AN ANALYSIS OF MOBILE PAYMENT SERVICES
CONSUMER ADOPTION IN ZIMBABWE

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SUPERVISOR: Dr. G. T HAPANYENGWI
DEDICATION

This dissertation is dedicated to my patient and understanding husband, Augustine, to our three boys, Panashe, Tinotenda and Kevin and to our late daughter Rowena, whose death inspired me to rise and start all over again.
DECLARATION

I, Tendero Eithel Chifamba, do hereby declare that this dissertation is the result of my own analysis and research, except to the extent indicated in the acknowledgements, references and by comments included in the body of the report, and that it has not been submitted in part or in full for any other degree to any other University.

………………………..                                         ……………………
Student Signature                                                        Date

………………………                                          ………………………
Supervisor Signature                                                   Date
ACKNOWLEDGEMENTS

I would like to acknowledge the assistance and guidance I received from my supervisor, Dr G T Hapanyengwi throughout the study. I am also grateful for the help I received from my colleagues and encouragement from family members.
ABSTRACT

Mobile Payment is a new payment method in the retail arena where the payer uses their mobile phone, through special software to pay for goods and services. The services can be offered by a bank, a telecommunications company or by both. The service success depends on the willingness to adopt by consumers and merchants but however, since consumers create a specific demand for a mobile payments solution and drive to success by adopting and using it, the success of a mobile payment solution depends on the number of participants and the volume of transactions the consumers carry out.

The objective of the study is to provide useful guidelines for Mobile Payment providers to better understand the level of mobile payment adoption and the critical factors that drive mobile payment adoption in Zimbabwe. The study sought to examine whether mobile payment particularly in-store or brick and mortar goods and services payments using a mobile phone, is being acceptable as a payment mode by consumers. The study analyses the level of awareness of the consumers, the willingness to adopt the new innovation as well as assess the factors that could promote or hinder full adoption of mobile payment method by consumers. The findings would assist service providers on areas of value addition for consumers to ensure that mobile payment services are a success in Zimbabwe. For the purposes of this research, both positivism and phenomenology research methodologies were used to increase reliability and validity of the research results. The research was carried out using a self-administered questionnaire distributed randomly by hand to two hundred shopping mall customers at the four main shopping malls in Harare, the capital city of Zimbabwe. In order to achieve the objectives of this research, the study is guided by the Technology Acceptance Model (TAM) as developed by Davis (1989), as a basis for a research model. The research model then combines TAM factors with Mallat (2007) factors that influence mobile payment. The research results show that Zimbabwean consumers are aware of the mobile payment platform but have not yet found compelling motivation to abandon the traditional methods of payment. There is mileage to be gained by service providers from offering incentives to merchants and consumers in the form of infrastructure deployment and usage discounts to promote mass adoption.
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<td>B2B</td>
<td>Business to Business</td>
</tr>
<tr>
<td>B2P</td>
<td>Business to Person</td>
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<tr>
<td>CBN</td>
<td>Central Bank Of Nigeria</td>
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<tr>
<td>CBD</td>
<td>Central Business District</td>
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<td>EFT</td>
<td>Electronic Funds Transfer</td>
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<td>EWZ</td>
<td>Econet Wireless Zimbabwe</td>
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<td>FRB</td>
<td>Federal Reserve Bank Of New York</td>
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<td>GPRS</td>
<td>General Packet Radio Service</td>
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<td>J2ME</td>
<td>Java</td>
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<tr>
<td>MNO</td>
<td>Mobile Network Operator</td>
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<td>MMS</td>
<td>Multimedia Message Service</td>
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<td>MMT</td>
<td>Mobile Money Transfer</td>
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<td>MPS</td>
<td>Mobile Payment Service</td>
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<tr>
<td>NFC</td>
<td>Near Field Communication</td>
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<td>OTA</td>
<td>Over The Air</td>
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<td>P2B</td>
<td>Person to Business</td>
</tr>
<tr>
<td>P2P</td>
<td>Person to Person</td>
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<tr>
<td>PIN</td>
<td>Personal Identification Number</td>
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<tr>
<td>POS</td>
<td>Point Of Sale</td>
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<tr>
<td>POTRAZ</td>
<td>Posts and Telecommunication Regulatory Authority of Zimbabwe</td>
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<td>RBZ</td>
<td>Reserve Bank Of Zimbabwe</td>
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<td>RFID</td>
<td>Radio Frequency Identification</td>
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<tr>
<td>RTGS</td>
<td>Real Time Gross Settlement</td>
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<td>SIM</td>
<td>Subscriber Identity Module</td>
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<td>SMS</td>
<td>Short Message Service</td>
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<td>TAM</td>
<td>Technology Acceptance Model</td>
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<td>TPS</td>
<td>Transaction Payment Solution</td>
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<tr>
<td>USSD</td>
<td>Unstructured Supplementary Service Data</td>
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<td>WAP</td>
<td>Wireless Application Protocol</td>
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CHAPTER ONE  
INTRODUCTION AND BACKGROUND

1. INTRODUCTION

The extensive acceptance and usage of digital mobile devices has made possible the progress of many innovation applications, including the possibility to use mobile devices for payment purposes. The whole world over, most people never leave home without their mobile phone, whose storage, computing and transmission capabilities makes it an ideal device for containing everything people normally carry in their wallet, including cash and bank cards. The mobile phone has achieved ‘permanent share of the pocket’, that is, next to the car keys and the wallet, and having potential in succeeding to displace the wallet in the process. If the mobile phone is to integrate the meeting of the modern day person’s convenient needs, consumers should surely easily adopt mobile payment as a mode of payment for goods and services. To that end, the study seeks to establish the degree of willingness to adopt mobile payments at the point-of-sale (POS) and person to business (P2B) payments in terms of a modified version of the Technology Acceptance Model (TAM) as well as Mallat’s adoption factors.

The chapter provides a research background on mobile payment and mobile commerce in general. It then gives an insight of the development of mobile commerce against a background of the analysed operating environment in Zimbabwe. It also introduces the mobile network providers in Zimbabwe. To give an overview of the study, the problem statement, research objectives, proposition, justification and scope are presented.

1.1 RESEARCH BACKGROUND

Payment systems have always been part of the human existence and throughout their existence, the payment systems continues to undergone gradual change. The pace of
change has accelerated as rapid technological advances have come to bear on what were previously largely manual processes, from barter to cash, to cheques followed by cards, then electronic payments. The system has now gone mobile. These changes have seen consumers gain 24-hour access to cash and ready access to electronic payments at the point of sale, from their homes and offices, and now on the move via mobile devices. All these developments were a result of innovation seeking to meet consumers’ ever growing needs for seamless, effortless, secure and speedy payment experiences.

According to the Federal Reserve Bank of New York (FRB) (2002), Central Banking Seminar, a payment is a transfer of monetary value, whilst a payment system consists of the mechanisms, including the institutions, people, rules and technologies, which make the exchange of monetary value possible. The payment system of an economy should enable people to exchange goods and services, be able to measure the value of different goods and act as an instrument of preserving value. The Reserve Bank of Zimbabwe (2013), articulated that a payment system should always be, available without interruption, meet all users’ needs and operate at minimal risk and reasonable cost.

This important system has always been facilitated by banks, guided by central banks, during their responsibilities as issuing banks, acquiring banks, paying banks and clearing agents. However, the payment system is now dynamic and a principal area of innovation. It has become more complex, with the players comprised of financial institutions and telecommunication companies becoming major players in the payment systems of any economy, both serving individuals and corporate payment needs.

In developed countries, where lifestyles are busy and technology is advanced, traditional modes of payments like cheques, cards, electronic funds transfers and Point of Sale (POS) networks need an additional convenient method for managing money without handling cash. For users in the developing world, on the other hand, the appeal of these mobile payments systems may be less about convenience and more about usefulness, accessibility and affordability. According to the United Nations (2009), more
Africans have mobile phones compared to the number of Africans owning a bank account on the continent. Meanwhile, the World Bank (2009) also estimates that less than 20% of households in Africa have access to banking services. The high accessibility and affordability of mobile phones make it possible for the devices to be mobile wallet as well.

With the rapid pace of change that is occurring globally, a reduced willingness or capacity to embrace innovation in any country is likely to leave the country lagging significantly behind other countries and failing to avail itself of the benefits that are achievable. It is the aim of this study to identify any factors affecting Zimbabwean consumers to promote or discourage willingness to adopt the mobile payment innovation. The focus of the study is on adoption of mobile payment by consumers, for retail payments typically required by individuals on their day to day payment needs. The study does not consider high value payments, such as those relating to financial market transactions, or large corporate payments directed through the real-time gross settlement (RTGS) system.

1.2 MOBILE COMMERCE

Mobile commerce is the buying and selling of goods and services through wireless handheld devices such as mobile phones and PDAs, (http://www.mobilemarketer.com, 25.01.14). The growth in mobile telecommunication services worldwide has created a significant growth in mobile commerce and financial inclusion. The amount of mobile commerce one is able to do on his mobile phone varies depending on the service provider in use, which can be a banking institution or a telecommunications company.

Banking institutions offer services like mobile banking which includes short message services (SMS), enabling customers to get alerts of activities on their accounts, receiving bank advices pertaining to promotions or new products and checking of balances and statement viewing. They can also offer stock exchange brokerage services, in which stock quotes can be displayed and trading, conducted from the same handheld device.
Telecommunication companies offer bill payment and account reviews conducted from the same handheld device. They also enable retail transactions as consumers are given the ability to place and pay for orders from their mobile money balances. Information services, which include the delivery of financial news, sports figures and traffic updates to a single mobile device is also a service telecommunication companies provide as mobile commerce. Mobile commerce involves mobile banking, mobile remittances or transfers and mobile payments.

- **Mobile Banking**

  Mobile banking refers to any online use of a mobile phone to perform bank transactions like balance enquiries, funds transfer and transaction alerts receipts through short message services. The applications will be able to manipulate the user’s bank account, store value in an account linked to the phone handset, transfer funds or in more advanced applications, even access credit or insurance products (Gao et al 2005).

- **Mobile Money Transfers (MMT)**

  Mobile Money Transfers (MMT) is mobile enabled person to person (P2P) payments or transfers, (Pickens 2009), which are alternatives to other payment methods like cash, electronic funds transfers or cheques. It has been established that in developing countries, most people have no access to banking facilities, although they have mobile phones. Mobile Money Transfers have the potential to catalyse mobile payment adoption, because they enable mobile phones to be used as wallets and or banks, hence making it easier for mobile phone holders to make P2B payments.

- **Mobile Payments**

  Varshney and Vetter (2002) predicted that mobile payment would become one of the most important applications in mobile commerce in the whole world. Mobile Payment is the new payment system which has been enabled through mobile commerce. It is any payment where a mobile device is used to initiate, authorize and confirm an exchange of financial value in return for goods and services (Au and Kauffman 2007). Mobile
devices include mobile phones, personal digital assistants (PDAs), wireless tablets and other devices that can connect to mobile telecommunication networks. Mobile payment is an alternative to cash, cheques, debit and credit cards and can make possible new opportunities for convenience in commerce.

