobile money use.

The research used a cross-sectional study design and a quantitative research approach. For data analysis, descriptive and inferential statistics together with Chi-Squared tests were used to test hypotheses and Cramer’s V was used to determine the strength of the relationship between two variables. Findings indicate that mobile money has taken some of the functions of banks such as payment processing and lending.

The study recommends that commercial banks should form strategic alliances or enter into joint ventures with mobile network operators. This will provide banks with effective models to reach clients beyond their physical reach into poor and rural areas through the use of mobile devices. This will also result in banking services being offered at lower prices.

Commercial banks should also focus on the products that are not provided by mobile network operators. The back office functions such as treasury and trade finance can be enhanced such that bank users get value and at the same time increasing the banks’ revenue.
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LIST OF ABBREVIATIONS

ATM                             Automated Teller Machine
B2B                             Business to Business
CABS                            Central African Building Society
CBZ                             Commercial Bank of Zimbabwe
CVI                             Content Validity Index
DSTV                            Digital Satellite Television
G2B                             Government to Business
G2C                             Government to Citizen
GDP                             Gross Domestic Product
GSM                             Global System for Mobile
MNO                             Mobile Network Operator
NBFI                            Non-Bank Financial Institution
P2P                             Person to Person
PIN                             Personal Identification Number
POSB                            Post Office Savings Bank
RBZ                             Reserve Bank of Zimbabwe
SIM                             Subscriber Identification Module
<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Full Form</th>
</tr>
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<tbody>
<tr>
<td>SMC</td>
<td>Short Message Centre</td>
</tr>
<tr>
<td>SMS</td>
<td>Short Message Service</td>
</tr>
<tr>
<td>UNCTAD</td>
<td>United Nations Conference on Trade and</td>
</tr>
<tr>
<td></td>
<td>Development</td>
</tr>
<tr>
<td>USA</td>
<td>United States of America</td>
</tr>
<tr>
<td>USSD</td>
<td>Unstructured Supplementary Service Data</td>
</tr>
</tbody>
</table>
CHAPTER 1

INTRODUCTION AND BACKGROUND TO THE STUDY

1.1 Introduction

Mobile money is a new phenomenon which exists at the intersection of two industries, namely telecommunications and banking. It entails making financial transactions using a mobile device. The nature of allowed transactions include, and are not limited to deposits, withdrawals and transfers. With the increasing growth of the agency network, the mobile money operators envisage a situation whereby the revenue will continue to grow substantially and mobile usage for financial transactions increases. On the other hand the banks will feel the impact because of a reduction in volume of transactions through their channels.

The traditional banking model has prevailed in Zimbabwe for a long time. Clients take time to visit the branch to access services such as withdrawals, deposits and funds transfers. The trend changed eventually with banks adopting technology and implementing mobile banking systems. The trend has recently changed also as non-bank players such as Mobile Network Operators (MNOs) have entered into the business of mobile financial services.

There is growing interest around the provision of financial services through the mobile phone. Zimbabwe’s mobile penetration was 103.5% as at end of December 2013 (Kabweza, 2014). The rapid uptake of mobile telephony warrants investigation of whether the uptake of mobile financial services has affected traditional banking. The number of Zimbabweans with bank accounts is 1.1 million according to Kufandirimbwa et al. (2013).

This chapter seeks to provide a clear introduction of the background, research problem, research questions, and objectives. It will further strive to unearth the significance of the study, scope of the study as well as definitions of key terminology used in the study.
1.2 Background

Cohen (2013) postulates that according to a research house GSMA, Global Mobile Money Adoption 2012 Survey, there are more mobile money accounts in Sub-Saharan Africa than there are people signed up to Facebook. In addition to that, Cohen (2013) goes on to state that there are more mobile money agent outlets than bank branches in at least 28 countries. This has strengthened the view that mobile financial services are amongst the most promising mobile applications in the developing world.

Zimbabwe—with a mobile penetration rate that has reached 103.5% according to Kabweza (2014), is also a case in point, with 3.5 million people registered on EcoCash in 2014, and 8 million being targeted. Telecel launched its mobile money service—Telecash with 1.6 million agents nationwide, and targeting 6 million subscribers within 6 months (Ndlovu, 2014). NetOne re-introduced its own mobile money transfer service—One Wallet, within the same space of time. In the same article, by Ndlovu (2014) John Robertson makes an assertion that banking has taken a new appearance, as more people will not be going the traditional route of opening accounts. Banks had all the time in the world to develop relevant products but they stuck to the old ways of doing banking and are now crying foul after noticing that they have been overtaken by events (Zimbabwe Situation, 2014).

1.2.1 Mobile money in Zimbabwe

According to Levin (2013), EcoCash was launched in October 2011 and 2.3 million people were registered in just over 18 months after launch, a figure which outnumbered the total count of the collective Zimbabwe’s traditional bank accounts. The platform has a volume of $200 million per month which when annualised will translate to 22 percent of the gross domestic product. Mobile money therefore is contributing positively to economic growth. Levin (2013),
however highlights that EcoCash has been viewed as too expensive and that full interoperability is crucial to its success. According to Mupaso (2013) Net One launched its OneWallet which is powered by Gemalto’s mobile money solution product in 2011 and subsequently re-launched the revamped product in 2013. The biggest challenge with the uptake of the product could have been the requirement for a SIM swap to a 128k SIM card for efficiency (Kufandirimbwa et al., 2013). Telecel re-launched its Skwama product in 2014 and rebranded it to Telecash Ndlovu (2014).

Kufandirimbwa, Zanamwe, Hapanyengwi and Kabanda (2013), point out that the following are the mobile money products in Zimbabwe:

**Table 1.1: Mobile Money Products in Zimbabwe**

<table>
<thead>
<tr>
<th>Institution</th>
<th>Mobile Product</th>
</tr>
</thead>
<tbody>
<tr>
<td>Econet Wireless</td>
<td>EcoCash</td>
</tr>
<tr>
<td>Kingdom Bank</td>
<td>Cellcard</td>
</tr>
<tr>
<td>Tetrad</td>
<td>eMali</td>
</tr>
<tr>
<td>CABS</td>
<td>Textacash</td>
</tr>
<tr>
<td>Interfin Bank</td>
<td>Cybercash</td>
</tr>
<tr>
<td>CBZ Bank</td>
<td>Mobile Banking</td>
</tr>
<tr>
<td>Net One</td>
<td>OneWallet</td>
</tr>
<tr>
<td>Telecel</td>
<td>Skwama</td>
</tr>
<tr>
<td>FBC</td>
<td>Mobile moola</td>
</tr>
</tbody>
</table>

Source: Kufandirimbwa et al. (2013)

**1.2.2 The Zimbabwean Banking Sector**

According to the Reserve Bank of Zimbabwe Monetary Policy (RBZ) (2014), there are 21 operating banking institutions (including the Post Office Savings Bank (POSB)), following cancellation of Trust Bank operating licence on 6 December 2013.
1.3 Statement of the problem

Traditional banking services such as withdrawals, deposits, payment processing and loan issuing are now being offered through mobile money, thus, telecommunication industry, which has traditionally been a customer for the banking industry has now become their competitor. Commercial banks have always been the heart of payment systems but there seems to be a shift. The Bankers Association of Zimbabwe President for 2013-2014, George Guvamatanga pointed out that mobile money had somehow demonstrated itself as a disruptive innovation that has changed the role and definition of money in its traditional sense (Chawafambira, 2014).

As the discussion above negatively reflects on commercial banks in relation to competition originating from mobile money, the purpose of this study is to plug a knowledge gap with regard to the relationship between mobile money and disintermediation of banks.

1.4 Research objectives

The objectives of this study are to:

- Determine whether the payment processing functions have been taken away from banks by mobile money.
- Determine if the other services being offered by mobile money are of importance to the bank users and/or mobile money users.
- Examine the factors leading to mobile money disintermediating commercial banks in Zimbabwe.
- Recommend to the banks, a strategy to counter financial disintermediation resulting from the upsurge of mobile money usage.
1.5 Major research questions

- Has the payment processing function of banks decreased at the expense of mobile money?
- What are the other services being offered by mobile money which are of importance to the bank users?
- What are the factors resulting in disintermediation of commercial banks by mobile money in Zimbabwe?

1.6 Research proposition/hypothesis

H₀: Bank usage has decreased at the expense of mobile money.

H₁: Bank usage has not decreased.

1.7 Justification of research

The results of this research will enable the banks to develop new strategies on how to bring about a beneficial co-existence between the mobile money service providers and themselves. Mobile money service is a relatively new area, the findings will also enable future researchers to have more knowledge on this area. The findings will also enable the stakeholders such as the government and policy designers to come up with a solution on how to make both parties to be of benefit to one another. In some economies, mobile money has been embraced as a positive development which has the potential to jumpstart the gross domestic product. The research will also enable the regulatory authorities to harness the potential economic gains that can be derived from mobile money without disrupting the normal functions of banks.
1.8 Scope of research

The scope of the study is the area in which the research should be conducted and it includes the survey area and the study unit Saunders et al. (2009). The study investigated the disintermediation phenomenon in relation to the Zimbabwean commercial banking sector.

The period under study is 2011 to 2013, mainly because mobile money gained prominence in Zimbabwe during this period.

The study is strictly limited to the financial sector. Whilst other exogenous factors such as the socio-political landscape, liquidity and confidence on the banking sector could result in the disintermediation of the banks, the study is confined to investigating the relationship between banks use and mobile money use.

1.9 Organisation of the study

The preceding sections form part of chapter 1, with the introduction to the study, background to the study, and defining the research problem and research questions. Chapter 2 will look at the theory that informed the study and ends with a discussion on the various studies on disintermediation of commercial banks. Chapter 3 looks at the research design, research methodology, data collection methods, the sampling strategy and the data collection instruments used. Chapter 4 provides the empirical results and data analysis. This will be an analysis of how the data was analysed and synthesized. The last chapter looks at the conclusion, policy and managerial recommendations as well as areas of further research.
CHAPTER 2
LITERATURE REVIEW

2.1 Introduction

This chapter provides a critical review of the existing and pertinent literature in order to establish current knowledge of the phenomenon under study. The literature review examines the key concepts and issues that are critical in assessing the disintermediation of commercial banks arising from the adoption of mobile money in Zimbabwe. This chapter will look at literature for financial intermediation and disintermediation, and mobile money adoption elsewhere and demonstrate how far available literature answers research questions raised in this study. It also seeks to integrate concepts into a framework that will be used to structure the study so as to enable appropriate data to be collected. Furthermore, it also gives guidance to coming up with a solution to the management problem and finally an encapsulation of the chapter will be provided at the end.