1.3 THE DEVELOPMENT OF MOBILE COMMERCE IN ZIMBABWE

The rapid growth of mobile phone usage in Zimbabwe since 2009 has led to massive increases in phone-based services in banking, electronic payments and transfers, among others. The mobile phone is considered as a channel for convenient transactions including mobile commerce.

Mobile commerce in Zimbabwe is still in its developing stages and has evolved from mobile banking in 2010, when banks were simply offering short message system (SMS), which are mobile phone alerts of transactions done through the bank account. Several of the country’s financial institutions engaged the three Mobile Network Operators (MNOs), Econet Wireless, NetOne and Telecel Zimbabwe, to ride on the telecommunications networks in trying to enhance their bank customer service delivery. With time, the MNOs, under pressure to find new revenue streams saw an opportunity to either work alone or collaborate with the financial institutions to mobile money services to the banks customers as well non banked customers. As their usual line of service and stream of revenue, voice service, was showing signs of decline and prospects of subscriber saturation in the country were inevitable, Techzim (2013), MNOs realized that data service was their hope of continued sustainability and growth. With the introduction of data services, mobile payment services market presented them with an opportunity to further expand non-voice revenues.

Financial institutions also noticed the threat from the MNO in that their consumers would obviously switch to the mobile phone based, convenient and lower cost method of transactions and they sought to strengthen the collaboration with the MNOs so as to share the revenues or at least not lose their customers. From 2011, several mobile
products were launched which include Kingdom Bank's CellCard, Tetrad Bank's eMali, Econet Wireless' EcoCash, CABS Bank’s TextaCash, Interfin Bank’s Cybercash, CBZ Bank's Mobile Banking, FBC Bank’s Mobile Moola among others. Cash is sent through a financial institution, received through the mobile phone and cash withdrawn from another branch of the financial institution faster than the normal bank funds transfers. Later, in year 2012, the MNOs started to develop their own Mobile Money Transfer (MMT) products, even though they continued with the collaborated products. There is information that the country has about 70% unbanked people and about 65% of the population living in the rural areas, with very little access to banking infrastructure, (Finscope 2012). Most financial institutions closed their branches in small towns and rural areas due to the depreciated economic conditions since 1997, hence the limited access to banking facilities for the areas. The people in the urban areas need to send money to dependents living in the rural areas and if both parties have access to mobile phones, MMT would be a perfect service to bridge the gap.

Econet Wireless developed a standalone EcoCash Mobile Money Transfer whilst Telecel developed SKwama and NetOne developed One Wallet to extend MMT products which do not require a financial institution but where cash can be transferred from a mobile phone account and redeemed by the recipient at any one of the registered MNO agents and merchants countrywide. The tremendous response on the MMT product encouraged the MNOs to implement Mobile Payment Service (MPS), which is, paying for goods and services using one’s mobile phone. Instead of redeeming cash from the mobile phone account, the recipient was given a choice to make payments for goods and services through the established agents and merchants and to pay bills with registered municipalities. In 2013, the registered agents and merchants list grew to include restaurants, public transport operators, supermarkets and retail shops. This particular Mobile Payment System, whose awareness and acceptances is still unclear, is the subject of this study.

Despite a well advertised campaign for awareness and adoption of mobile payment by the service providers, queues of customers at banks for cash withdrawals,
municipalities and retail shops for cash payment are still long and winding. Whether the registered entities are being given an incentive is not known and is not a subject of discussion in this study, but acceptance by merchants can also hinder adoption of the service as the merchants need to be convinced that there is a return on investment in upgrading and enhancing their electronic payment solutions. Meanwhile, only Econet Wireless’ EcoCash has managed to install its own POS machine enabled with a reader for mobile payments. It holds the lion’s share of the market, having capitalized on the unavailability of competition from One Wallet and the dormant Skwama.

In its May 2013 monthly economic review, the Reserve Bank of Zimbabwe, reports that the development of the mobile platform is showing advanced development. It reports that there were 119 million transactions valued at US$2 billion made via mobile phones in Zimbabwe in the year, although other payment methods like electronic payments and card based payments had also increased in value of transactions processed by 10.7% to US$3.91 billion and 1.3% to US$332.6 million respectively. Only cheques transactions realized a decrease, having recorded a 7,2% decrease from 2012 transactions. This positive development brings hope that Zimbabweans are in the process of embracing and adopting new technology.

In Zimbabwe, the use of mobile payment is a welcome technology because of the convenience and accessibility it promises to the wider cross section of the poor and unbanked population. According to Finscope (2013), 70% of the population have no bank accounts. This is no surprise because of the stringent ‘Know Your Customer’ requirements by banks, as well as the perceived high bank charges levied on bank account holders which prohibit and discourage the majority of people to open bank accounts. Most financial institutions closed branches in remote and rural areas for lack of business sustainability. Faced with such socio-economic challenges, a population of 13 million people, ZIMSTAT (2012), and a mobile phone penetration rate of 97%, (http://www.techzim.co.zw, 28.01.14), Zimbabwe should be a perfect candidate for a strikingly high mobile adoption market in the world out of usefulness and the incredible uptake of mobile phones across all levels of society.
1.4 ENVIRONMENTAL ANALYSIS OF ZIMBABWE

The Zimbabwean economy has been faced by macroeconomic up-downs characterized by a number of political, economic, social, technological and regulatory issues for almost fifteen years since 1998. Despite the many challenges, the economy has been growing, having recorded a real growth of 9% per year in 2010-2011, before slowing to 5% in 2012 due to poor harvests and low diamond sales (World Bank, 2013).

- Political

Zimbabwe has been faced by political tribulations since 2000. In 2009, the political parties formed a coalition government, the Government of National Unity, GNU, which was then disbanded in 2013 after election results proclaimed one majority winner. Inconsistencies in government policies have resulted in uncertainty in the economy, in particular the indigenization policy and the re-introduction of the Zimbabwean dollar whose threats have dampened the business mood and investors are reluctant to put capital into the country. The country has failed to attract foreign direct investment due to sanctions and a perceived high country risk. The Industrial Development Policy Framework for 2011 to 2015 is a positive development as the government seeks to transform Zimbabwe from a producer of primary goods into a producer of processed value–added goods for both domestic and export markets.

- Economic

Until, 2009, when the country adopted the multi currency system, the country has been faced by hyperinflation which eroded the country’s financial assets. The multicurrency adoption allowed currencies such as the Botswana pula, the South Africa rand, and the US dollar to be used locally. The introduction of the multicurrency regime brought about economic stability in the country with inflation being recorded at below 5 % (ZIMSTAT 2013). According to the Confederation of Zimbabwe Industries (2013), the country growth is hinged on agriculture and mining. Tobacco revenue of just above US$600
million and mining revenue from diamonds, platinum and gold of more than US$2 billion have started to drive growth in the economy. In spite of the stability, the economy is still faced by a number of deficiencies in high external debt, rundown infrastructure, shortages of working capital, liquidity challenges and industry low capacity utilization. The country is faced by high incidences of power failure and shortages and high cost of production which has resulted in low capacity utilization in the manufacturing, mining and agriculture sectors. The country’s 27 financial institutions have failed to harness deposits from the informal sector, and with a shared deposit base of US$3 billion, RBZ (2013), they have failed to sustain the capital funding of the economy’s industries. The banks are also faced with lack of credit lines for onward lending and the burden of the regulator capitalization requirement is weighing heavily on most banks, whose survivability in the future remains slim.

- **Social**

Zimbabwe has a population of 13 million people of which 65% live in the rural areas, ZIMSTAT (2013) and rely on farming. While the economy is growing, poverty remains high as close to 65% of the population lives below the poverty line of US$510, (ZIMSTAT 2013). The government embarked on a land reform programme in 2002, which damaged the commercial farming sector resulting in declined food production and foreign subsequently reduced foreign currency from exports. Due to this and the bouts of drought in the past years, Zimbabwe has been an importer of food products since then.

The population of Zimbabwe has also been drastically reduced due to HIV and AIDS related deaths as well as people emigrating to neighboring countries of South Africa, Botswana and overseas countries. Zimbabwean people are considered as one of the highest educated people in Africa, hence almost three hundred thousand skilled professionals have left the country in search of employment elsewhere, World Bank (2013). ZIMSTAT (2013) advise that the unemployment rate in Zimbabwe is 11%. However, this is contrary to the unofficial figures given by several economists, which
say the country's unemployment rate is stands at more than 70%. The results reflect that most of the people in Zimbabwe rely on informal jobs as most of the employing industries have scaled down or closed resulting in laying off of employees and ZIMSTAT figures considers that the majority of those not formally employed are economically active.

- Technological

Cross industry regulation has been a challenge in Zimbabwe as regulators seemed to have been outsmarted by innovation. The Reserve Bank of Zimbabwe and the Post and Telecommunications Regulatory Authority of Zimbabwe, (POTRAZ) are still to come up with a combined code of conduct for mobile money providers and this has led to inconsistencies in regulations and legal protection for customers. Expedition of a standardised code of conduct and government policy on operations would make the mobile payment market trustworthy. POTRAZ functions are to licence telecommunication services as well as to ensure the provision of sufficient telecommunication and postal services in Zimbabwe whilst the Reserve Bank Of Zimbabwe’s goal is the maintenance of the internal and external value of the Zimbabwean currency and to maintain a stable banking system through its supervisory and lender of last resort function, (http://www.rbz.co.zw. 23 06.2013).

1.5 MOBILE NETWORK OPERATORS IN ZIMBABWE

In its 2012 telecommunication publication, http://potraz.gov.zw (04.03.13), POTRAZ states that the country’s three mobile service providers share a cumulative total of 12.6 million subscribers, with Econet Wireless Zimbabwe leading with 8 million subscribers, followed by Telecel with 2, 6 million and NetOne with 2 million. The figure below shows the market share of the three Mobile Network Operators in Zimbabwe as at December 2012.
Although mobile payment has been initiated differently by banks and mobile network operators in Zimbabwe, the three mobile telephone companies, have been at the centre of the developments so as to provide mobile and data services nationwide.

1.5.1 ECONET WIRELESS PRIVATE LIMITED ZIMBABWE (EWZ)

EWZ is an international telecommunications company whose head office is in South Africa and has representatives in Nigeria, Lesotho, Burundi, New Zealand, Malawi and Botswana. Locally the company has among other telecommunications related
companies which include Ecoweb, Transaction Payment Solutions (TPS), Liquid telecoms and recently EcoCash.

Econet Wireless Pvt. Ltd introduced the concept of wireless network in Zimbabwe after being granted an operating licence in 1998. It is Zimbabwe’s leading Mobile Network Operator with estimated 8 million subscribers, (Techzim 2013). After several voice and data innovations, EWZ launched EcoCash in October 2011, having realized “the need to diversify out of the core telecom business in Zimbabwe, where voice services revenue is under competitive pressure, and to create new lines of business with significant revenue potential” (Levin 2013)

In an interview with GSMA’s Mobile Money for the unbanked programme (2012), the CEO of EcoCash, Darlington Mandivenga described EcoCash as a wallet based mobile service offering P2P remittances, merchant payment, bank interoperability, bill payment, bulky payment payroll and other mobile transfer services. Its progression was from a mobile money transfer platform, to offering banking services, enabling a convenient payment mode to people in remote villages and high density areas, places traditional banks have not penetrated. Econet Wireless (http://www.econetwireless.co.zw 2013), financial results revealed that a total of US$2 billion was handled through the EcoCash platform in the year by over 3 million subscribers and 7,000 agents through peer to peer money transfers, purchase of airtime and payment of goods and services. Econet believes these figures will continue to grow with the introduction of new user cases, in particular merchant payments. The service allows customers to transfer up to US$1 000 per day.