2.2 Definition of the phenomenon

The section below discusses the definitions of mobile money and disintermediation.

2.2.1 Mobile money

Ernst and Young (2010) define mobile money as services that allow electronic money transactions over a mobile phone. Mobile wallet, mobile financial services, and mobile payment are some of the synonyms of mobile money according to Ernst and Young (2010). Gencer (2011) suggests that, mobile money, or mobile financial services, is the ability to access and utilize electronic financial services, or digital cash, using the mobile phone. Mobile money is “money stored using the SIM (subscriber identity module) in a mobile phone as an identifier as opposed to an account number in a conventional banking” (UNCTAD, 2012, p1). Donovan
(2012) postulates that mobile money is the provision of financial services to people using a mobile device. It is conceivable that the usage of the term mobile money is diverse in literature and that the definitions above are gadget based. In all cases, however, the mobile phone is central and mobile money works with already existing mobile telecommunications infrastructure as suggested by Jenkins (2008). Must and Ludewig (2010) highlighted that in addition to the above, subscribers add value to their mobile accounts and store it for future use (money transfer or payment for goods and services).

Tobbin (2010) makes a useful contribution by providing functionality based definition which defines mobile money as various initiatives (micro-payments, informal air-time battering schemes) aimed at bringing financial services to the unbanked using mobile technology. LIRNEasia (2010) agreed with Jenkins (2008) on the centrality of the mobile phones but differs with Tobbin (2010) by suggesting that the users may be banked or unbanked. Sivapragasam (2011) contends that mobile money services can include peer to peer (P2P) mobile money transfers, mobile or person-to-business payments for goods and services (retail and bill payments) service. This could also suggest that there is no universally accepted definition for mobile money, but what is common in all definitions is that there is cash substitution.

2.2.2 Disintermediation

Bhavet (2011, p113) asserts that disintermediation is a “move from the intermediated provision of financial services via banks to direct financial relations between borrowers and lenders”. Disintermediation is a decline in the importance of traditional banking services (Bhavet, 2011). Bhavet (2011) suggests that there are mainly two sources of disintermediation, namely deregulation and technology.

Hammer (2000) highlights that disintermediation is a myth which will not be applied in every industry. He argues that the impact of the Internet on distribution channels is that it will transform but not eliminate them. Hammer (2000) also highlights that the notion of a distribution community has replaced a distribution
chain and in the community, a group of companies that collectively create value for the customer. Mills and Camek (2004) highlight that since mid-1990s disintermediation has been used in e-commerce context and this entails removal of established physical agents in favour of decreased costs to the sellers and buyers suggesting that disintermediation introduces efficiency within the value chain. The case of mobile money can be described as technological disintermediation where customers access banking services without visiting banks.

The implied definition within the context of this study based on Gurley and Shaw (1960)’s study represents a movement away from using the traditional banks as intermediaries toward a system where financial transactions take place directly between investors and borrowers as this resonates with the definition by Bhavet (2011).

2.2.3 History of mobile money

The most visible success story of mobile money is m-Pesa. In March 2007, Vodafone in partnership with Kenyan cellular network operator, Safaricom, commercially launched m-Pesa mobile payment initiative for the Kenyan market, where 81% of the population was unbanked. It was believed that mobile financial services, provided by the mobile network operator Safaricom, who had better market penetration than banks, could reach customers who had been left out of the formal financial services system through their agent airtime top up networks - otherwise known as their human ATM system. The World Bank (2010) suggests that the initial success was arguably based on the lack of a formal regulation in favour of industry-government engagement. This demonstrates that mobile money is an African innovation which despite the promises and successes, remains a very young industry (GSMA, 2009).

Kufandirimbwa et al. (2013) highlights that mobile money is on the increase in Zimbabwe as evidenced by the increase in functionality from money transfer to
mobile payments. This however, cannot be a conclusive measure for mobile money increase as enhancing functionality could be a way of retaining or acquiring new customers. The increase in the volumes is testimony to the increase in mobile money use.

2.2.4 How mobile money works

M-money, also “a form of electronic money” refers to “services that connect consumers financially through mobile phones” (LIRNEasia, 2010, p3). According to Chibango (2014), in order to use the mobile money facility, one needs to own a SIM card with a mobile operator and must be registered for mobile money account. The agent could be sometimes a financial institution or an individual. Chibango (2014) asserts that when registered for mobile money, one attains a Personal Identification Number (PIN) code that they use to access the account. Any phone SIM card has a feature (or a chip) similar to that of a bank debit card. It is this feature that is used as an “electronic wallet” (e-wallet), for storing the information regarding any electronic transaction made. In order to convert cash into e-money (electronic money), one makes a deposit at any agent of the mobile operator. This deposit is converted into an electronic money credit and the value of this credit is stored in one’s account. At low cost, one can make any mobile transaction. Mobile money allows for a banked or unbanked mobile phone subscriber to deposit money into their mobile account, send e-float through a simple handset to another mobile phone subscriber, as well as allowing the recipient to turn that value back into cash cheaply and easily (GSMA, 2010). Dahlberg (2008) observes that mobile money services in the developing world enable users to do three things (a) store value (currency) in an account accessible via handset, (b) convert cash in and out of stored value account and (c) move stored value between accounts.

2.2.5 Mobile money and mobile banking

Mobile banking and mobile money both involve using mobile phones to deliver various financial services to customers. Mobile money services have served as a
new delivery channel to replace existing banking to the extent that some people find it worthless to pay a lot of money or travel long distances to put small amounts into an account according to Kamukama and Tumwine (2012). Within the context of this study, mobile banking remains a subset of mobile money.

2.3 Underpinning theory

This study was mainly informed by the financial intermediation theory. Guided by this theory, this study attempted to answer the questions on whether bank disintermediation by mobile money services has occurred or not.

The conventional theory which was developed in 1960 of financial intermediation suggests that it is a function of banks collecting deposits or funds from surplus units, typically households, and channelling these funds to deficit units, typically the companies and government (Gurley and Shaw, 1960). Gurley and Shaw (1960) mainly focused on banks as the only source of financial intermediation.

In the new theory of financial intermediation proposed by Diamond (1984) banks are said to play a special role in providing liquidity to depositors and financing investment projects of borrowers which capital markets would not be able to assess and monitor. This theory, which additionally acknowledges the existence of non-bank financial intermediaries (NBFIs), regards banks as the primary channel between savers and borrowers for intermediation purposes. NBFIs include insurance companies, mutual and hedge funds, finance companies, pension funds, and other investment companies. It should, however, be noted that the classification of non-banking financial institutions does not capture non-bank companies such as telecommunication companies which offer financial services. Bhavet (2011) however highlights that technological disintermediation has resulted in non-financial companies entering the financial services industry. This also means that the overall financial intermediation in the economy may not
have been reduced by technological disintermediation but there could be a shift of functions from one agent to the other.

2.3.1 Financial intermediation and the role of banks

According to literature, the following are the roles performed by the banks as they perform financial intermediation:

a. Asset Transformers

Banks purchase the primary securities (financial claims) issued by corporations and finance these purchases by selling financial claims to household investors and other sectors (lenders) in the form of insurance policies and deposits. The financial claims of banks can be considered secondary securities because these are backed by the primary securities issued by companies who in turn acquire real assets (Kaufman & Mote, 1994).

b. Delegated Monitors

Banks are delegated the task of monitoring loan contracts that they issue out. A bank has cost advantages in collecting this information centrally as opposed to a situation where there is a duplication of effort or a free-rider problem. The duplication could originate from a scenario where each lender monitors the loan contracts directly or a free-rider problem which arises where no lender monitors a loan contract (Kaufman & Mote, 1994).

c. Payment Services

Banks facilitate payments between customers by providing payment systems that directly benefit the economy. In addition to the above, banks are economically important and provide the following services which include (i) the transmission of monetary policy by acting as conduits through which central banks’ monetary policy actions impact the rest of the financial sector and the economy in general, (ii) playing a major role in credit allocation to particular sectors of the economy.
pre-identified as being in special need of financing, (iii) facilitating the transfer of wealth across generations through the management trusts and wills, (iv) making investments more accessible to individual savers, and (v) managing maturity mismatching risk which results from lending longer term loans and issuing shorter term deposits (Kaufman & Mote, 1994).

2.4 Importance of the subject

The issue of mobile money has also generated enthusiasm because “unlike conventional banking and financial services, mobile network operators (MNOs) have made huge investments to create networks that reach further and deeper into rural areas historically marginalised in an effort to satisfy their demand to communicate “(UNCTAD, 2012, p1). Jenkins (2008) suggests that mobile money provided advisory and infrastructure services to utility and insurance companies as well as banks.

The growth of mobile money could be a response to calls by the Reserve Bank of Zimbabwe to banks to develop means for “inclusive banking sector with improved outreach to the currently unbanked and under-banked sections of the population” (RBZ, 2013). Mobile-telecom operators are well-placed to provide affordable financial services because of the existing customer base, marketing capabilities, experience with high volume-low value transactions through sale of airtime and their physical communication infrastructure (Ivatury & Pickens, 2006).

2.5 Discussion of existing models/frameworks and key concepts

The key concepts and models that relate to mobile money and disintermediation of banks are discussed below:

2.5.1 Disintermediation of banks by Non-Bank Financial Institutions in United States of America
A research was conducted in the United States of America (USA) in 1994 whose purpose was to assess whether banking is a declining industry and investigated the view that banks were losing out to NBFIs that were offering traditional types of banking products more efficiently either through technological advancement or being less regulated than banks, the results of which were published in the Economic Perspectives journal. Kaufman and Mote (1994) conducted the study using data collected from banks using a raft of measures.

Kaufman and Mote (1994)’s study demonstrated that banking had not declined, in relation to the entire economy or financial services industry. Another research by Allen and Santomero (2001) revealed that the USA financial system had been altered and banks has demonstrated innovation by engaging in fee producing activities.

2.5.2 Bank disintermediation in Europe

In Europe Schmidt et al. (1997) researched disintermediation of banks in France, German and the United Kingdom. The study concluded that the French financial system is in the process of transforming itself from a bank-based to a capital market-based system. Furthermore, French banks are losing their prominence as non-bank intermediaries play an increasing role resulting in the increase of the length of the bank intermediary chain and improved profitability pressure on French banks. The Germany and the United Kingdom results demonstrate that there was neither a general trend toward disintermediation, nor a loss of importance of banks. However, the research also highlighted that there is an increase in the length of the bank intermediary chain in these two countries as well. In a traditional banking intermediation role, banks channel funds from savers to borrowers whereas lengthening of the intermediary chain refers to process where savers deposit their funds with NBFIs, which in turn are deposited at banks by the NBFIs and are then channelled to borrowers by the banks.

2.5.3 Mobile Money Ecosystem Concept
Jenkins (2008) states that mobile money ecosystems are networks of persons and organisations that should be available for mobile money to take root, flourish and increase in scale.

**Figure 2.1 Mobile Money Ecosystem**

Source: Jenkins (2008)

Kufandirimbwa et al. (2013) emphasises the use of the mobile money ecosystem by highlighting the three prevalent business models in the mobile money field which depend on the regulatory freedom provided by the regulators - mobile network operator led model, bank led model and the third party model. A combination of two or three models from those highlighted can also be adopted. Jenkins (2008) highlights that the MNO should provide infrastructure, branding, trust and the large customer base within the ecosystem, whereas banks should provide expertise and banking license, retailers and mobile money agents should...
provide physical point of presence and end-users should provide the relevant needs. The ecosystem requires a customer base that is familiar with technology for it to function. For the banks also, this results in reduced face to face contact and relationship building.

2.5.4 Kenya FinAccess survey

Table 2.1: Kenya micro-level survey- Usage of financial services provider

<table>
<thead>
<tr>
<th>Service provider</th>
<th>2006 (%)</th>
<th>2009</th>
<th>2009 (%)</th>
<th>2013 (%)</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bank</td>
<td>18.4</td>
<td>21.9</td>
<td>3,097,316</td>
<td>29.2</td>
<td>5,430,844</td>
</tr>
<tr>
<td>SACCO</td>
<td>13.5</td>
<td>9.3</td>
<td>2,274,660</td>
<td>1,465,441</td>
<td>9.1</td>
</tr>
<tr>
<td>MFI</td>
<td>1.8</td>
<td>3.5</td>
<td>296,604</td>
<td>562,820</td>
<td>3.5</td>
</tr>
<tr>
<td>Informal Group</td>
<td>33.5</td>
<td>37.0</td>
<td>5,637,549</td>
<td>5,909,718</td>
<td>27.7</td>
</tr>
<tr>
<td>MFSP</td>
<td>0.0</td>
<td>28.4</td>
<td>4,560,860</td>
<td>61.6</td>
<td>11,465,438</td>
</tr>
</tbody>
</table>

Source: Financial Sector Deepening (2013)

A survey by FSD (2013) was carried out to ascertain the delivery channels that suit various population and market segments. Table 2.1 shows that usage of mobile money grew significantly, whilst growth of bank usage has been increasing at a steady pace.

2.5.5 Philippines mobile money research

Figure 2.2 Reasons for mobile money use in Philippines
Mobile-subscriber penetration is almost 80 percent in the Philippines, banking penetration is around 35 percent, so 21 million mobile subscribers have no bank account. The unbanked makes use of informal banking channels.

2.5.6 India use of informal financial services

Figure 2.3 Reasons for use of informal means of banking in India

Source: Beshouri and Gravak (2010)
Liquidity was cited as the main reason why low income households use informal channels for banking in India (Beshouri and Gravråk, 2010). The proximity of outlets, and availability round the clock are some of the reasons why informal banking channels have been in use (Beshouri and Gravråk, 2010). Distance to the bank, repayment terms were also some of the reasons cited for avoiding using the bank.

For the research by GSM Association and Mckinsey, ethnographic testing and focus group discussions were the methodologies used to gather the data. It is also important to note that in surveys done by Beshouri and Gravråk (2010), mobile brands were more trusted than bank brands.

Pickens (2009) observes that users often keep a balance on their M-Pesa accounts, thereby using the system as a rudimentary bank account despite the fact that the system does not provide interest.

2.5.6 Mobile money services and disintermediation

Some studies have been done mainly to assess the impact of mobile money in terms of resultant change in users’ livelihood, for example, risk sharing to cope with shocks (Jack & Suri, 2011), enhanced income (Morawczynski & Pickens, 2009), especially in rural areas (Morawczynski, 2008), improved livelihood strategies (Morawczynski, 2009), perceptions of economic expansion, business environment and improvement capital accumulation (Haas, Plyer and Nagarajan, 2010), reduced risks of theft (Morawczynski, 2008), substantial cost savings for users (Ivatury & Pickens, 2006), new job opportunities (Gencer, 2011), and economic growth (World Bank, 2010). Vaughn (2007) notes that some individuals stored money in M-Pesa due to safety considerations, especially when travelling across the country. Haaset al. (2010) used ethnographic methods in three communities, and concluded that M-Pesa has facilitated expansion and growth of small businesses and improved the circulation of money in the
communities. Jack and Suri (2011) noted a quarter of M-Pesa users indicated that they use mobile money for saving money.

Karjahcoto (2002) mentions that mobile money complements banking services, such as cash books, automatic teller machine (ATMS), voice mail/land line interfaces, and internet resources, and the mobile platform offers a convenient method of managing money without handling cash.

Kamukama and Tumwine (2012) researched the relationship between mobile money growth and bank liquidity in Uganda. The research mainly did a cross-sectional study with a bias towards quantitative approach. The results of the study demonstrate that the growth of mobile money in Uganda has disadvantaged Ugandan banks.

Within the Zimbabwean context, Kufandirimbwa et al. (2013) highlight that banks were not willing to embrace mobile money, but now some have signed up as super agents for mobile money services after realising the potential in this phenomenon. Pickens (2009) postulates that significant growth in mobile commerce has disadvantaged the commercial banking sector in a way that their liquidity has been indirectly stolen.

2.6 Discussion of the key variables/dimensions

Sekaran and Bougie (2010) define a variable as “anything that can take on differing or varying values”. Sekaran and Bougie (2010) defined a dependent variable as the main variable of prime interest to the researcher. The researcher aims to analyse, investigate, quantify and measure the dependent variable and other variables that influence this variable in order to find solutions or answers to the research problem. The independent variable according to Sekaran and Bougie (2010) is also perceived as the one that influences the dependent variable in a positive or negative way.
Therefore, disintermediation of banks is the independent variable and mobile money usage is the dependent variable. As outlined previously, Van Damme (1994) indicates that banks perform their functions if the three primary functions, namely asset transformation, delegated monitoring and payment systems are being met. The researcher postulates that increase in mobile money results in a decrease in financial assets transformed by the banks, a reduction in the monitoring and screening of customers and a reduction of payment processing through the banks.

a) Asset transformation

The researcher will also look at the conversion of assets if this has been taken away by the mobile money operators at the expense of banks (Kaufman & Mote, 1994).

b) Payment services

A payment is basically the transfer of wealth or value from one individual to the other. The researcher will interrogate if payments are now being handled through mobile money instead of banks (Kaufman & Mote, 1994).

c) Delegated monitoring

Banks are delegated the task of monitoring actual borrowers and screening potential borrowers on behalf of depositors. It is important to interrogate whether this function has also not been taken away by mobile money (Kaufman & Mote, 1994).

2.6.1 Evaluation of the measures in literature

a) Asset measure
Kaufman and Mote (1994) noted that the major function of banks of accepting deposits, issuing loans and managing investments has been decreasing in the USA partly because of introduction of money market funds in the 1970s and the sharp increase in stock and bond prices.

**b) Employment**

This measure considers the employment size within an industry and can be viewed as a key indicator of the industry growth and performance. The empirical results of this metric for the USA has reflected a decline in the percentage of bank employees to that of the overall financial sector during the early 1990s, implying a decline in performance for the banking industry. This metric has shortcomings when measuring efficiency across industries (for example telecommunications and banking) but nonetheless may serve as a useful check on the accuracy of other measures.

**c) Financial performance (revenue, earnings and value-added)**

This is based on the revenue and earnings of banks and is a measure of output in the true sense, which is, being a flow measure. A research by Kaufman and Mote (1994) concluded that the measure of asset share was a true reflection of the performance of the banking.

**2.7 Literature synthesis and conceptual framework/model**

Some of the literature looks at disintermediation as a myth, whilst some acknowledge the presence of disintermediation in service provision. The literature that acknowledges the presence of disintermediation is also divided on whether banks have been disintermediated or not. It is clear that even though banks have not lost their “overall importance”, most of the literature suggests banks have been disintermediated by non-bank financial intermediaries in other economies. Chibango (2014) also posits that in the developing world, Africa in particular,
mobile money is an alternative to the lacking formal financial systems whereas it is playing a complementary role to the formal banking system in developed countries. Contemporary research suggests that banks have been disintermediated by non-bank financial institutions and informal means of banking. Mobile money is a new phenomenon, and the researcher wanted to plug the knowledge with regard to how mobile money has disadvantaged traditional banking.

The Philippines and Kenya studies formed the basis for design of questionnaires to establish usage of mobile money, reasons why the Zimbabwe could be abandoning bank use and the issues with mobile money adoption in Zimbabwe.

Given the literature on the countries above, the researcher was informed on the nature of questions for the study. The experience of other countries would be insightful to research some of the issues as they pertain to Zimbabwe.

Sekaran and Bogie (2010) make reference to the conceptual model as a description of how the concepts in the researcher’s model are structured. The conceptual model of this research is based on the financial intermediation theory. The researcher is proposing a positive relationship between mobile money use and disintermediation of banks.

2.8 Chapter summary

This chapter did a comprehensive review of literature and discussed the theory relevant to this study. The literature brought forth concepts related to mobile money and bank disintermediation and variables to focus on in the methodology chapter. The chapter then concluded with a conceptual framework. The next chapter looks at the research methodology used by the researcher to obtain the required data to address the research questions.
CHAPTER 3

RESEARCH METHODOLOGY

3.1 Introduction

This chapter describes the research methodology of this research study. It explains the research design, research approach, population, sampling selection techniques, sample selection and size, data sources, data collection instruments, data processing, data analysis procedures and presentation.

This study focused on the relationship between mobile money service and bank disintermediation within the Zimbabwean commercial banking market. The study also addressed the question on whether banks have maintained the role of provision of financial services as mobile money usage increased in the period under review.
The chapter is structured as follows: research design, research philosophy, primary research methods, the sampling strategy, data collection process, data analysis, limitations, ensuring validity and reliability, ethical considerations and the summary.