Besides providing those with limited access to financial services a way to make safe and secure transactions, EcoCash also managed to create a seamless link into banks, allowing customers with bank accounts the ability to move money into an electronic wallet, from anywhere in the country through the registered agents, who were existing businesses and retail shops that had partnered Econet Wireless to provide mobile money transfers and payments. The integration in the systems of the various financial
institutions which include CBZ Bank, Steward Bank and Stanbic Bank allows those with existing accounts to move money in and out of banks without entering the banking hall. A bank grade switch called Postillion enables interoperability between EcoCash and the banks by acting as an intermediary layer between the mobile platform and the banking platforms, allowing instructions to be transmitted through the banking sector.

**EcoCash Debit Card - POS Mobile Payment method**

The Econet Wireless debit card introduced in 2013 added the excitement to and improved MPS in Zimbabwe. Econet Wireless Zimbabwe launched its own Point of Sale (POS) terminals on 26 March 2013, to accept mobile payments from EcoCash mobile wallets. The product is called EcoCash Debit Card. Consumers can swipe their mobile phones for payment and a debit is effected to their EcoCash mobile account. The POS terminals are USSD and SMS enabled to work in areas without data coverage. The POS are also NFC enabled to prepare the retail payment solution for the expected proliferation of smartphones in the coming years (Levin 2013). Transactions are initiated on the customer’s mobile phone, which then communicates with the merchant POS terminal via the EcoCash network.

According to Techzim (2013), the payment method pledges the following benefits to consumers:

- Convenience as consumers do not need to visit a bank
- Saves travel time
- Consumer money is safe even if they lose the phone
- Speed and reliability of the service no matter where the user is

The Reserve Bank of Zimbabwe (2013), welcomed the POS infrastructure deployed by Econet Wireless and that it would be open to other payment providers. The service would contribute immensely to building a modern payment system in the country. The EcoCash Debit Card has the following functionalities:

- The POS terminal basically replaces a merchant mobile phone and sits at the till point like other ordinary bank powered POS terminals. Unlike a mobile phone
though, the POS terminal prints a receipt when payment is made. Communication between phone and terminal is therefore enabled through USSD.

- The EcoCash POS terminals will also accept VISA and MasterCard cards. The EcoCash terminals will also accept cards issued by local banks that are partnering with EcoCash. Those that have integrated with EcoCash (for EcoCash mobile banking) will have first mover advantage.
- The terminals also have the Near Field Communication (NFC) and though not enabled now, will be available to use in the future as the technology's availability on mobile phones increases.
- The EcoCash Debit Card product operates the POS device via USSD.

1.5.2 TELECEL ZIMBABWE

Telecel Zimbabwe Private Limited, a telecommunication company was founded in 1998 and operates a mobile network in Zimbabwe. It offers prepaid service and post-paid or contract service. The company also provides various services, including money transfer, pay phone, short message service, call forwarding, call barring, call holding, call waiting, mobile data and fax services, conferencing, voicemail, and international roaming service, as well as information briefs, including news items, business and financial briefs, sports news, and lotto results. The company is based in Harare, Zimbabwe. Telecel Zimbabwe Pvt. Ltd. is a subsidiary of Telecel International Limited. (http://www.telecel.co.zw accessed 28.11.13)

The network operator covers all major urban centres and most small towns and by end of 2012, had a mobile network subscriber of 2.6 million, (Techzim 2013). It is jointly owned by Telecel Globe and the Empowerment Corporation. Telecel Globe is a subsidiary of Orascom Telecommunications Company, a major international telecommunications company with interests in Europe, Africa, Asia, The Middle East and North America. The Empowerment Corporations a Zimbabwean consortium made up of a number of Zimbabwean companies (http://www.telecel.co.zw).
Telecel was first to the mobile money game when they announced the introduction of the SKwama service in December 2010, almost a year before Econet followed with EcoCash. The promise back then was that Telecel would enable subscribers to use their mobile phones to buy groceries and airtime, pay bills, withdraw money and do money transfer, Techzim (2013). SKwama only managed to provide mobile banking services to subscribers banking with Zimbabwe’s Kingdom Bank. By 2012, there were reports which suggested that SKwama had been pulled off the market as it limited usage to Kingdom Bank customers. Its replacement although talked about is yet to be introduced to the market.

1.5.3 NETONE

NetOne was the first cellular network operator in Zimbabwe based on the Global system for mobile communications. The company was originally launched during the World Solar Summit in September 1996 in Harare with 2000 lines. Service was extended to the second city of Bulawayo at the time of the International Trade Fair in April 1997. NetOne is the second largest cellular company in Zimbabwe and provides coverage to all major towns and cities, all small towns and tourist resorts. (www.netone.co.zw, accessed 28.11.13). The network operator had 2 million network subscribers by December of 2012 (Techzim 2013).

The company launched OneWallet service in January 2011 to allow peer to peer money transfers. It upgraded services gradually to include current services like bill payments, salary payments as well as merchant payments. The Mobile Network Operator has also collaborated with a number of financial institutions to offer mobile banking facilities to their customers. NetOne (http://www.netone.co.zw accessed 28.11.13), report revealed that the company has 2,600 agents offering peer to peer money transfers, airtime top up and payment of bills. The service allows customers to transfer up to US$1 000 per day and up to US$5,000 a month.
1.6 PROBLEM STATEMENT

Traditionally, the modes of payment for goods and services are cash, cheques, cards as well as electronic based payments. With the growing penetration of the mobile phone and development of mobile commerce, the mobile payment is bound to be a strong competing mode of payment for goods and services. Cash, and to some extent card payment have been ingrained in people of Zimbabwe’s habits and lifestyles as they are considered to be convenient to use. Mobile payment system marks the transition from a cash economy of physical currency, cards and cheques to a mobile based person to person, person to business, business to person as well as business to business payment environment. Zimbabwe consumer readiness to switch to mobile payment is not clear, in spite of the incredible mobile teledensity of 97%. The biggest challenge that mobile payment providers face currently is to influence consumers in Zimbabwe toward mobile payment as an alternative method of payment. Consumer acceptance is undoubtedly one of the most important factors that drive adoption of mobile payments.

The goal of the researcher is to examine the level of Zimbabwean consumers’ awareness and adoption of mobile payment services. Factors that influence their adoption are also analysed to be used as opportunities for the service providers to develop their technology solutions from the point of view of the consumer’s wants and needs.

1.7 RESEARCH OBJECTIVES

1.7.1 PRIMARY OBJECTIVE

The primary objective of this research is to investigate the level of adoption of Mobile Payments in Zimbabwe.
1.7.2 SPECIFIC OBJECTIVES

The specific research objectives are:

1. To ascertain awareness of the mobile payment services in Zimbabwe.
2. To highlight levels of mobile payment adoption as a payment method in Zimbabwe.
3. To investigate factors influencing adoption of mobile phones as a payment method in Zimbabwe.
4. To provide stakeholders with prioritization of determinants for developing appropriate strategies to encourage the adoption of mobile payments in Zimbabwe.

1.8 RESEARCH QUESTIONS

1. What is the level of awareness of Mobile Payment System in Zimbabwe?
2. What is the level of mobile payment acceptance as a payment mode?
3. What are the issues that influence the acceptance of the mobile payment system in Zimbabwe?
4. How can stakeholders ensure the mode of payment is appealing to users?

1.9 RESEARCH PROPOSITION

1. Zimbabwe is one of the countries with high rate of mobile penetration thus has a large potential for high mobile payments adoption.
2. Zimbabwe banking and payments infrastructure is relatively underdeveloped hence Mobile payment systems will be prolific.

1.10 JUSTIFICATION OF RESEARCH

In spite of the considerable research efforts which have been conducted to better understand the key aspects of mobile payments acceptance elsewhere in the world, the researcher feels that the Zimbabwean landscape is different in terms of political, technological, economic constraints and social habits and norms. The approach to
adoption of mobile payments differs from country to country due to factors like regulatory and legal environments and access to supporting technologies, hence the findings in other countries and regions do not necessarily apply to the Zimbabwean situation as mobile payment is new and not yet standardised world over. Despite the large number of mobile phone users and their habit of keeping the device at hand, Mobile Payment system has been tried and tested in other countries abroad and within Africa and there has been mixed reactions to its acceptance. What consumers in other countries need from this innovation might not be the same as what Zimbabwean consumers are looking for.

The stakeholders in the mobile payment arena, which include three MNOs, seventeen banks and several other financial institutions and selected merchants, have rolled out different feasible infrastructures for mobile payment framework. They would benefit from this study as it focuses on the consumer, who is the key to mobile payment success in any market. They would benefit from the analysis on the level of mobile payment acceptance and consider the factors behind the willingness to adopt. The service providers would also need to work around the challenges that affect the adoption of mobile payment to effectively take advantage of the rapidly growing mobile telephone subscriber base.

1.11 SCOPE OF RESEARCH

Harare is the capital city of Zimbabwe and is home to 1.5 million people out of the almost 13 million people of Zimbabwe (ZIMSTAT 2012). In order for the objective to be achieved, the study was carried out in the capital’s four main shopping malls. The researcher was of the opinion that these malls provided a fairly representative outlook of the shoppers, hence the payment method inclination of the people in Zimbabwe. The shopping malls represent a reasonable income and standard of living demographic of the Zimbabwean population as follows:

- High Glen Shopping Mall ----- Low income
- Sam Levy Shopping Village----High income
• Westgate Shopping Mall---- Middle Income
• Joina City Shopping Mall----In the CBD, a mixture of all incomes.

The research also limits itself to the proposed TAM model of drivers for consumer mobile payment acceptance in Zimbabwe so as to give a narrow perspective of the prevailing perceptions of the Zimbabwean consumers on mobile payment acceptance.

1.12 CHAPTER SUMMARY

The chapter provided the foundation of the study as Mobile Payment System is a new payment system which is still in development stage. This chapter introduced the study through the background of the study, statement of the problem, objectives of the study, research questions, and justification of the study, hypothesis and the scope of the study.

1.13 DISSERTATION STRUCTURE

The dissertation has five chapters outlined as follows:

Chapter 1
Chapter one gives an overview of the background and purpose of the study, the problem statement and the justification to the study as well as the research objectives.

Chapter 2
Chapter two is a review of the available literature relevant to this study, comparing and contrasting literature from authoritative websites, papers and journals and making outcomes in relation to the stated research objectives and questions. This review provides a framework for discussion of findings in chapter four.

Chapter 3
Chapter three describes the methodology used to gather, analyse and present data. The population, sample, sampling techniques and procedures were discussed.
Chapter 4
Chapter four covers the research results and discussion. The presentation and analysis seeks to establish the relationship between the research problem, objectives and the literature reviewed by addressing the research questions.