3.2 Research design

A research design is “the arrangement of conditions for collection and analysis of data in a manner that aims to combine relevance to the research purpose with economy in procedure” (Khotari, 2004, p12). The research design refers to the framework that you choose to join the different components of the research in a logical and coherent way, thereby guaranteeing that will successfully address the research problem. It constitutes the blueprint for the collection, measurement, and analysis of data. The researcher relied on the research design to deliver the evidence necessary to answer the research problem as accurately, clearly and unambiguously as possible. A comprehensive research design is the conceptual structure on which good quality research study is built. The research design can also be described as the “glue that holds the research project together” (Trochim and Donnelly, 2008, p40). Saunders et al. (2009) suggests that the research design is a plan of how a researcher will progress with regard to answering the research question(s).

This explanatory research sought to establish a relationship between variables, namely, bank disintermediation and mobile money growth and for that reason a survey was adopted. Saunders et al.(2009) suggest that data collected by means of a survey method can be used to suggest relationships between variables and produce models for these relationships. A survey enables the researcher to generate findings that are representative of the whole population at a lower cost than collecting data for the whole population (Saunders et al., 2009). Zikmund et al.(2013) confirm this, and add that surveys are a quick, efficient and accurate way of assessing information about a population.
3.3 Research philosophy

Saunders et al. (2009) suggest that there are different views about the way in which knowledge is developed. There are four research philosophies, namely, positivism, realism, interpretivism, and pragmatism (Saunders et al., 2009). The researcher adopted the positivism philosophy, which entails using factual data which is trustworthy and has been obtained through measurement. In order to prove the hypothesis that banks have been disintermediated by mobile money use, the researcher’s viewpoint is that the use of banks and mobile money can be measured and quantified, and a conclusion based on the results can be arrived at.

3.4 Research approach

Saunders et al. (2009) suggest that there are two approaches in conducting research, namely inductive and deductive. When using deductive approach, Saunders et al. (2009) highlights that you develop a theory or hypothesis and then come up with a strategy to test the hypothesis or hypotheses. The inductive approach in contrast according to Saunders et al. (2009) requires data collection and subsequently, theory formulation based on the data analysis. The deductive approach was chosen by the researcher because of the need to establish a relationship between variables namely mobile money use and disintermediation of Zimbabwean commercial banks. The approach will guide the researcher in making appropriate deductions which are in line with the research objectives.

3.5 Research methodology

Methodology can be split into two, qualitative and quantitative. This research used the quantitative methodology and cross sectional design. Ghauri and Gronhaug (2005) contend that the difference between qualitative and quantitative methodology lies in the procedure and not the quality. Zikmund et al. (2013)
define quantitative research as a research that addresses objectives of the research through empirical assessments that involve analysis, numerical approaches and measurement. Within the context of this research, quantitative methodology was adopted because it allows us “to accept or reject hypotheses in a logical and consistent manner” (Ghauri & Gronhaug, 2005, p111).

3.4 Study population

Saunders et al.(2009) define population as the full set of cases from which a sample is taken. Sekaran and Bougie (2010) define population as the entire group of events, people or things of interest for which the researcher would want to investigate and make inferences. The population of interest in this study consists of all adults in Zimbabwe. Mobile money agents, bank managers, mobile money users in Harare were target respondents in the study. Harare was chosen as the study location because it has the largest number of mobile money agents and users, but also diverse socioeconomic characteristics and distributions of mobile network operators, agents and users in the country resulting from its relatively large (2.1 million according to Zimstat(2012)) population, making it a best choice for this study. All the three mobile phone network operators have their Head Offices in Harare.

3.5 Primary data

The study made use of primary data. The researcher’s intent was to get original information from the respondents of Harare residents through questionnaires. The instrument was considered appropriate for the study because it is less costly in terms of time and it is a reliable source of quantitative data. Respondents were assured that the data collected would be treated with high levels of confidentiality and for academic purposes only.

The questionnaire in Appendix 1 was administered on for the ordinary mobile money users money and/or bankusers. The questionnaire in Appendix 2 was distributed amongst 7 commercial banks, and the financial institutions requested that their names be kept secret for the sake of the perceptions of the market and
other stakeholders. The questionnaire in Appendix 3 was distributed amongst the mobile money agents.

3.6 Sampling strategy

Trochim and Donnelly (2008) define sampling as the process of picking units from a population of interest to enable us to generalize the results to the population from which the sample was chosen. The researcher chose to use stratified random sampling in data collection also because of the cross section and differences between recipients.

According to Saunders et al. (2009), the steps to be executed are as follows:

1. Choose the stratification variable or variables.
2. Divide the sampling frame into the discrete strata.
3. Number each of the cases within each stratum with a unique number, as discussed earlier.
4. Select your sample using either simple random or systematic sampling, as discussed earlier.

The researcher executed the steps highlighted above in performing stratified sampling. The population was divided into groups of mobile money users, banks and mobile money agents. The mobile money users, banks and mobile money users were named one, two and three respectively. Random sampling was then used to select the samples from the three groups.

3.6.1 Unit of analysis

Trochim and Donnelly (2008) define the unit of analysis as the major entity that you are analysing in your study. The unit of analysis is “the level of aggregation of the data collected during the data analysis stage” (Sekaran and Bougie, 2010, p125). The research mainly focused on the banks disintermediation due to
mobile money growth. In this regard, intermediaries within the mobile money ecosystem become the unit of analysis for this research.

### 3.6.2 Sampling techniques

The research followed a stratified random sampling technique. Trochim and Donnelly (2008) argue that this sampling method assures the researcher that the key subgroups of the population will be represented. In addition to that, stratified sampling can result in “a higher precision with the same sample size or, alternatively, the same precision with a smaller sample” (Ghauri and Gronhaug, 2005, p151). The reason for that is the potential reduction of the standard error of estimates Ghauri and Gronhaug (2005). Within the context of this research, the mobile money agents represent a key subgroup and bank managers represent another key subgroup. Trochim and Donnelly (2008) further argue that stratified random sampling offers greater precision than simple random sampling. The advantages of using stratified random sampling are accuracy, ease of access, low cost and better comparison across strata (Saunders, 2009).

### 3.7 Data collection process

Primary data which is described by Ghauri (2005) as data collected by the researcher relevant to the particular study, was collected for the purposes of addressing the research problem at hand.

#### 3.7.1 Primary research methods

The instruments used were questionnaires. “A questionnaire is a pre-formulated written set of questions to which respondents record their answers, usually within their rather closely defined alternatives” (Sekaran and Bougie, 2010, p196). Questionnaires were pilot tested and eventually administered on a sample of the adult Zimbabwe population, bank managers and mobile money agents to gauge effectiveness of the methodology. The questions in the questionnaire were
standardised and were both open ended and close-ended. The focus was on assessing the disintermediation of commercial banks by mobile money.

3.8 Data analysis

The data collected were edited, classified and coded so as to make it ready for analysis. Thereafter, descriptive and inferential statistics tests were performed to establish population characteristics and the level of association between predictor and criterion variables studied.

The researcher used Cronbach’s Alpha to test reliability of the results. In addition to that, the researcher adopted Chi-Squared test to test hypotheses and Cramer’s V to test the strength of relationships.

Operational measures for this research study were obtained from measurement items by highlighted by van Damme (2008) regarding the roles of the banks and amendments were made to match the research setting. This was necessary because a comparison was being drawn between banks and mobile network operators, which exist in different industries. One of the measures which was dropped was the management of risk of maturity mismatching which exists in banking but does not exist in mobile network operators’ space. The study formed measures or scales developed and pre-tested by the researcher, based on theory. The researcher had to go through a process of collection, editing and coding the data, then subsequently data analysis.

3.9 Limitations

The response rate was affected by the fact that the research was done when some of the banks were preparing for audit and the researcher encountered a situation whereby they had to reschedule some of the interviews to days that the participants were free, disrupting the data collection schedule. Some of the mobile money agents expected a monetary benefit following their participation through filling in a questionnaire. The researcher explained about the benefits
which are not monetary that the research can bring about. Not all the information could also be available to the researcher from the mobile money agents because of the confidentiality agreements between themselves and the mobile network operator. The researcher however was able to perform an analysis on the data that was made available by some of the mobile money agents.

3.10 Ensuring validity and reliability

The data collection instruments was pretested to ensure reliability of the study. Reliability tests were also done in SPPS to see if the data had internal consistency, with the results presented in the next chapter, Cronbach’s alpha, and Crammer’s V was used for this purpose.

In this study, the researcher measured construct validity and content validity to ensure that the data collected using the questionnaire should honestly and accurately represent theoretical constructs studied. An instrument is said to be valid if it actually measures what it is supposed to measure (Saunders et al., 2009).

As a rule of thumb, a sample size of 30 participants is used as the minimum sample size for quantitative studies (Saunders et al., 2009). In line with this, the researcher had a sample of 200 participants.

3.11 Ethical considerations

The observation of ethical issues was key to this research. The principles of research ethics as postulated in the Belmont Report (1979) were also adopted for this research. All the potential and actual research participants were treated as autonomous agents and were asked for their consent prior to the research process. Care was taken to ensure that they would be no psychological, social risks and harm resulting from the research whilst maximising the benefits that accrue to the research participants due to the research and to this end care was taken to ensure that research participants’ well-being was not compromised. The
researcher explained to the participants that the research will not have immediate financial benefits but some other benefits may accrue as a result of this study. The researcher clearly explained the purpose of the study to the respondents and remained objective whilst carrying out the study.

3.12 Summary

This chapter on research methodology explored the philosophy, strategy, and methods employed in conducting the research. The researcher considered the background to the problem in which banks had their traditional roles being taken over by other institutions; the researcher had put across a number of research objectives to determine whether banks have been disintermediated by mobile money. This chapter pointed out that there are numerous approaches to the research process and that there is no single right method for undertaking research. The next chapter presents the research findings and conclusion to be drawn from them.

CHAPTER 4
DATA ANALYSIS AND FINDINGS

4.1 Introduction

This chapter provides research findings, presentation and analysis of data relating to the study on mobile money use and the disintermediation of banks. The findings were analysed in terms of how they related to the objectives of the study. The data was presented based on the questionnaires that were completed by the respondents.