Chapter 5
Chapter five covers the conclusions and draws appropriate recommendations for the industry players. It also identifies areas for further research.
CHAPTER TWO
LITERATURE REVIEW

2. INTRODUCTION

The purpose of literature review is to help one to explain how the research fits into established research and to address any gaps previously left from previous studies (Borg and Gall 1989).

The Researcher acknowledges that considerable material has been produced as well as research done on the acceptance of Mobile Payment Services worldwide. The objective of this chapter is to review related literature on Mobile Payment Services acceptance elsewhere in the world. Although different mobile payment solutions have been implemented differently in different countries, for the purpose of this study, the researcher disregarded the fragmentation in the industry with regards to the payment solutions, and explored the literature for mobile payment awareness and adoption as a foundation for the research in an endeavour to determine the prevailing situation in Zimbabwe.

The Chapter commences with an overview of the payment system, the different traditional methods of payment and their advantages and disadvantages. It then introduces the mobile payment services method as an alternative to the traditional methods of payment. The benefits and challenges of mobile payment services are also discussed. The chapter further looks at the theoretical adoption model by Davis (1989) and adoption factors by Mallat (2007), as a guide to ascertain factors that drive consumers to accept mobile payments in Zimbabwe.

In line with the study objectives, the literature review relating to mobile payment awareness and acceptance in some parts of the world, assisted in assessing the study
findings of same in the Zimbabwe context. This would help in confirming or refuting the hypothesis of this study as well. The review also looked at the comparisons between developed and developing markets in terms of the acceptance levels and the factors driving acceptance of the service in the different markets.

2.1 PAYMENT SYSTEM DEFINED

The Reserve Bank of Australia (2009) defines the Payment system as “arrangements which allow consumers, businesses and other organizations to transfer funds usually held in an account at a financial institution to one another. It includes the payment instruments – cash, cheques and electronic funds transfers which customers use to make payments – and the usually unseen arrangements that ensure that funds move from accounts at one financial institution to another.” The objective of a payment system, as given by the Reserve Bank of Australia (2009) is to offer a mix of payment methods that collectively offer attributes that allow end-users – businesses, consumers and government – to meet their needs at a reasonable cost. Some of the attributes that can be important to end-users are:

- **Timeliness**

  Where the payment is time-critical, the system should have options available that provide timely payment. Timeliness involves timing of the availability of funds to the recipient as well as at POS or online retail transaction that confirmation that the payment is on its way so that the transaction can be completed (Reserve Bank of Australia 2009).

- **Accessibility**

  It is desirable that everyone who needs to make and receive payments should have ready access to the payments system. The ability to access the payments system when and where required is critical. Another element of accessibility is the availability of accounts on which payments can be made. Zimbabwe has a highly unbanked
population of 70%, Finscope (2012), which means that access to bank-based payment methods is limited. In similar developing countries the introduction of mobile phone based payment systems has dramatically increased access to the payments system, even if one does not have a bank account.

- **Ease of use**

Systems that are easier to use are preferable to those that are more cumbersome. Aspects of ease of use consumers look for include portability, flexibility, speedy, ease of setting up and learning (Hayashi 2012). But this is not just an issue of convenience, systems that require manual entry of account and transaction details are prone to errors that can be costly to correct and can discourage use. That is one reason why payment cards are popular, because most of the need for manual entry is removed. The challenge for mobile payment systems is to provide solutions that are easy for both the payer and the recipient.

- **Ease of integration with other processes**

Payments are rarely made in isolation. Typically they are made as part of a process that requires some form of information exchange and reconciliation. Payment systems should be able to integrate efficiently with these processes. Key examples are the capacity of payment systems to carry additional information relevant to the payment and the ability of payment messages to be easily integrated with accounting and other business systems (Reserve Bank of Australia 2009).

- **Safety and reliability**

According to Hayashi (2012), end-users of a payment system need to have confidence that the system will be available when expected and that payments will reach the intended recipient at the time promised. They also need to be confident that the system is secure, so that using it will not expose them to future losses as a result of information being fraudulently obtained.
• Low and transparent prices

The Reserve Bank of Australia (2012), further explained that if two systems perform exactly the same function, users can be expected to prefer the cheaper one. However, each system typically has different attributes, and end-users make choices by weighing up those attributes and relative pricing. This means that both prices and the systems’ attributes need to be transparent, so that those choices can be well informed. Pricing is most likely to be efficient where there is a reasonable alignment between the relative prices faced by those with decision-making power and the relative resource costs of different payment instruments.

2.2 METHODS OF RETAIL PAYMENT

Retail payments are payments which are carried out by non-financial institutions like individuals to individuals (P2P), individuals to businesses (P2B), business to individuals (B2P) or business to business (B2B) in exchange for goods or services rendered. Kokkola (2010) defines a payment method as a tool or set of procedures enabling the transfer of funds from the payer to the payee. Innovation and developments in the payment arena have resulted in a greater variety of payment methods in regular use in the whole world. Despite a decade long recession era in Zimbabwe, that regrettably affected the payment system, debit cards and cash have weathered the storm and continue to grow and prosper as a method of payment.

The most common distinction payment methods are between cash and non cash payment methods. Nedbank South Africa (http://www.nedbank.co.za/website/content/ accessed 23.05.2013), gives an insight into the description of the traditional methods of payment, excluding mobile payments as:

• Cash

Cash is the oldest and the most common method of paying for goods and services. It is universally acceptable anywhere where other methods of payment might not be readily
acceptable. Cash remains the most commonly used payment method, particularly for low-value payments. The benefits of cash are that the holder is able to monitor expenses as one can actually see the wallet emptying. Cash is also used anonymously as the payer is not required to give personal details. The other benefit is that cash is cost effective, there are no additional fees associated with its use. A cash payment is also an immediate and final transfer of value and the recipient can immediately use the cash received for further payments (http://www.nedbank.co.za/website/content/ accessed 23.05.2013)

On the other hand, cash is bulky and high risk of theft hence cash usage has been to some extent replaced by electronic payment methods, particularly debit cards. In Zimbabwe, cash remains the most commonly used payment method, mainly for low-value payments. It is highly anticipated that use of mobile payment methods has the potential to further reduce cash use over time.

- **Cheque**

A cheque is a written and signed order given by a person, instructing their bank to pay a certain sum of money, at a certain date or in future, a certain sum of money out of their account, to a third party. Cheques are used to pay for goods and services when one does not have physical cash but have a withdrawable amount in the bank. The benefit of cheques is that one can keep a record of one’s expenses and be able to monitor expenditure. There is also unlimited additional data to accompany the payment, for instance by attaching the cheque to an invoice or other information and payment to be made when only limited information is known about the payee (http://www.nedbank.co.za/website/content/ accessed 23.05.2013).

Despite the benefits, the use of cheques has seen a considerable decline due to a number of issues. http://www.mypaymentsolution.com/disadvantagesofcheques. (accessed 20.04 2013), suggests that the downfall of cheques has been caused by the method’s failure to meet the timeliness requirement as cheques take long to clear and recipient to have immediate access to funds, are a relatively high-cost payment method
for both drawer and recipient and cheques are also susceptible to frauds and tempering since they are made of paper. This has been witnessed in Zimbabwe as RBZ (2013) reports that in value terms, cheque transactions decreased by 7.2% from 2012.

- **Card payment**

A card gives one the ability to pay money automatically out of one’s bank account through swiping the card at a POS machine. The payments can be made locally or internationally depending on the type of card issued. Cards are a quicker, more convenient, more secure and safer method of payment than cash and cheques. One requires a secret personal identification number (PIN) to authorise amounts that can be paid out of one’s account. Cards are also the fastest and easiest way to buy online (www.online.citibank.co.in.../epay.htm accessed 23.05.2013)

RBZ (2013) lamented the high propensity to settle payment in cash in Zimbabwe. The Bank believes there is need to promote non cash means of payments as the economy has remained a cash economy in spite of the Central Bank efforts aimed at promoting electronic payments. The Bank revealed that the Point of sale (POS) density in the country stood at 400 machines per million which falls short of the world average of 1,300 machines per million.

- **Electronic Funds Transfers**

Electronic Funds Transfers (EFT) allows one to transfer money out of one’s account to any beneficiary, within and outside the bank. EFT is a cost efficient, safe and reliable mode of transfer because funds can be easily traced in case the intended beneficiary does not receive the funds. In spite of that, EFT’s largest disadvantage is security, as hackers try to steal customers’ identities, information as well as money. (http://www.nedbank.co.za/website/content/ accessed 23.05.2013).
Mobile Payment

In addition to traditional payment methods, mobile payments bring the ability of telecommunications companies expanding their role to be holders of stored value. Mobile payment is one of the most active areas of innovation in payments globally as mobile devices are ubiquitous and are almost always in close proximity to the user. It is a new payment method which has different meanings and functions in different countries. However it is generally defined as “any payment where a mobile device is used to initiate, authorise and confirm an exchange of financial value in return for goods and service,” (Carr 2007). Gartner Group (2009) further defines Mobile Payment System as paying for a product or service using mobile technology including Near Field Communication (NFC), Short Message Service (SMS), Wireless Application Protocol (WAP) or Direct Mobile Billing.

2.3 MOBILE PAYMENTS SYSTEM

Mobile Payment Systems are defined variedly in different markets depending on the mobile solutions adopted which would also depend on the economic, regulatory, social and technological differences. Ondrus (2007) explained that mobile payment is a segment of mobile commerce which involves any transaction that transfer the ownership or rights to use goods and services, which is initiated and /or completed by using mobile access to a computer mediated networks with the help of an electronic device.

Gartner Group (2009), defined mobile payment services as paying for a product or service using mobile technology including Near Field Communication (NFC) which is a short-range wireless technology that stores account information in a chip embedded in a card, mobile handset, or some other device for the purpose of enabling proximity payments, Short message service (SMS), Wireless Application Protocol (WAP) or direct mobile billing.
Mobile Payment can be broadly classified as ‘proximity’ or ‘remote’ mobile payment. Under proximity mobile payment, the payer and the payee are in the same location and communicate directly with each other using contactless radio technologies such as NFC, Bluetooth or infrared for data transfer. It allows payments to be made simply by swiping or tapping mobile devices at payment terminals. The drawback is that most devices are not equipped with the new technology.

For remote payments, the transaction is conducted over telecommunication networks such as Econet Wireless, or internet and can be made independently of the payer’s location. The remote payments using mobile phones is similar to that currently being done on the personal computer through the web.

Mobile payment can be person to person (P2P), person to business (P2B), business to person (B2P) or business to business (B2B). For this study, the researcher will limit to and focus on person to person (P2P), person to business (P2B) and proximity mobile payment, which involves a mobile phone being waived or swiped over a point of sale machine or bar code to enable transfer of funds from payer to receiver for payment process to take place.
2.3.1 MOBILE PAYMENT FRAMEWORK

Ondrus (2007), proposed three dimensions to classify the different technologies in mobile payments to provide an understanding of the mobile payment framework, namely:

- **Network**—that gathers the technologies used in a wireless network infrastructure.
- **Device**—for example the mobile phone represents the user wireless infrastructure.
- **Mobile application**—describes the technologies used mostly by mobile application service providers and content providers.

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**Figure 3: Mobile Payment framework**
Source: Ondrus (2007)
2.3.2 MOBILE PAYMENT BUSINESS MODELS

The success of the mobile payment industry not only hinges on consumer and merchants willingness to adopt but also requires a seamless integration of technology with viable business models. Different mobile payment business models can be adopted depending on the applicable regulatory climate, consumer culture, as well as the demographics in that particular environment. Basically, a business model may be bank-led, mobile network operator -led, or partnership led, Boer and de Boer (2010), with technology service firms often included to enable the application or platform for payment service delivery. Merrit (2010) shed light on on the different business models as:

- **Bank-led models**

Under this model, a financial institution controls the customer relationship and provides mobile services to augment existing delivery channels. The mobile operator provides the channel for the transactions conducted by the financial institution. In Zimbabwe, TextaCash, by CABS is an example of a bank led model, despite the limited solutions it offers.

- **Mobile network operator-led models**

This model limits or eliminates the involvement of the financial institution in the payment delivery, clearing, and settlement. This is prevalent in developing countries where mobile network operators are dominating the mobile money transfer market, creating the customer relationship and providing the service distribution channel, with clearing and settlement functions often independent of the participation of mainstream financial institutions or central banks. A user may fund the mobile transaction either by prepaying for airtime, thereby “topping up” the account and then using the value as a medium of exchange, or by establishing a stored-value account maintained by the carrier for the mobile phone holder, which can then be used for transactions, (Merrit 2010). Mobile network operator models thrive in developing markets because of their ability to reach large numbers of unbanked people in physically remote locations beyond the presence
of bank and landline infrastructures. These MNO-led systems typically rely on short message service (SMS)-based low-value payments. Econet Wireless Zimbabwe’s EcoCash and Vodacom M-PESA in Kenya are examples of MNO led models.

- **Partnership models**

In the partnership model, the financial institutions, mobile network operators and third-party service providers that make up the ecosystem partner and collaborate to provide payment services. Financial Institutions have several million customers and telecommunication operators also have several million customers. When they work together to provide an m-payment solution to the same customers, this will be a win-win situation for all stakeholders. In this model, the bank account is linked to the mobile phone number of the customer. When the customer makes a mobile payment transaction with a merchant, the bank account of the customer is debited and the value is credited to the merchant account (Merrit 2010).

### 2.3.3 TECHNOLOGIES FOR MOBILE PAYMENTS

The mobile technology landscape provides various possibilities for implementing mobile payments. The widespread diffusion of mobile devices and their accessibility to consumers plays a significant role in the business use of these technologies and increasing the value adding services that make use of mobile devices leads to a sustainable mobile commerce sector (Carr 2007). He describes the commonly used technologies that a smart phone may send or receive information through, SMS, USSD, WAP/GPRS or NFC. The choice of the channel influences the way mobile payments solutions are implemented.

- **Short Message Service (SMS)**

This is a text message service that enables short messages that can be transmitted from a mobile phone. Short messages are stored and forwarded by SMS centres and they can also be used to provide information about the status of one’s account with the
bank (informational) or can be used to transmit payment instructions from the phone (Carr 2007).

- **Unstructured Supplementary Services Delivery (USSD)**

Unstructured Supplementary Service Data (USSD) is a unique technology which has a capability built into a smart phone for support of transmitting information over the signalling channels of the mobile telecommunications network. USSD provides session-based communication, enabling a variety of applications. USSD is session oriented transaction-oriented technology while SMS is a store-and-forward technology. Turnaround response times for interactive applications are shorter for USSD than SMS (Carr 2007).

- **General Packet Radio Service /Wireless Application Protocol**

General Packet Radio Service (GPRS) is a mobile data service available to mobile telecommunication users. GPRS provides packet-switched data for all networks and it enables services such as Wireless Application Protocol (WAP) access, Multimedia Messaging Service (MMS), and for Internet communication services such as e-mail and World Wide Web access in mobile phones. The mobile payment client application may reside either on the phone or in the subscriber’s identity module (SIM) (Carr 2007).

- **Near Field Communication (NFC)**

NFC is the fusion of contactless smartcard (RFID) and a mobile phone. The mobile phone can be used as a contactless card. NFC enabled phones can act as RFID tags or readers. This creates opportunity to make innovative applications especially in ticketing and couponing (Ondrus and Pigneur 2007).

Gartner (2010) noted that while there have been several developments in mobile payments, short message service (SMS) dominates mobile payment technology for consumers in both emerging and developed markets, due to its ubiquity and ease-of-
use. On the other hand, Wireless Application Protocol (WAP) is more frequently used by consumers in developed markets where there is a higher penetration of data-enabled phones and active data plans. As for Near Field Communication (NFC) adoption, Gartner noted that many service providers failed to identify its business as it has similar functionality as contactless cards as well as the lack of NFC-enabled handsets.

- **Subscriber Identity Module -based Application**

The subscriber identity module (SIM) used in smart mobile phones is a small chip with processing power and memory. The information in the SIM can be protected using cryptographic algorithms and keys. This makes SIM applications relatively more secure than client applications that reside on the mobile phone. Also, whenever the customer acquires a new handset only the SIM card needs to be moved (Carr 2007). If the application is placed on the phone, a new handset has to be personalized again. NetOne Zimbabwe,(http://www.netone.co.zw 04.03.2013) have assured consumers that their OneWallet platform is very secure as it is SIM based.

### 2.4 PARTICIPANTS IN THE MOBILE PAYMENT ARENA

The mobile payment environment is made up of mobile network operators, financial institutions, regulators, mobile money agents and or merchants as well as the consumers (Jenkins 2008).

- **The Mobile Network Operators (MNO)**

Jenkins (2008) observed that MNOs have broken the industry boundaries in payment methods. His observation is based on the fact that MNOs have control of the telecommunications platforms and sometimes the technologies. They have also gained control of the mobile payment arena, even though in some cases they have partnered financial institutions to provide a familiar and seamless service to customers. The
MNOs’ incentives for engaging in financial services is the ability to increase revenue from voice services by the addition of data transmissions, particularly in developed countries where mobile markets are reaching saturation levels (Bourreau and Verdier 2010). Jenkins (2008) further enlightens that MNOs face regulatory constraints on providing financial services to customers as the MNO are encroaching into a highly regulated financial services sector.

- **The Financial Institutions**

The financial institutions offer banking services to consumers via a mobile device, and may hold float or accounts in the customers’ names. They are facing competitive pressures from MNO and other non-bank participants in mobile payments. Most are collaborating with MNO to share the gains and others have implemented counter business models that deliver similar convenience. (Jenkins 2008). However, consumers, particularly low income earners, may face hurdles with stringent regulatory requirements and compliance issues especially with Know Your Customer (KYC) requirements. This is more so in less developed countries like Zimbabwe where majority of people cannot afford bank accounts and opt to carry out cash transfers and payments through MNO money transfer agents.

- **The Merchants/ Agents and Retailers**

AU and Kauffman (2007) acknowledged that merchants have an important role in the development of payment services. They create the market for financial institutions and other payment service providers. The Merchants would wish to use mobile payments as an opportunity to achieve competences in terms of costs of processing, terminal investment and upgrades, security and quality service to consumers. Enough merchants must implement a new payment method for it to catch on with consumers, however, in order for it to be appealing to merchants a large amount of consumers need to be interested. Their active participation in
promoting a payment solution is crucial to consolidate a large number of points of acceptance.

- **The regulatory authorities**

Regulatory authorities have their involvement in mobile payment services in setting a legal framework and controlling compliance. Although mobile payment service may allow parties to make economic exchanges, it is not legal tender in the sense that it lacks the status of other payment instruments such as cash, which is a medium of exchange that is authorized, adopted and guaranteed by the government (Au and Kauffman 2007).

The regulations for players in the financial industry are different from those governing the telecommunications industry, which means that each industry has its own particular standards body, Lim (2007) to comply with. There are risks more unique to telecommunication companies that financial institutions and their regulators lack experience in detecting and monitoring. In that regard, regulators are perceived to be failing to keep pace with mobile payment innovation, hence there is need for enhanced coordination among regulatory bodies of the financial, telecommunications as well as the Consumer Protection.

- **The Consumers**

Consumers and their needs and experiences play a critical role in driving the adoption of mobile payments and will dictate the sustainability of mobile solutions in the long-run (Little 2011). He states that before a decision is made on the adoption of mobile payment, the consumer will weigh the following questions:
  - What added value is there in replacing the existing payment methods such as cash and card?
  - Will the value proposition be sufficiently compelling?
• How secure will be the mobile wallet as compared to cash in the pocket or funds in the bank account.

Although the adoption of mobile phone usage has been tremendous worldwide, mobile payment might not be adopted fully as consumers tread with caution when their concerns such as security and privacy issues have not been fully addressed.

2.5 BENEFITS OF MOBILE PAYMENT SYSTEM

Federal Reserve Bank of Kansas City (2012) compared mobile payments to traditional payment methods and noted that some attributes such as convenience, cost, security and acceptance by merchants, apply to both mobile payments and traditional payment methods. However, greater convenience, enhanced ability to monitor accounts, ease of use, speed and ability to receive discounts and targeted promotions would be benefits most likely to entice consumer adoption of mobile payment for in-store purchases. Deloitte Research (2012) established that mobile payments bring along added convenience, flexibility and increased speed for both merchants and customers. The following are some of the peculiar benefits for developing economies:

• Lower costs

Cash is the most expensive mainstream of payment. Mobile payment promises accuracy and low merchant costs. In Zimbabwe, because of the usage of multicurrency, costs include importation of cash, transportation and security which ultimately results in consumers bearing the extra costs when they withdraw cash from banks or when they purchase goods.

• Ease liquidity challenges

Mobile payments reduce the reliance on cash for daily payment transactions. Although the multicurrency regime in Zimbabwe brought many benefits to the country, it came
with liquidity challenges. The Reserve Bank of Zimbabwe cannot print any of the foreign currency and this has led to liquidity challenges. There is need to manage liquidity that is available and ease pressure on cash and cards.

- **Enhanced Economic activity**

Mobile payments drive economic activity and faster growth. Governments and regulators can monitor activity easily as financial transactions are formal.

In Zimbabwe the service would empower the most underserved segments of our economy by spreading the services to those households that are poorer and less connected to the financial system.

### 2.6 CHALLENGES OF MOBILE PAYMENT SYSTEMS

The approaches used in mobile payment services should be complemented with proper execution that overcomes hurdles that are common to any new business innovation, and in particular to innovation that converge different industries that previously had no direct connection (Conway 2008). The following are some of the challenges faced in mobile payment arena as highlighted by Conway (2008).

- **Regulatory**

Cross industry partnerships have been difficult to implement in mobile payment services as the operating regulations of each industry have to be respected and observed. In Zimbabwe, Reserve Bank of Zimbabwe, as the bank regulator has to balance between advancing financial inclusion with ensuring stability and soundness of the country’s financial system. In the meantime, Posts and Telecommunications Regulatory Authority, (POTRAZ), has a mandate to license telecommunication companies, to ensure the provision of sufficient and quality telecommunication systems and services and promote the interests of telecommunications consumers. The Reserve Bank of Zimbabwe
through its oversight and regulatory mandate is expected to come up with a regulatory code of conduct that incorporates the different industries of banking, telecommunication and the retail sector to ensure anti-money laundering and customer due diligence is observed when customers sign up for and operate mobile money transactions. The Central Bank should synergize its regulation with POTRAZ’s to ensure effective management and operation of the mobile payment system. If the two bodies do not come up with an inclusive code of conduct for both financial institutions and telecommunication companies, there will be a lot of overlapping and infringement of regulations from both regulatory bodies, which may lead to inefficiencies.