4.2 Response rate
In order to establish the response rate, the following table was generated.

### Table 4.1: Gender, age and response rates for client respondents

<table>
<thead>
<tr>
<th>Gender</th>
<th>Age (Years)</th>
<th>Targeted respondents</th>
<th>Response rate</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>21-29</td>
<td>30-39</td>
<td>40-49</td>
</tr>
<tr>
<td>Male</td>
<td>24</td>
<td>18</td>
<td>22</td>
</tr>
<tr>
<td>Female</td>
<td>45</td>
<td>7</td>
<td>6</td>
</tr>
<tr>
<td>Total</td>
<td>69</td>
<td>25</td>
<td>28</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Targeted respondents</th>
<th>Response rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>80</td>
<td>76.7%</td>
</tr>
<tr>
<td>40</td>
<td>62.5%</td>
</tr>
<tr>
<td>40</td>
<td>70.0%</td>
</tr>
<tr>
<td>20</td>
<td>55.0%</td>
</tr>
<tr>
<td>20</td>
<td>75.5%</td>
</tr>
<tr>
<td>200</td>
<td>74.0%</td>
</tr>
</tbody>
</table>

Source: Primary data, 2014

There was an overall 74.0% response rate, with a total targeted 200 respondents, the researcher obtained 148 responses. Generally, the response rate was higher due to the accessibility and availability of both the mobile money and traditional banking clients. The highest response rate (76.7%) was of the age group 21 – 29 years, with the lowest response (55.0%) of the 50-59 year olds age group. The female (78.0%) response rate was higher than (70.0%) of their male counterparts. The younger respondents (20-29 years) are also the majority of the mobile money banking clients due to a technological gap with their older counterparts in the range of 50-59 years (55.0%). The difference between the female respondents and their male counterparts is not significant, therefore, questionnaire response was not gender biased.

In order to establish the statistics of the bank workers who participated in this research, the following table was compiled.

### Table 4.2: Position in bank, duration with bank, and response rate of bank respondents
The response rate (81.3%) of the bank employees was high. However, the management response rate (92.0%) was the highest, maybe this was due to the fact that the managers appreciated the importance of the study and how it could have been a solution to the challenges they were encountering and could be of help to strategic planning. There was a 100% response rate to the (0 - 6months) recently employed, and this may be due to the fact that these are some of the employees who are technological biased and banks are deliberately recruiting employees with knowledge of computers to keep pace with the technological developments.

The service providers of the mobile money users who participated in this research are also presented in the table below.

**Table 4.3 Service provider, duration with the provider, and response rates**
The overall response rate was 56.7%, which is the lowest comparing with the other two sets of respondents (bank employees and clients), and this might be due to the fact that confidentiality policies have been signed between an MNO and mobile money agent. However, those employees with a duration of 6 – 12 months were the highest with 75.0%, maybe it is due to the fact that there were recently employed and were keen to add to the body of knowledge in this ever technologically advancing world.

4.3 Demographics

The demographics for the respondents were presented in the section below.

Table 4.4: Respondents’ educational level and livelihood demographics
<table>
<thead>
<tr>
<th>Source of livelihood</th>
<th>Self employed</th>
<th>Employee</th>
<th>Unemployed</th>
<th>Total</th>
<th>% Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level of education</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>O Level</td>
<td>13</td>
<td>7</td>
<td>3</td>
<td>23</td>
<td>15.5%</td>
</tr>
<tr>
<td>A Level</td>
<td>3</td>
<td>4</td>
<td>7</td>
<td>14</td>
<td>9.5%</td>
</tr>
<tr>
<td>Tertiary</td>
<td>7</td>
<td>28</td>
<td>48</td>
<td>83</td>
<td>56.1%</td>
</tr>
<tr>
<td>Other</td>
<td>14</td>
<td>10</td>
<td>4</td>
<td>28</td>
<td>18.9%</td>
</tr>
<tr>
<td>Total</td>
<td>37</td>
<td>49</td>
<td>62</td>
<td>148</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

Source: Primary data, 2014

Most (56.1%) of the respondents have tertiary qualifications, 9.5% have advanced level qualifications and 15.5% have ordinary level qualifications. Most of the respondents with high school qualifications are not usually formally employed and do not have banking accounts.

4.4 Reliability tests

The reliability tests and results relating to our research questions are presented below.

4.4.1 Research objective 1: Determine whether the payment processing functions have increased for mobile money over banks.

Table 4.5: Reliability test statistics for the questions on whether the payment processing functions have increased for mobile money over banks

<table>
<thead>
<tr>
<th>Reliability Statistics</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Cronbachs Alpha</td>
<td>0.784</td>
<td>N of Items 8</td>
</tr>
</tbody>
</table>
Source: Primary data, 2014

SPSS was used for the reliability test. Cronbachs Alpha = 0.784 was obtained through computation and it falls in the acceptable range of 0.7 to 0.9 (Field, 2006). This means that the eight questions asked on whether the payment processing functions have increased for mobile money over banks were reliable. Reliability is used to measure an instrument’s consistency. An instrument is not valid unless it is reliable and is closely related to its validity (Tavakol&Dennick, 2011). This means that if the same set of questions is used on a different sample, the same set of results will be found.

The table below shows that 44.8% of employees use the bank for payment methods, 16.2 % use mobile money for payments, with 52.0% using both. This might be attributed to the fact that most employees will need conventional bank accounts for salary processing, orders for settling credits and repayments and also money transfers for making payments for example school fees. This supported by Morawczynski (2009) who argues that clients look for convenience, affordability and reliable when it comes to financial services. However, there is a total of 68.2% who use mobile money. This might be due to the fact of the ease of access to the mobile money agents.

<table>
<thead>
<tr>
<th>Livelihood</th>
<th>Self employed</th>
<th>Count</th>
<th>Percentage within livelihood</th>
<th>Payment method</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Bank</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>7</td>
</tr>
<tr>
<td>Self</td>
<td>employed</td>
<td>18.9%</td>
<td></td>
<td>51.4%</td>
</tr>
</tbody>
</table>

Table 4.6 Payment method vs. source of livelihood cross-tabulation method
<table>
<thead>
<tr>
<th></th>
<th>Percentage within pay method</th>
<th>24.1%</th>
<th>27.9%</th>
<th>22.9%</th>
<th>0.0%</th>
<th>25.0%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Count</td>
<td>13</td>
<td>11</td>
<td>25</td>
<td>0</td>
<td>49</td>
</tr>
<tr>
<td></td>
<td>Percentage within livelihood</td>
<td>26.5%</td>
<td>22.4%</td>
<td>51.0%</td>
<td>0.0%</td>
<td>100.0%</td>
</tr>
<tr>
<td></td>
<td>Percentage within pay method</td>
<td>44.8%</td>
<td>16.2%</td>
<td>52.1%</td>
<td>0.0%</td>
<td>33.1%</td>
</tr>
<tr>
<td>Employee</td>
<td>Count</td>
<td>9</td>
<td>38</td>
<td>12</td>
<td>3</td>
<td>62</td>
</tr>
<tr>
<td></td>
<td>Percentage within livelihood</td>
<td>14.5%</td>
<td>61.3%</td>
<td>19.4%</td>
<td>4.8%</td>
<td>100.0%</td>
</tr>
<tr>
<td></td>
<td>Percentage within pay method</td>
<td>31.0%</td>
<td>55.9%</td>
<td>25.0%</td>
<td>100.0%</td>
<td>41.9%</td>
</tr>
<tr>
<td>Unemployed</td>
<td>Count</td>
<td>29</td>
<td>68</td>
<td>48</td>
<td>3</td>
<td>148</td>
</tr>
<tr>
<td></td>
<td>Percentage within livelihood</td>
<td>19.6%</td>
<td>45.9%</td>
<td>32.4%</td>
<td>2.0%</td>
<td>100.0%</td>
</tr>
<tr>
<td></td>
<td>Percentage within pay method</td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

Source: Primary data, 2014

**Figure 4.1: Frequency of preferred payment method**
Source: Primary data, 2014

Table 4.7: Payment method vs. source of livelihood Cramers’ V and Chi-Square test

<table>
<thead>
<tr>
<th></th>
<th>Value</th>
<th>Df</th>
<th>Asymp. Sig. (2-sided)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Chi-Square</td>
<td>24.062a</td>
<td>6</td>
<td>0.001</td>
</tr>
<tr>
<td>Cramer’s V</td>
<td>0.285</td>
<td></td>
<td>0.001</td>
</tr>
</tbody>
</table>

Source: Primary data, 2014

Using the Chi-Square, a p-value was obtained 0.001 which is less than the 0.05 required, therefore, the tests suggest that there was a relationship between payment method and source of livelihood. The Cramers’ V obtained was 0.285,
which is closer to 0 than 1, implying that the relationship between the two variables is weak and therefore the source of livelihood determined the method of payment to a less extent.

Table 4.8: Service operator vs. mobile money usage cross-tabulation

<table>
<thead>
<tr>
<th>Service operator</th>
<th>Mobile money usage</th>
<th>Daily</th>
<th>Weekly</th>
<th>Monthly</th>
<th>Occasionally</th>
<th>N/A</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Econet</td>
<td>Count</td>
<td>0</td>
<td>19</td>
<td>22</td>
<td>9</td>
<td>2</td>
<td>52</td>
</tr>
<tr>
<td></td>
<td>% within</td>
<td>0.0%</td>
<td>36.5%</td>
<td>42.3%</td>
<td>17.3%</td>
<td>3.8%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Telecel</td>
<td>Count</td>
<td>8</td>
<td>18</td>
<td>7</td>
<td>3</td>
<td>0</td>
<td>36</td>
</tr>
<tr>
<td></td>
<td>% within</td>
<td>22.2%</td>
<td>50.0%</td>
<td>19.4%</td>
<td>8.3%</td>
<td>0.0%</td>
<td>100.0%</td>
</tr>
<tr>
<td>NetOne</td>
<td>Count</td>
<td>0</td>
<td>0</td>
<td>4</td>
<td>9</td>
<td>0</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td>% within</td>
<td>0.0%</td>
<td>.0%</td>
<td>30.8%</td>
<td>69.2%</td>
<td>0.0%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Econet &amp; Telecel</td>
<td>Count</td>
<td>0</td>
<td>4</td>
<td>5</td>
<td>10</td>
<td>18</td>
<td>37</td>
</tr>
<tr>
<td></td>
<td>% within</td>
<td>0.0%</td>
<td>10.8%</td>
<td>13.5%</td>
<td>27.0%</td>
<td>48.6%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Telecel &amp; NetOne</td>
<td>Count</td>
<td>0</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>% within</td>
<td>0.0%</td>
<td>100.0%</td>
<td>.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>100.0%</td>
</tr>
<tr>
<td>All</td>
<td>Count</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>% within</td>
<td>0.0%</td>
<td>50.0%</td>
<td>0.0%</td>
<td>50.0%</td>
<td>0.0%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Total</td>
<td>Count</td>
<td>8</td>
<td>48</td>
<td>38</td>
<td>34</td>
<td>20</td>
<td>148</td>
</tr>
<tr>
<td></td>
<td>% within</td>
<td>5.4%</td>
<td>32.4%</td>
<td>25.7%</td>
<td>23.0%</td>
<td>13.5%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

Source: Primary data, 2014

From the findings, 32.4% use the mobile money weekly, 25.7% use mobile money on a monthly basis, and 23.0% use it occasionally. Only a small percentage (5.4%) used it on a daily basis, and 13.5% said the question was non-applicable. This shows that the general populace have embraced the mobile money services and now use it for money transfers monthly probably for payments such as rent, remittances to the village and making payments to utilities. As shown in the table above, 42.3% of the Econet users use mobile money on a monthly basis, whilst 50% of the Telecel users use it on a weekly basis.
basis, whilst 69.2% of the NetOne users use their mobile money service occasionally. The low uptake on NetOne could be attributed to the requirement for SIM swap (Kufandirimbwa et al., 2013).