- **Business Models**

MNO and Banks have different objectives, different perspectives on revenue sharing as well as different mind sets on business strategies. Lack of cooperation between service providers has resulted in different business models being pursued in Zimbabwe. Econet Wireless Zimbabwe has been reported to be at war with banks as it refuses to fully open its system for banks to access for their own customers convenience (Techzim 2014). This brings a challenge of business collaboration, of which if not handled carefully, will result in a fragmented mobile payment system as each one of the service providers would want to go it alone.

- **Interoperability**

A closed loop mobile payment system, where customers cannot send a payment to a customer in another system is a challenge for mobile payment system growth as it inconveniences the same customers who are seeking for it. The current mobile payment systems are exclusive to consumers of certain financial institutions and MNO service providers. Ecocash mobile platform is not open to other mobile platform users like OneWallet or SKwama despite the other mobile platforms having partial access to each other. Consumers might be reluctant to change their mobile network or bank just to gain the mobile payment functionality. Meanwhile interconnectivity between MNOs and Banks is by invitation as Ecocash has selectively signed bilateral agreements with some
banks in Zimbabwe and SKwama has chosen Kingdom Bank. The banks act as customers float fund holders. Regulators should step in, not so much to stifle the competition, but to protect the consumers and ensure everyone operates within the confines of set regulations.

- **Adverse network effects**

The value to the customer of a payment system depends on the number of people connected to and actively using it. The more people on the network, the more useful it becomes. While network effects can help a scheme gain momentum once it reaches a critical mass of customers, they can make it difficult to attract early adopters in the early phase when there are few users on it.

- **Trust**

Customers have to gain confidence in the reliability of a new system. In this case, customers have to be comfortable with elements that are new like a payment system that is operated by a mobile network operator, going to non-bank retail outlets to make cash deposits and withdrawals and accessing their account and initiating transactions through their mobile phone. The need to build trust can be seen as a constraint in two respects. Firstly, the trust in the technology that lies behind the hardware interface of the mobile device and which underpin mobile payment applications and secondly, the trust in the organization that is offering the service, which can be a mobile service provider or merchant.

### 2.7 FACTORS THAT INFLUENCE MOBILE PAYMENT SERVICES ACCEPTANCE

#### 2.7.1 TECHNOLOGY ACCEPTANCE MODEL (TAM)

A noteworthy amount of research has been done to study factors that influence the acceptance of mobile payment systems by consumers in different markets. This study
is guided by the Technology Acceptance Model proposed by Davis (1989) and adoption factors put forward by Mallat (2007), on examining consumer adoption of the new electronic payment service, mobile payment.

**Technology Acceptance Model (TAM)**

![Technology Acceptance Model (TAM)](image)

**Fig. 4: Technology Acceptance Model (TAM)**

**Source: Davis (1989)**

Technology Acceptance Model, TAM (Davis 1989) is a theoretical method that has been used in other technology acceptance studies, since Davis (1989) proposed that perceived usefulness and perceived ease of use are the primary drivers for technology acceptance.

Davis (1989) explained that Perceived usefulness refers to the degree to which the user believes that using a particular system would enhance his job performance and that perceived ease of use refers to the degree to which a user believes that using a particular system would be free of effort. Perceived ease of use has a direct effect on perceived usefulness and both determine the consumer attitude towards use, which leads to behavioural intention to use the system and actual use of the system.
Dahlberg, Mallat and Oorni (2003), further explain that perceived usefulness measures performance increase, productivity increase, effectiveness, overall usefulness, time savings and increased job performance whilst perceived ease of use include ease of learning, ease of control, ease of understanding, ease of use, clarity and flexibility of use. TAM was seen as a suitable model because it is the basis of technology acceptance models as has been validated in numerous studies before. It is suitable for this study because it includes the two factors that are relevant for mobile payment technology, namely perceived usefulness and perceived ease of use.

The researcher acknowledges that some other additional relevant factors have been added to the original TAM from previous researchers, (Chen and Adams 2005; Dahlberg et al. 2008; Dewan and Chen 2005; Heijen 2002; Lee 2009; Mallat 2007; Mallat and Dahlberg 2005; Pousttchi and Wiedemann 2009; Venkatesh and Davis 2003; Viehlan 2007 and Zmijewska et al. 2007) such as risk and security, cost, trust, convenience, external circumstances like network availability and system quality and ubiquity. The findings of most of their studies indicate that for mobile payment to be adopted successfully, service providers must examine user adoption factors that are pertinent in their service markets.

Although the study acknowledges that perceived usefulness and perceived ease of use have a direct influence on behavioural intention, the study also recognized that there are other external factors that influence the behaviour of an individual towards adoption of a system. To that end, in addition to Davis (1989), TAM model, this study also adopted Mallat (2007)’s adoption factors as the external factors suitable to study mobile payment adoption in Zimbabwe. Mallat’s factors were found suitable because he focused more on technological factors that affect the adoption of new technologies. Mallat provided the adoption factors as, complexity (which is same as ease of use by Davis, relative advantage (which is same as usefulness by Davis), trust, compatibility, cost, network externalities and security.
2.7.2 RESEARCH MODEL FOR MOBILE PAYMENT USER ADOPTION IN ZIMBABWE

The study proposed the following model to establish the status and factors of adoption of mobile payments in Zimbabwe.

![Proposed Research Mobile Payment Acceptance Model]

- **Network Availability and System Quality**
  
  This is an externality issue related to the “chicken and egg” dilemma. As Mallat (2007) pointed out, users would not want to adopt mobile payment systems when they perceive the providers’ networks are not reliable and accessible everywhere. Besides network availability and ubiquity, consumers have concerns on device battery life as battery life discharges fast and consumers do not want to be inconvenienced by device running flat when they need to do a payment. At the same time the service providers would also not wish to invest heavily in mobile payment infrastructure where they are not sure of getting their return on investments. However, if the service providers gain the users’
confidence in that networks will be available everywhere and always, users are most likely to change their perception towards usage of mobile payment services.

- **Security Risk and Privacy**

Consumers are not sure of the security aspects of the mobile payment platform and they feel they are not in control of the mobile payment process hence are hesitant to use the mobile payment system. Security has been highlighted in previous studies as a major concern by consumers on mobile payment adoption (Dahlberg et al. 2008); (Wu and Wang 2005); (Chen 2008). Heijden (2002) portrays security as the risk of lack of reliability, privacy, anonymity, trustworthiness, regulatory framework, consumer protection, feasibility, integration effort, interoperability and scalability.

Mallat (2007) and Dahlberg et al. (2008) in their respective researches highlighted that risk and security issues are major issues in mobile payment systems. They cited the following security risk factors;

- Unauthorized use of the mobile phone as a result of identity theft or fraud.
- Lack of paper documentation resulting in problems with follow-up services,
- Possible errors in transactions,
- Vagueness of transaction resulting in lack of control over mobile payment which makes consumers unsure whether the payment took place or not,
- Concerns on device power failure and network reliability
- Consumer concerns about privacy of their personal information.

- **Trust**

Like in any payment system, trust is of high importance in mobile payments. “Trust is the belief that vendors will perform some activity in accordance with customer’s expectations” (Gefen 2004). Dahlberg et al. (2008) believe that “perceived security and trustworthiness of different parties significantly affect consumers’ perception of a mobile payment system. Trust in any payment system is influenced by anonymity, security, reliability, the amount of control that users have and the reputation of the entity that
introduced the system.” Trust of the mobile payment service provider is also considered as a factor since the service can be provided by different service providers with different objectives and agendas. Pousttchi (2003) after a survey concluded that trust is very difficult to develop among users after 96% of respondents replied that they wanted confidentiality of data exchanged with service provider.

- **Compatibility**

According to Mallat (2007), compatibility captures the consistency between an innovation and the values, experiences, and needs of potential adopters. For payment systems, consumer ability to integrate them into their daily life is an important aspect of compatibility. The compatibility of mobile payments with consumers’ purchase transactions, habits, and preferences correspondingly influences the adoption progress. Consumers move around with their mobile phones and are using them for various purposes like calling, messaging, browsing and playing games and they are always making purchases of goods and services. To this end, users should be able to integrate the mobile payment service with their existing behavioral patterns, which may result in a higher intention to adopt mobile payment.

- **Cost**

Cost refers to the extent to which a consumer believes that using mobile payment will cost money. Kim (2010) acknowledged that in contrast to the traditional methods of payment, the cost of using a payment method includes two components. First are the direct transactional fees paid to payments providers, banks, or merchants for using the method and secondly, the costs of equipment, the mobile device, and the technology applications needed to use the method. Users of Mobile payment services will require at least a Smartphone for all the different mobile payment technologies. Besides the cost of acquiring a Smartphone, users do not anticipate significant transaction costs associated with mobile payment services because the service providers promise a lower cost method of payment. Otherwise if the transaction costs are higher, users will not adopt or will revert back to old methods of payment like cash and cards.
• **Perceived Usefulness (Relative Advantage)**

Perceived usefulness can be viewed as the ‘the degree to which the user believes that using a system would enhance their everyday routine (Padashetty and Kishore 2013). When there is an introduction of a new system in a service, consumers would first look at the benefits, an ‘what is in it for me ‘ attitude, compare with the current system and then would consider going for the new system. Within the mobile payment perspective consumers normally look for convenience, speed and other rewards for using the system, especially when paying since that is typically their least favorite part of the shopping experience. Mobile payment system should afford consumers the convenience, ubiquitous purchase possibilities, timely access to payment, relative advantages over other methods and benefits.

Lee (2009) suggested that in choosing a method of payment, convenience can have different aspects depending on the circumstances. For some people, it can mean ease of access, portability, flexibility in having a choice of the account to debit where several accounts are on one mobile phone, speed of use when they have run out of time or are on the road and can just stop and waive their phone in cases of NFC, and ease of use. As we know, consumers always have their mobile phones with them and on them, hence if the mobile phone then becomes the wallet, there will not be any need to carry a phone as well as a wallet. Consumers need to know that they will be able to make their purchases when they want to at any time and the service will be available with no hassle.

Ubiquity, as defined by the Collins English Dictionary, is the ability to be everywhere at once. Whilst mobile phones might be ubiquitous, mobile payment services might not be. Users can only fully adopt mobile payment services when they know that the service is available and acceptable everywhere just as cash. Mobile Payment services require ubiquity as consumers need reliance that, with their mobile phone, they can enter any retail or convenience shop and be able to use the service for payment regardless of their type of phone or Mobile Network Operator or Bank.
• **Perceived Ease of Use (Complexity)**

Consumers think from a point of easiness to understand and use a system. Mobile payment services are expected to be easy to use as consumers are already using their mobile phones for other purposes, however the paying process should not involve a lot of button punching which would reduce the speed of the paying process. Mallat (2003) further explains that limitations in mobile phones, which include small displays and keypads, limited transmission speed and memory, and short battery life in mobile device features, reduce the usability and user-friendliness of mobile technologies.

### 2.7.3 MOBILE PAYMENT GLOBAL ADOPTION

Awareness of Mobile Payment services is evident the world over due to the widespread adoption of the mobile devices. Success in mobile payment services user acceptance varies in the different economies due to different attracting factors. However, as a number of researches pointed out, mobile payment continues to lag in developed markets where there are already plentiful choices of payment for consumers (Gartner 2010; Lightspeed 2011; Lightspeed 2012; Vocalink 2013). Another research carried out by Tai (2011) on Technology Acceptance of mobile payment in Germany, France, USA and Kenya revealed that the threat of mobile payment can be mainly seen in the users concern for security, trust and cost.

The figure below, adapted from Little (2011), global mobile payment acceptance indicates that in developing markets, like South America, Africa and Asia, economical, technological, social and cultural factors like low penetration of banking infrastructure, low income per capita, low internet penetration, high mobile penetration and cash based economies stimulate mobile payment systems. On the other hand, low computer literacy seems to be an inhibitor to mobile payment systems development in other developing markets.
Conversely, the figure demonstrates that, in developed markets, for example, Europe, USA, Canada and Australia, factors like developed banking infrastructure, high income per capita, regulatory restrictions, credit card usage legacy and high internet penetration hinder mobile payment services growth. There is hope that high mobile penetration and technological knowledge will stimulate the acceptance of mobile payment services.

**2.7.4 MOBILE PAYMENT ADOPTION IN EUROPE**

Vocalink (2013), an international payments provider based in the United Kingdom (UK), carried out one of the largest UK surveys on over 10,000 mobile phone users into mobile banking and payments usage, ‘Mobile usage: Attitudes and Payments Research Report 2013’.

The report indicated that more than 50% of the surveyed people in UK own smartphones and 20% actually use them as payment devices on a regular basis and 30% are interested in doing so. The youth aged between 16 to 24 years will most likely
drive mobile payment services demand upward. The Vocalink mobile payments report also shows that of the mobile payment services available supermarket grocery shopping consisted of the least utilized mobile payment service (3%) as compared to the others, sending money to friends and family (6%), parking payments (5%). 63% of the people surveyed stated that they would trust a bank with this type of service as security remains priority for non users (40%) when opting for an alternative payment methods, and for users, convenience (52%) and then ease of use(51%) being an attraction .The banks, as the most trusted provider of payments capabilities, are uniquely positioned because of their existing infrastructure and already established bank customer relationship ,to work with stakeholders including retailers, billers and telecommunication companies to create the necessary infrastructure for a ubiquitous and trusted solution to take mobile payments into the future for the UK. Network disruptions are a concern for only 18% of the people surveyed, presumably because of the perceived robust telecommunication system in the country.

2.7.5 MOBILE PAYMENT ADOPTION IN ASIA

KPMG (2007) report on Mobile Payment acceptance in Asia pointed out that, because of a strong penetration of mobile phones as well as large rural populations, mobile technologies have been adopted widely.

Japan and Korea were the global leaders in digital technologies which include mobile payments. Although Hong Kong, Singapore and Taipei have the most penetration of mobile phones, the high adoption of mobile phones could not translate to a corresponding high adoption rate of mobile payments due to security and trust issues. According to the Report, the largest and less developed economies of China, India, Indonesia and the Philippines were demonstrating a rapid take up of mobile remittances, bill payments and e-and m- ticketing .The other countries, Thailand and Malaysia lacked extensive adoption of any mobile payment service.

Gartner Report (2010), echoed the same sentiments but highlighted that the Asia-Pacific region was leading the way in mobile payment adoption, with the number of
users in the market segment was set to grow by 50 percent from 41.8 million in 2009 to 62.8 million by end of 2010.

The report acknowledged that this emerging market would continue to see strong demand for mobile payments, driven by the "unbanked" and "under banked" populations that do not have ready access to banking infrastructure or personal computers. In addressing the consumers' concerns, the Regulators ensured that policies related to mobile transfers and mobile payment were tightened to ensure security and the service providers had to identify the right combination to drive demand for mobile payments by targeting the functions that users want and building the ecosystem to sustain such services, the report said.

Recently, an Asia-Pacific Online Payment Methods Report, yStats.com (2013), (http://www.ystats.com 20.05.2013) provided information about the movement toward online and mobile purchase transactions. The report which was based on recently published information from a variety of sources details the latest trends and news on the topic, with projections of continued growth in the next few years. The Report says in the Asia-Pacific region, mobile payment methods increased in awareness of consumers in 2012, with over two-thirds of those acquainted with the methods willing to use digital wallets and SMS payments in 2013.

2.7.6 MOBILE PAYMENT ADOPTION IN THE UNITED STATES OF AMERICA

Mobile payment adoption is reported to remain low in the developed markets, like the USA, as compared to developing markets like Asia and Africa, for the reason that most people have bank accounts and the mobile phone is evolving as merely another payments delivery channel augmenting existing financial products and services. Deloitte Publication (2012) carried out a survey targeting senior executives across the mobile payment value chain in US representing financial institutions, MNOs, application providers, handset manufacturers amongst others. The report concluded that, in the USA market, mobile payments have not been received well, mostly due to divergent interests and the absence of a common goal among key players from different
industries. According to the research the challenges to the adoption of mobile payments emanated both from the service providers as well as the customers. From the service provider, which is the supply side, there was lack of coordination by the service providers, lack of an appropriate business model, and lack of clear regulatory oversight and regulations. From the customers, which is the demand side, there were perceived low benefits because of the existing payment system and there was perceived high cost to consumers and merchants of upgrading to the new technology. The research showed that consumers in the USA did not find the usefulness of mobile payments because the service was not satisfying an unmet need and the advantages of mobile payment over credit cards were not critical to them. An earlier survey by Dewan and Chen (2006) in the USA on mobile payment adoption singled out security and privacy as issues that concerned consumers in mobile payment adoption.

In Canada, mobile payment penetration remained low due to lack of technological standards, limited mobile technology adoption, a vague value proposition, and an unclear business case (Deloitte Publication 2012). There was also uncertainty on the roles of financial institutions and Mobile Network Operators (MNOs), as well as the level of collaboration and cooperation expected of the service providers.

Another Lightspeed Research (2012), 4002 adult mobile payment services users in the USA and Canada revealed some improvement in the awareness and adoption of the service acceptance in the market. Most reasons for adoption of mobile payment services were not out of need to access a payment method, but as an alternative to already satisfying payment methods. The following are some of the insights out of the survey:

- 41% of American smart phone users were highly aware that their phones could be used as payment devices at retail counters, yet only 16% had used them for mobile payments.
- Consumers were much more concerned about the security, privacy and convenience of mobile payments. Some 45% of respondents who did not make
mobile payments said they were concerned about security, while 37 % had worries about privacy. Some 37 % said they did not make mobile payments because of the convenience of their current payment methods.

- Consumers in the region love incentives. Some 60 % of consumers who already were making mobile payments said they would probably do so more often if they received instant coupons as a result, while some 36 % said they would hand over personal information in exchange for such rewards. The same incentives might increase adoption among non-users, albeit to a lesser extent. About one in five non-users said that special coupons or reward points stored on their phones, a dedicated line at retailers or priority customer service might encourage them to make payments using their phones.

- To encourage both existing users and non-users to make mobile payments, mobile payment applications need to be supported across a range of different devices and mobile networks. This is so because, non-users were less likely to switch phone, wireless carrier or bank to enable mobile payments than current users. Current were reluctant to make these changes, but only 7 % of non-users said they were willing to switch phones in order to make mobile payments.

### 2.7.7 MOBILE PAYMENTS ADOPTION IN AFRICA

Several Mobile Payment adoption studies concur that as compared to USA and Europe; many countries in Africa have a less developed financial services and payment environment, but are ahead in mobile payment adoption. The United Nations Conference on Trade and Development, UNCTAD (2010) indicated that Africa was leading the trend with 51 mobile money systems in place, and as many as 37 of the deployments being in least developed countries. This lack of developed financial institutions and branches has allowed parts of Africa to surpass most developed markets, with East Africa, West Africa and Southern Africa witnessing a high growth trajectory in mobile payment initiatives. Gartner Group (2009) however suggested that designing mobile payment models that cater for the differences in strategies is one of
the biggest challenges in Africa. Though Africa will continue to experience strong growth, companies are still searching for the most suitable business model for mobile money in their local markets. In South Africa, as well as in the rest of Africa, the problem is that though there are already some well-established mobile payment services, they are not integrated with one another. For example it is impossible to send money from an FNB eWallet to MTN's Mobile Money platform (Gartner 2009).

- Kenya's M-PESA

Kenya’s M-PESA is the undisputed success story of mobile payments. The mobile payment service was first launched in 2007 through the MNOs Vodafone and Safaricom and it is the leading mobile network provider in East Africa. Mas and Radcliffe (2010) report that 15 million people in Kenya use M-Pesa. It has almost the same number of subscribers as Kenya has adults, which equals to 19 million people out population of 43 million people. This is possible because many of the inhabitants in Kenya do not have bank accounts and M-PESA provided new possibilities for financial inclusion for the people in Kenya. The success on M-PESA is due to the fact that the infrastructure for existing banking and alternative payment systems is limited (Little 2011). Mobile phone operators started offering banking services to previously unbanked customers in the form of e-wallets and person to person money transfers. Where previously people with no access to banks would have to rely on cash, even for sending money for distances, they could now transfer money more securely via their mobile phones. Safaricom says it processes 2 billion transactions in a day on its M-Pesa platform, that number is made up of 2 million transactions that are strictly cash transfers of varying kinds and 2 million airtime top up transactions (Mas and Radcliffe 2010). As an alternative payment method, especially in this region, where banking restrictions make it difficult for the lower to middle class to hold accounts, mobile payment technology has been a huge benefit to society.

The above shows exceptional adoption of mobile payments however there are still concerns with mobile payment in Kenya. Mwaura (2009) carried out a case study on Kenya mobile payments services and found out that Kenyans consider mobile
payments to be useful, easy to use and convenient. However, Kenyans are concerned about security, especially the password and private identity number (PIN) that can be intercepted and mobile phone theft. The survey also found that 98 percent of users report being happy with the service and 84 percent claim that losing M-PESA would have a large, negative effect on them. The figure below illustrates how customers compare M-PESA with alternative services.

![Exhibit 4: Comparing M-PESA with the Alternatives](image)

Figure 7: Comparing M-PESA with alternatives: Source: Mwaura (2009)

- Nigeria

What worked in Kenya could have translated so easily and quickly across the rest of Africa as mobile payment services in Nigeria have seen almost the same level of success. There have been issues that slowed down adoption in Nigeria, mainly mobile payments infrastructure and strong cash based transaction economy until 2011 when the Central Bank of Nigeria introduced controls that encouraged a cashless society. The competitive race for mobile payments was upped since then. The country’s Central Bank believes this will be a success story because the country has a strong Mobile
Network Operations agent network, there is the enforced policy on adopting cashless society as well as the strong financial backing which contributes to a large extent (Central Bank of Nigeria 2010). The financial regulator, already in 2010, had released the regulatory framework to guide the operations of mobile money operators in the country paving way for a successful adoption of mobile payment services.