**Figure 4.2: Frequency of mobile money use**

![Bar chart showing frequency of mobile money use](image)

Source: Primary data, 2014

**Table 4.9 Service provider vs. mobile money usage and Chi-Square test**

<table>
<thead>
<tr>
<th></th>
<th>Value</th>
<th>Df</th>
<th>Asymp. Sig. (2-sided)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Chi-Square</td>
<td>1.200E2*</td>
<td>20</td>
<td>0.000</td>
</tr>
<tr>
<td>Cramer’s V</td>
<td>0.450</td>
<td></td>
<td>0.000</td>
</tr>
</tbody>
</table>

Source: Primary data, 2014

H₀: There is a no relationship between service provider and mobile money usage
H₁: There is a relationship between service provider and mobile money usage.
The Chi-square, p-value obtained was 0.000, which is less than 0.05, therefore the null hypothesis was rejected implying that there is a relationship between service provider and mobile money usage. The Cramer’s V = 0.450, therefore the relationship is fairly strong, and we can deduce that the rate of mobile usage is to some extent dependent on the service provider. The smaller Telecel clientele have a higher frequency in usage than the NetOne and the bigger Econet clientele probably because of Telecel’s aggressive marketing efforts.

**Table 4.10: Duration with the bank vs. increase in use cross-tabulation**

<table>
<thead>
<tr>
<th>Duration with provider</th>
<th>Increase in use</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
<td>No</td>
<td></td>
<td>Total</td>
</tr>
<tr>
<td>0-6 months</td>
<td>7</td>
<td>0</td>
<td></td>
<td>7</td>
</tr>
<tr>
<td>6-12 months</td>
<td>15</td>
<td>0</td>
<td></td>
<td>15</td>
</tr>
<tr>
<td>1-3yrs</td>
<td>11</td>
<td>0</td>
<td></td>
<td>11</td>
</tr>
<tr>
<td>3yrs +</td>
<td>1</td>
<td>0</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>34</td>
<td>0</td>
<td></td>
<td>34</td>
</tr>
</tbody>
</table>

Source: Primary data, 2014

There was generally an increase in use of the mobile money and this was not necessarily with regard to the duration the client has been with the mobile money provider. This increasing usage might also resemble the displacement of the functions of the conventional banking institutions.

**Figure 4.3: Increase of mobile money use vs bank**
The graph above shows that 34.5% of the respondents highlighted that the impact of mobile money use has been minimal on their use of their bank, 26.4% of the respondents say that the impact of mobile money usage has been of a high impact to their use of the conventional banks. From a scale of 1 to 10, there are two extremes, the first one having noting a low impact of mobile money on their bank usage, with the other really abandoning their traditional banks. The latter might be former bank clientele who used that bank for transactional process only, that is, sending money and paying bills. On the other side there is another group who used banks for savings and loans, and might not have found the introduction of mobile money having an impact on their relationship with their traditional banks. Some could be viewing mobile money as being too expensive Levin (2013).

Figure 4.4: Duration with provider
The graph shows the duration with which the clients have been with the mobile money service provider. This shows that the majority (28.4%) have been using mobile money for 6 to 12 months, (25.0%) in the 0 to 6 months have less than a year. This shows the increasing subscription base of the mobile money provider. However, those with more than a year (18.2%) 1-2 years, (12.2%) 2-3 were early movers. This graph shows the steady increase in the popularity of mobile money usage.

4.4.2 Research objective 2: Determine the other services being offered by mobile money of importance to the bank users
Table 4.11: The Reliability test statistics for questions on other services being offered by mobile money of importance to the bank users

<table>
<thead>
<tr>
<th>Cronbachs Alpha</th>
<th>N of Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.811</td>
<td>8</td>
</tr>
</tbody>
</table>

Source: Primary data, 2014

SPSS was used for the reliability tests and the Cronbach’s Alpha of 0.811 was obtained, which falls in the acceptable range of 0.7 to 0.9, which meant that the eight questions on other services being offered by mobile money of importance to the bank users are reliable.

Table 4.12: A cross-tabulation of livelihood vs. borrowing from mobile money

<table>
<thead>
<tr>
<th>Have you used mobile money to borrow in the last 6 months</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>yes</td>
</tr>
<tr>
<td>Livelihood</td>
<td></td>
</tr>
<tr>
<td>Self employed</td>
<td></td>
</tr>
<tr>
<td>Count</td>
<td>12</td>
</tr>
<tr>
<td>Percentage within livelihood</td>
<td>32.4%</td>
</tr>
<tr>
<td>Employee</td>
<td></td>
</tr>
<tr>
<td>Count</td>
<td>15</td>
</tr>
<tr>
<td>Percentage within livelihood</td>
<td>30.6%</td>
</tr>
<tr>
<td>Unemployed</td>
<td></td>
</tr>
<tr>
<td>Count</td>
<td>21</td>
</tr>
<tr>
<td>Percentage within livelihood</td>
<td>33.9%</td>
</tr>
<tr>
<td>Total</td>
<td></td>
</tr>
<tr>
<td>Count</td>
<td>48</td>
</tr>
<tr>
<td>Percentage within livelihood</td>
<td>32.4%</td>
</tr>
</tbody>
</table>

Source: Primary data, 2014
The majority (67.6%) of clients have not used the mobile money to borrow, whilst 32.4% have used it to borrow. The highest percentage comes from the unemployed of which 33.9% of then has used this facility to borrow followed by the self-employed with 32.4%. This shows how the employees who are now perceived as better risk have other opportunities to borrow, and can borrow from banks. Those who are unemployed and the self-employed may be having restricted choices for borrowing and now can use the mobile money facility for borrowing.

**Table 4.13: Chi-Square Test for relationship between source of livelihood and borrowing money from mobile money**

<table>
<thead>
<tr>
<th>Chi-Square Tests</th>
<th>Value</th>
<th>Df</th>
<th>Asymp. Sig. (2-sided)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Chi-Square</td>
<td>0.133a</td>
<td>2</td>
<td>0.936</td>
</tr>
<tr>
<td>Cramer’s V</td>
<td>0.030</td>
<td></td>
<td>0.936</td>
</tr>
</tbody>
</table>

Source: Primary data, 2014

H₀: There is a no relationship between source of livelihood and borrowing money from mobile money.

H₁: There is a relationship between source of livelihood and borrowing money from mobile money.

The Chi-Square, p-value of 0.936 was obtained. Since the p-value is greater than 0.05, the null hypothesis was not rejected and this implies that there is no relationship between source of livelihood and borrowing money from mobile money. The Cramer’s V = 0.030, this reinforces the fact that there is no relationship and that whatever the source of livelihood a person has, it has no bearing on whether they borrow money from a mobile money facility.
Table 4.14: Bank account and mobile money savings

<table>
<thead>
<tr>
<th>Do you have a bank account?</th>
<th>Yes</th>
<th>Count</th>
<th>% within bank account</th>
<th>Yes</th>
<th>No</th>
<th>% within savings account</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>46</td>
<td>53</td>
<td>46.5%</td>
<td>99</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>53</td>
<td>48</td>
<td>53.5%</td>
<td></td>
</tr>
<tr>
<td>% within savings account</td>
<td></td>
<td></td>
<td></td>
<td>56.8%</td>
<td>79.1%</td>
<td>66.9%</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>35</td>
<td></td>
<td></td>
<td>71.4%</td>
<td>28.6%</td>
<td>100.0%</td>
<td></td>
</tr>
<tr>
<td>% within bank account</td>
<td></td>
<td></td>
<td></td>
<td>43.2%</td>
<td>20.9%</td>
<td>33.1%</td>
<td></td>
</tr>
<tr>
<td>% within savings account</td>
<td>43.2%</td>
<td>20.9%</td>
<td>33.1%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>81</td>
<td>67</td>
<td>148</td>
<td>54.7%</td>
<td>45.3%</td>
<td>100.0%</td>
<td></td>
</tr>
<tr>
<td>% within bank account</td>
<td></td>
<td></td>
<td></td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
<td></td>
</tr>
<tr>
<td>% within savings account</td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Primary data, 2014

The table above shows that 46.5% of the clients have both bank accounts and also mobile money savings, and 54.7% have mobile money savings account. This shows that most clients have mobile money accounts and using them, but the majority (56.8%) of them still have their bank accounts. This shows that the majority of the people who have adopted the mobile money savings account have not abandoned their traditional banks.
Figure 4.5: Frequency of mobile savings account holders

![Bar chart showing frequency of mobile savings account holders]

Source: Primary data, 2014

Table 4.15: Pearson Chi-Square and Phi for testing relationship between being a bank account holder and mobile money savings account holder

<table>
<thead>
<tr>
<th></th>
<th>Value</th>
<th>Df</th>
<th>Asymp. Sig. (2-sided)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Chi-Square</td>
<td>8.244a</td>
<td>1</td>
<td>0.004</td>
</tr>
<tr>
<td>Phi</td>
<td>0.236</td>
<td></td>
<td>0.004</td>
</tr>
</tbody>
</table>

Source: Primary data, 2014

The Chi-Square, p-value obtained was 0.004 which is less than 0.05. The tests show that there is a relationship between bank account and having mobile money saving account. However, Phi = 0.236, shows that the relationship is weak. This shows that having a bank account has a bearing on the decision of borrowing mobile money. Those with bank accounts could be borrowingless from mobile money service than those without bank accounts.
Table 4.16: Cross tabulation between having a bank account and mobile money use

<table>
<thead>
<tr>
<th>Do you have a bank account</th>
<th>Have you used mobile money to borrow in the last 6 months</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Yes</td>
<td>Count</td>
<td></td>
</tr>
<tr>
<td></td>
<td>20</td>
<td>79</td>
</tr>
<tr>
<td></td>
<td>20.2%</td>
<td>79.8%</td>
</tr>
<tr>
<td></td>
<td>% within bank account</td>
<td>% within used to borrow</td>
</tr>
<tr>
<td></td>
<td>41.7%</td>
<td>79.0%</td>
</tr>
<tr>
<td>No</td>
<td>Count</td>
<td></td>
</tr>
<tr>
<td></td>
<td>28</td>
<td>21</td>
</tr>
<tr>
<td></td>
<td>57.1%</td>
<td>42.9%</td>
</tr>
<tr>
<td></td>
<td>% within bank account</td>
<td>% within used to borrow</td>
</tr>
<tr>
<td></td>
<td>58.3%</td>
<td>21.0%</td>
</tr>
<tr>
<td>Total</td>
<td>Count</td>
<td></td>
</tr>
<tr>
<td></td>
<td>48</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>% within bank account</td>
<td></td>
</tr>
<tr>
<td></td>
<td>32.4%</td>
<td>67.6%</td>
</tr>
</tbody>
</table>

Source: Primary data, 2014

From the table above, 20.2% of those who have a bank accounts have borrowed using mobile money service in the last 6 months, and there are 51.7% who do not have a bank account but have borrowed from mobile money service in the past 6 months. This shows that those without bank accounts are borrowing using mobile money services, while the majority (79.8%) of those with bank accounts are not borrowing from mobile money facility.
Figure 4.6: Frequency on borrowing and lending functions on mobile money

Does your mobile service provide have lending and borrowing functions on mobile money?

![Bar chart showing frequency of respondents]

Source: Primary data, 2014

Most of the respondents (38.5%) agreed with the assertion that their mobile money provider had lending and borrowing functions, 30.4% are said their mobile money provider does not have lending functions, whilst 31.1% do not have knowledge of the lending and borrowing function in mobile money. This could be because the function for borrowing was recently introduced by the mobile money providers.

Table 4.17: Pearson Chi-Square and Cramer’s V for testing relationship between having a bank account and borrowing using mobile money in the last 6 months

<table>
<thead>
<tr>
<th></th>
<th>Value</th>
<th>Df</th>
<th>Asymp. Sig. (2-sided)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Chi-Square</td>
<td>20.411&lt;sup&gt;a&lt;/sup&gt;</td>
<td>1</td>
<td>0.000</td>
</tr>
</tbody>
</table>
The Chi-Square, p-value = 0.000 is less than 0.05. The tests indicate that there is a relationship between having a bank account and borrowing mobile money in the last 6 months. However, the Phi of 0.371 shows that the relationship is not very strong. Having a bank account has a small bearing on having a mobile money savings account. This means that if a client have a bank account, it affects the decision of having a mobile money savings account. This could be because those who use bank accounts may not see the need for a mobile money savings account.

**Figure 4.7: Frequency of mobile banking services at user’s bank**

Source: Primary data, 2014
The graph above shows that 50.7% of the respondents are aware that their banks have mobile banking services, and 35.8% of the respondents do not have mobile banking services at their banks, whilst 13.5% are not sure. This shows why most of those clients with bank accounts do not use mobile money as much as those without bank accounts.

**Figure 4.8: Frequency of withdrawals using mobile money**

The graph above shows that 69.6% of the respondents perform withdrawals using mobile money, and this shows that the majority of the clients are withdrawing mobile money that may be sent to them by individuals or corporates.

Source: Primary data, 2014
A very small percentage (5.4%) receives their salary through the mobile money facility. This shows that the majority of the clients are still receiving salaries through their banks.

4.4.3 Research objective 3: Examine the factors leading to mobile money dominating over banks in Zimbabwe

Table 4.18: The Reliability test statistics for questions on other services being offered by mobile money of importance to the bank users
Cronbachs Alpha | N of Items
--- | ---
0.821 | 8

Source: Primary data, 2014

SPSS was used for the reliability test and the Cronbachs Alpha = 0.821, which falls in the acceptable range of 0.7 to 0.9, which means that the eight questions on other services being offered by mobile money of importance to the bank users reliably answer the question above are reliable.

Figure 4.10: Frequency of clients who use mobile money because of low value transactions

Source: Primary data, 2014
The graph above shows that 70.9% of the respondents strongly agree and 8.8% agree that they use mobile money because it allows them to post low value transactions. This shows that most of the clients are only using mobile money for transactional purposes only.

**Figure 4.11: Users have not shifted their focus away from banks**

The table above shows that 38.5% of the respondents disagree that they not shifted their focus away from banks, and 43.1% are neutral whilst 16.9% strongly agree that they have shifted not their focus from banks. This shows that there is a big percentage who are now making use of mobile money instead of traditional banking whilst the 43.1%of the respondents are neutral, and could be making their assessments and still deciding.

Source: Primary data, 2014
Most of the respondents (73%) strongly agree that they use mobile money because they can access funds anytime anywhere, 12.2% strongly disagree. This shows that mobile money has become popular because of convenience. The proximity of outlets, and availability round the clock are some of the reasons why informal banking channels and mobile money have become popular (Beshouri and Gravråk, 2010).
Figure 4.13: Young customers prefer use of mobile money compared to older customers

Source: Primary data, 2014

Most of the clients agree that younger customers prefer use of mobile money compared to the older customers. This is also supported by the higher frequencies of the young people who use mobile money. This could be attributed to the digital divide, where the younger people are quick to embrace technology whilst the older population have reservations in adopting technology.

4.5 Conclusion

In conclusion, the chapter presented and analysed data obtained through questionnaires. Reliability tests were carried out, and statistics relating to the demographics of the respondents were also compiled and presented. In addition to that, statistics were also presented in graphical and tabular format, to help answer our research questions. The reason why users prefer mobile money to banks were also identified. The next chapter will discuss the findings and come up with recommendations to the issues that have come up.
CHAPTER 5
CONCLUSIONS, RECOMMENDATIONS AND AREAS FOR FURTHER RESEARCH

5.1 Introduction

This chapter presents the managerial and policy recommendations from the research and areas of further research. In addition to that, the chapter will look at the discussion of the main argument as well as theoretical contribution of this research.

The findings of the survey suggest a disintermediation relating to payments and lending has happened through the use of mobile money, the other functions remain with the commercial banks. However, mobile money also exploited a market that was untapped which did not belong to the banks.

5.2 Discussion

The research has confirmed that mobile money is now a substitute to bank use for some users, especially those who require payment processing. This is also supported by Kamukama and Tumwine (2012), who postulate that mobile money offers the new services to move money from place to place and are an alternative to the payment systems offered by remittance firms, banks, pawn shops, banks and others. Cost of transactions and convenience have led to a departure from the formal banking model. World Bank (2010) also supports this by highlighting that a couple of people who lacked access to formal banking services are finding their home in convenient cheaper financial services that are being provided by mobile money.
5.3 Answers to research questions

5.3.1 Has the payment processing function of banks decreased at the expense of mobile money?

A total of 68.2% use mobile money for payment processing whereas 44.8% use banks for payment processing. This represents a departure from the bank in terms of payment processing by the bank clients and mobile money users. The payment processing functions have indeed decreased at the expense of mobile money. The conclusion that can be drawn is that payment processing has shifted from the banks to mobile money.

5.3.2 What are the other services being offered by mobile money which are of importance to the bank users?

The majority 67.6% of clients have not used the mobile money to borrow, whilst 32.4% have used it to borrow at some point. The highest percentage of those who borrowed using mobile money comes from the unemployed of which 33.9% of them has used this facility to borrow. In the traditional banking, the unemployed would be regarded as high risk clients and hence they may not be allowed a chance to borrow. Some users, however, may delay adopting EcoCash because it could be expensive for them (Levin, 2013).

5.3.3 What are the factors leading to mobile money disintermediating banks in Zimbabwe?

Mobile money has allowed the general populace to transact even with lower value, with 70.9% strongly agreeing that they use mobile money for that purpose. Mobile money also has also allowed the clients to access their money, anywhere anytime as compared to the traditional banking method. The clients can cash in
or cash out at any mobile money agent anytime without the need for going through a winding process. The other factor has been the cost of transacting. Ivatury and Pickens (2006) highlight that the mobile network operators are able to provide safe and convenient services because of their existing customer base and their experience with low-value transactions. The conclusion to be drawn from the discussion is that mobile money has gained popularity because of the cost, convenience and flexibility of accommodating low value transactions.

5.4 Discussion of the main argument

The main argument stated that mobile money use has resulted in disintermediation of Zimbabwean commercial banks. The researcher used functions defined by Van Damme (1994) as the main functions of banksnamely, delegated monitoring, asset transformation, and payment services as a yardstick. The idea was to determine if mobile money has taken over the banks’ functions. The researcher then noted that mobile money had a relatively bigger footprint in payment processing for the period being researched, and that mobile money was gradually introducing savings accounts and small loans which would fall under asset transformation. The study has shown that some of the respondents have now started using such products, suggesting that banks have been disintermediated. This also mirrors the Uganda experience where Kamukama and Tumwine (2012) studied the relationship between mobile money use and the threat to commercial banks with regard to liquidity, which in turn affects financial intermediation. The results of the study by Kamukama and Tumwine (2012) concluded that there was a negative relationship between mobile money use and banks’ liquidity position.

5.5 Theoretical contribution
The research sought to test the hypothesis stated that Zimbabwean commercial banks have been disintermediated by mobile money use. This was of significance to the researcher because most of the studies focused on disintermediation of banks by non-bank financial intermediaries. Most of the literature on mobile money and banks focused on the East African community (Kenya, Tanzania and Uganda). Mobile money is a relatively new phenomenon within the Zimbabwean context. This study has concluded that the Zimbabwean population is gradually adopting mobile money for payment processing and savings resulting in banks being disadvantaged. The researcher then can conclude that from this study, retail banking is being disintermediated by mobile money in Zimbabwe. The findings confirm that banks are being disintermediated by mobile money.

5.6 Policy recommendations

The study revealed that mobile money has been adopted by the adult population in Zimbabwe. Most of the mobile money products had been introduced by mobile network operators. It was also important to level the playing ground by introducing legislation that allows the banks and mobile money operator to compete on level ground. The regulator, RBZ, could come up with a policy for the development of a central switch that could allow all banks to connect and send money through mobile devices. This would have made it easier for them to monitor how the money is circulating within the economy.

5.7 Managerial recommendations

Given the large number of customers who subscribed to mobile services, and wide reach of telecommunication companies, banks could have create beneficial strategic alliances or synergies with the mobile network operators. Based on the results, 32.4% of the respondents have used mobile money to borrow and the highest percentage comes from those who are unemployed. This increases footprint and density of the banks’ access points. Levin (2013) highlights that interoperability is crucial to mobile money success. The study has also shown
that payment services have been taken by the mobile network operators, the banks could have focused on their strengths, that is lending and other products. This would have allowed them time to focus on their other competencies which were not under threat such as investments, trade finance and risk management.

Banks should have ensured that they have higher system uptime to promote use of their mobile banking systems. 73% of the respondents highlighted that they use mobile money because they can access funds anytime anywhere. They would have retained their customer base in that manner, and this was also a platform for them to take more customers on board. Banks could have made plans for developing mobile presence given the heralded success of mobile based financial services in Kenya. The benefits for mobile transactions cannot be overemphasized. Banks could have also reviewed their cost structures to allow them to provide payment services at a reasonably lower cost than mobile money.

Banks also could have created products for those who do not need bank accounts but may need to transact. They can make use of the concept of a wallet which allows anyone to send money from one bank and the recipient could withdraw from any other bank, that way, they could not have lost some of their market share to mobile money.

5.8 Generalisation of findings

The research found that some functions of the retail and lending side of banking is under threat because of mobile money use. Whilst some banks were not making money through payment processing, or through mobile banking use, it can inferred from the study that mobile money has truly redefined money and banking within the Zimbabwean context.

5.9 Research limitations

Since mobile money is a young industry, there was dearth of literature. The researcher used academic and professional journals to obtain data relating to
mobile money. In addition to that, the researcher could not gain access to all the commercial banks, only four commercial banks sent back their questionnaires.

5.10 Areas for further research

The research focused on the disintermediation of banks by mobile money. However, further research can be done to ascertain revenue loss attributed to mobile money introduction and the impact on banks of mobile money adoption. Quantifying the revenue loss is beneficial to banks, as this forms a basis for improving or recovering the lost market share.
REFERENCES


Appendix 1


Dear participant,

This questionnaire is designed to study whether mobile money use has resulted in disintermediation of commercial banks in Zimbabwe. Because you are the one who can give us the correct picture of mobile money and bank use, I request you to respond to the questions frankly and honestly.

Your response will be kept strictly confidential and for academic purposes only. Your name or personal details are not required.

HOW TO ANSWER THE QUESTIONNAIRE

1. Mark with an ‘X’, the best answer from the given options on each question.

2. For each of the statements given below tick in the response that best suits your opinion/feeling from the Five Point Likert’s scale varying from:

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SECTION A: Administration Section

1. Questionnaire Number

SECTION B: Demographics and General Information
1. Gender?
   Male □    Female □

2. Marital status?
   Single □    Married □    Widowed □    Divorced □

3. Age?
   21-29 □    30-39 □    40-49 □    50-59 □    60+ □

4. Level of education?
   O Level □    A Level □    Tertiary □    Other □

5. What is your source of livelihood?
   Self employed □    Employee □    Unemployed □

6. Which mobile service operator are you registered with?
   Econet □    Telecel □    Net One □    None □

7. How long have you been using Mobile Money?
   0-6 months □    1 yr □    2-3 yrs □    NA □

SECTION B

8. Do you have a bank account?
   Yes □    No □

9. How often do you use a bank?
   Daily □    Weekly □    Monthly □    Occasionally □    Not applicable □

10. How often do you use mobile money?
    Daily □    Weekly □    Monthly □    Occasionally □    Not applicable □
11. Do you have mobile banking services at your bank?

Yes ☐ No ☐ Not sure ☐ Not Applicable ☐

12. Do you receive a salary through mobile money?

Yes ☐ No ☐

13. Which method do you normally use for payments?

Bank ☐ Mobile Money ☐ Both ☐ Not Applicable ☐

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Please highlight why you would prefer mobile money to the bank?

14. I use mobile money because I can access my money anyway anytime

15. I use mobile money because it is cheap

16. I use mobile money because it is easy to use

17. I use mobile money because of the distance required to access nearest bank

18. I use mobile money for low value transactions (e.g. $1,$2 etc)

19. I only use mobile money when unexpected events happen (e.g. death, funeral)
25. Does your mobile service provider have lending and borrowing function on mobile money?
   Yes  No  Not Sure

26. Have you used mobile money to borrow in the last 6 months?
   Yes  No

27. Do you have a mobile money savings account?
   Yes  No

28. Do you perform withdrawals using mobile money?
   Yes  No

29. Does the MNO monitor your financial product use after borrowing?
   Yes  No  Not Sure

Please highlight why you would prefer bank to mobile money?

20. Mobile money is normally congested
   1  2  3  4  5  6

21. I do not get help from anyone when using mobile money
   1  2  3  4  5  6

22. Mobile money agents are normally illiquid
   1  2  3  4  5  6

23. Mobile money is not secure
   1  2  3  4  5  6

24. I am obliged to use bank because my salary gets into bank
   1  2  3  4  5  6

25. Does your mobile service provider have lending and borrowing function on mobile money?
   Yes  No  Not Sure

26. Have you used mobile money to borrow in the last 6 months?
   Yes  No

27. Do you have a mobile money savings account?
   Yes  No

28. Do you perform withdrawals using mobile money?
   Yes  No

29. Does the MNO monitor your financial product use after borrowing?
   Yes  No  Not Sure

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<th>Lowest Impact</th>
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<td>30</td>
<td>I use the bank because of the trust that comes with dealing with a human compared to dealing with a mobile phone.</td>
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<td>31</td>
<td>My use of mobile money has been increasing over time whilst use of my bank has been decreasing</td>
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<td>32</td>
<td>I cannot maintain the bank’s minimum balance so I use mobile money</td>
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<td>33</td>
<td>I prefer a mobile money brand as compared to a bank brand</td>
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<td>34</td>
<td>I use mobile money when doing low value transactions</td>
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<td>35</td>
<td>Banks requirements are stringent compared to mobile network operators so I prefer mobile money</td>
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<td>36</td>
<td>I do not need a bank, mobile money is sufficient</td>
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<td>37</td>
<td>I need both mobile money and my bank</td>
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<td>38</td>
<td>My bank is sufficient for all my needs</td>
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I appreciate your time to complete and co-operation with regard to completing this questionnaire!

Thank you
Appendix 2


Dear participant,

This questionnaire is designed to study whether mobile money use has resulted in disintermediation of commercial banks in Zimbabwe. Because you are the one who can give us the correct picture of mobile money and bank use, I request you to respond to the questions frankly and honestly.

Your response will be kept strictly confidential and for academic purposes only. Your name or personal details are not required.

HOW TO ANSWER THE QUESTIONNAIRE

1. *Mark with an ‘X’, the best answer from the given options on each question.*

SECTION A: Administration Section

1. Questionnaire Number

SECTION B:

1. What’s your position in the bank?
   - Teller
   - Other service
   - Manager
   - Other

2. For how long have you been with the bank?
   - 0-6 months
   - 6 months - 1 year
   - 1 yr - 3 yrs
   - 3 yrs +

3. Have you seen a noted an increase in bank revenue because of mobile money?
   - Yes
   - No
4. Have you seen a noted a reduction of bank transactions because of mobile money?
   Yes  No

5. Is your bank integrated to mobile money?
   Yes  No

6. Do you offer mobile banking services at your bank?
   Yes  No

7. Do you personally use mobile money?
   Yes  No

8. Do you think mobile money has taken some of the banks’ functions?
   Yes  No

9. Has the bank’s functionality been altered by mobile money?
   Slightly  Very much  No effect

For each of the statements given below tick in the response that best suits your opinion/feeling from the Five Point Likert’s scale varying from:

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Please highlight why customers prefer mobile money to the bank?

10. Users are preferring mobile money because they can access functionality anyway anytime
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<tbody>
<tr>
<td>11</td>
<td>Users prefer mobile money because it is cheap</td>
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<td>Users prefer mobile money because it is easy to use</td>
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<td>13</td>
<td>Customers prefer mobile money because of the distance required to access nearest bank; 8</td>
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<tr>
<td>14</td>
<td>Customers mainly use mobile money for low value transactions (e.g. $1, $2 etc)</td>
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<tr>
<td>15</td>
<td>Younger customers prefer use of mobile money compared to older</td>
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Please highlight why customers prefer bank to mobile money?

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<td>16</td>
<td>Older customers prefer using mobile money compared to a phone</td>
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<td>Users are not sure about security features of mobile money</td>
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<td>18</td>
<td>Users have not shifted focus from the bank</td>
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<td>19</td>
<td>Users do not need mobile money at the moment</td>
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<td>20</td>
<td>Our customers make use of our own mobile banking system</td>
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I appreciate your time to complete and co-operation with regard to completing this questionnaire!
Appendix 3


Dear participant,

This questionnaire is designed to study whether mobile money use has resulted in disintermediation of commercial banks in Zimbabwe. Because you are the one who can give us the correct picture of mobile money and bank use, I request you to respond to the questions frankly and honestly. Your response will be kept strictly confidential and for academic purposes only. Your name or personal details are not required.

HOW TO ANSWER THE QUESTIONNAIRE

1. Mark with an ‘X’, the best answer from the given options on each question.

SECTION A: Administration Section

1. Questionnaire Number

SECTION B:

1. Which mobile network operator are you affiliated to?
   Econet  [ ]  Telecel  [ ]  NetOne  [ ]  All  [ ]

2. For how long have you been a mobile money agent?
   0-6 months  [ ]  months-1 year  [ ]  yr -3yrs  [ ]  yrs +  [ ]

3. Have you seen a noted an increase in mobile money use over the period?
   Yes  [ ]  No  [ ]
4. Have you been providing assistance to mobile money users as and when they needed help?

Yes [ ]  No [ ]

For each of the statements given below tick in the response that best suits your opinion/ feeling from the Five Point Likert’s scale varying from:

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Please highlight why customers are using mobile money

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<tr>
<td>5. Users are preferring mobile money because they can access functionality anyway anytime</td>
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<td>6. Users prefer mobile money because it is cheap</td>
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<td>7. Users prefer mobile money because it is easy to use</td>
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<td>8. Customers prefer mobile money because of the distance required to access nearest bank</td>
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<td>9. Customers mainly use mobile money for low value transactions (e.g $1, $2 etc)</td>
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<td>10. Younger customers prefer use of mobile money compared to older</td>
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## Please highlight challenges for mobile money use?

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<td>Users are not sure about security features of mobile money</td>
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<tr>
<td>12.</td>
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<td>13.</td>
<td>Users only use mobile money when in crisis</td>
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<td>14.</td>
<td>Users do not trust transacting over the phone</td>
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Thank you.