The MasterCard Mobile Payments Readiness Index (MPRI) (2012) report indicates that in emerging markets like Nigeria and Kenya, mobile payments provide access to a financial system that may not exist or is not widely affordable, leaving consumers heavily reliant on cash. Both Kenya and Nigeria score extremely high in consumer readiness on the MPRI, number one and two, respectively. As the graph below shows, Kenyan and Nigerian consumers are very willing to use mobile payments with 60 percent of Kenyans and 62 percent of Nigerians are receptive to this mode of payment. These high numbers make sense, given that in both countries, mobile payments meet a current and pressing need for a safe, accessible way to pay.

Figure 8: Familiarity VS Willingness Vs Usage

Source: MasterCard Mobile Payment Readiness Index (MPRI) 2012.
• **South Africa**

Although financial institutions, mobile network operators and even retailers have for years been pushing the idea of using some kind of electronic wallet attached to a mobile device as means of payment, mobile payment system has yet to break out of niche usage and become a universal way of transacting. Even so, it seems to be slowly catching on, judging from the raw numbers from some of the businesses backing mobile payments. Vodacom and MTN are the biggest network providers out of the five registered networks in South Africa, with a subscriber base of 52 million and 25 million respectively, ([http://www.telcomsa.co.za](http://www.telcomsa.co.za) 20.05.2013). The introduction of Vodacom’s M-PESA and MTN Mobile Money has begun to make significant impact on the mobile payment market. Financial Institutions have also come up with their mobile payment solutions. In an interview with GSMA Mobile Money For the Unbanked (2013), the CEO of eWallet Solutions at First National Bank (FNB) was quoted as saying South Africa is increasingly comfortable when it comes to transacting over the phone as 22% of South Africans have used a mobile money product. FNB has signed up over 2 million people for its eWallet service and has processed over R5 billion since its inception in 2009. According to Stats SA (2012), South Africa has a population of 52.98 million people.

Accenture (2013) carried out a survey on 1000 South African mobile phone users to examine the motivations of current mobile payment users as well as to look at the reasons for the gap between the level of consumer awareness and the level of consumer adoption. The results showed that consumers are aware of mobile payment services and there is a definite willingness to adopt the service. The security, privacy and convenience of mobile payments are vital among the respondents as 82% and 59% were concerned with security and privacy issues respectively. 42% preferred the convenience of cash and cards and only 26% and 25% were worried about costs and compatibility issues. As in the case of USA consumers, South African mobile payment providers should also incentivize the users and non users of mobile payment through rewards for usage and other value added services to widen adoption.
2.8 CHAPTER CONCLUSION

Literature on mobile payment adoption was presented from around the world and it shows that although mobile payment awareness has been phenomenal, adoption of using a mobile phone to make payments has been slow the world over for various reasons. Issues of security and trust have been noted as impeding adoption of mobile payments in both developed and developing markets. However, there is an evident difference in that in the developed markets, consumers are still to see the benefit from switching to mobile payment as they have a wide choice of currently satisfying payment methods, despite the developed mobile payment infrastructure. In developed markets, the industry is also fragmented with different mobile payment propositions and models, so much that consumers get confused and do not know which solutions are compatible with their mobile phones.

On the other hand, in the developing markets, mobile payment is a necessity and a relief from the underdeveloped banking infrastructure. However, the infrastructure for mobile payment and other network challenges is also not ubiquitous, hence slowing down adoption of in store mobile payment. The growing ubiquity of cell phones in developing countries has encouraged a rapid adoption of P2P payments and remittances. In store mobile payment is still low due to the markets lack of proper infrastructure for convenient payment methods. From the literature it can be deduced that in order to enhance consumer adoption for mobile payments, the mobile payment providers have to address the issues of necessary infrastructure, usefulness, security, trust, ease of use, compatibility and ubiquity issues.
CHAPTER THREE

RESEARCH METHODOLOGY

3. INTRODUCTION

In this chapter strategies on how the research was carried out and how the necessary data and information to address the research objectives and questions was collected, presented and analyzed are outlined and discussed. The chapter highlights the research framework, design, population, sample and sampling techniques that were adopted. Reasons and justifications for adopting such strategies were also presented.

According to Saunders, Lewis and Thornhill (1997), Research methodology is a general plan of how the researcher would go about answering the research questions set, the methods that would be engaged to carry out the research as well as the sources of data that would be used are outlined. Kumar (2008) concurs that research methodology is a way to systematically solve the research problems.

The methodology of this study was customized to meet the objective of this research which is to ascertain the level of awareness and acceptance of mobile payment services as a method of payment in Zimbabwe and to establish, from the customer’s perspective, the challenges that might affect full adoption of the same. The areas covered include research design, research philosophy, research strategies, the target population, sampling design, sampling size and procedure, sources of data as well as data analysis techniques.
3.1 RESEARCH DESIGN

A research design, as described by Parahoo (1997) is a plan that describes how, when and where data are to be collected and analysed. Easterby-Smith, Thorpe and Lowe (2002) define a research design as the overall configuration of a piece of research which describes the kind of evidence gathered and its source. It also provides for the interpretation of evidence gathered to provide good answers to the basic research question. Meanwhile, Hussey and Hussey (1997) elaborated that a research design is a statement of proposed identification, documentation, investigation or other treatment of historic property that identifies the project’s goals, methods and techniques, expected results and the relationship of the expected results to other proposed activities or treatments.

Easterby-Smith et al (2002) observed that the research process consists of two main philosophies, which are the positivism philosophy and phenomenological philosophy.

3.1.1 POSITIVIST PHILOSOPHY

This is a scientific and objective, quantitative, deductive, predictive and uses statistical methods to forecast the result. The fundamental point on positivist view is that, it seeks to explain casual relationships between variables, (Hussey and Hussey 1997). Positivism philosophy can also be described as quantitative research because it is basically about discovering patterns in data through providing answers to questions related to how much, how often, how many, when, who?

3.1.2 PHENOMENOLOGICAL PHILOSOPHY

The phenomenological philosophy approaches research from the perspective that human behavior is not as easily measured as phenomena in the natural sciences. (Saunders, Lewis and Thornhill 2003). According to Neville (2003), “Human motivation is shaped by factors that are not always observable, like inner thought processes, so that it can become hard to generalize on. Furthermore, people place their own
meanings on events, meanings that do not always coincide with the way others have interpreted them. This perspective assumes that people will often influence events and act in unpredictable ways that upset any constructed rules or identifiable norms.”

Phenomenological philosophy is also known as the qualitative approach, which, as a contrast to the positivism approach, includes a range of interpretive techniques which seek to describe, decode, translate and otherwise come to terms with the meaning, not the frequency, of certain more or less naturally occurring phenomena in the social world, (Cooper & Schindler, 2009). This echoed Parahoo (1997), who states that qualitative research, focuses on the experiences of people as well as stressing uniqueness of the individual.

The researcher adopted both the positivism and the phenomenological approaches to be able to capture both the quantitative and qualitative aspects of the data. Combining the two philosophies is aiming at enhancing the representativeness of the gathered information as both approaches rigorously and systematically answers the questions under study. The phenomenological approach plays a discovery role while the positivism approach plays a confirmatory role on the sample.

The study largely adopted the positivist approach as it measures consumer behaviour, knowledge, opinions and attitudes towards mobile payment, hence the research involves collection of quantitative information and deductions to be made from the available data, graphs and charts to explain the findings on mobile payment acceptance in Zimbabwe.

The researcher also adopted the qualitative approach to explore the knowledge, behaviour, perspective, attitudes, opinions and experiences of consumers on Mobile Payment system in Zimbabwe. Phenomenological approach is flexible since it does not bind or limit one to individual variables. It would also fulfil the purpose of the study because of the nature of the information gathered which is highly opinionated. It is appropriate to capture these opinions and experiences because Mobile Payment
system requires customers to change their behaviours towards tightly ingrained habits of using the existing modes of payment such as cash and debit cards.

3.2 RESEARCH STRATEGY

Saunders et al (2009) define research strategy as a general plan of how to go about answering the research question(s) set. It specifies the sources from which the researcher intends to collect the data and considers the constraints that the researcher will inevitably have. There are a number of different research strategies, of which the major ones are the surveys, case study and experiment. Research strategies are not mutually exclusive, hence one strategy can be utilised in conjunction with another strategy.

3.2.1 SURVEY

A survey is a method of sociological investigation that uses question based or statistical surveys to collect information about how people think and act. O’Leary (2005) defines survey research as a systematic gathering of primary data through the use of a structured questionnaire and communication in a reasonably large number and highly representative sample of respondents. Surveys enable the researcher to obtain data about practices, situations or views at one point in time through questionnaires or interviews. Quantitative analytical techniques are then used to draw inferences from this data regarding existing relationships. The survey strategy allows the researcher more control of the research process, which is crucial for a study of mobile payments awareness and adoption exploration.

3.2.2 CASE STUDY

The case study strategy involves development of detailed, intense knowledge about a single case, or a small number of related cases. The strategy has the ability to generate answers to questions of “what,” “why” and “how”. Saunders et al (2009). Since it is confined to a specified period of time and seeks to explain a current phenomenon, it can
be said that it allows one to look at the world through the researcher's eyes and in the process see things one might otherwise not have seen.

3.2.3 EXPERIMENT

Kozloff (2009) illustrates that an experimental research strategy usually involves comparisons of two or more situations that are the same in every way possible, but that differ in the few factors whose effects or outcomes you are testing. One group is the experimental group, and the other is the control group.

3.2.4 SELECTED RESEARCH STRATEGY

The study was conducted using the survey method where questionnaires were personally issued out to the target sample for answering. Respondents were personally approached in the streets and were issued with a questionnaire those respondents would self-administer. The response rate would be higher as the respondent would have been requested for participation. The personal survey method was chosen to be suitable for the study as it provides a quantitative description of attitudes, experiences and opinions of the sample population, Creswell (2003). It is an efficient way of gathering data using a standard set of questions. Hussey and Hussey (1997) also gave the following benefits of using a survey:

- Allows high flexibility in the questioning process
- Interviewers have control of the interviewing situation
- High response rate
- Possibility of collecting supplementary information that can be used to complement existing data from secondary sources.
- It is structured and maintains objectivity throughout the study.
- A broad range of data, like, attitudes, opinions, beliefs, values, behavior and facts, can be collected at once.

However, the researcher was mindful that the reliability of survey data may depend on the factors off-putting personal surveys as listed below:
• Respondents may not feel encouraged to provide accurate and honest personal data in responses.
• Respondents may not be aware of their reason for any given response because of lack of memory on the subject or even boredom.
• High cost of administration and time consuming
• Potential interviewers bias due to high flexibility

The challenging factors were minimized by lengthening the period of the research in order to capture a diversity of respondents. Data collection was not narrow as a few questions were opened to probe for more information. A pilot testing of the questionnaire was also conducted.

3.3 RESEARCH POPULATION

According to Birn (2000), the population is the aggregate of items from which the sample is to be drawn. It is the total of all the individuals who have certain characteristics and are of interest to the researcher, to represent the outcomes of the study. However, due to limited time and economic resources the whole population will not be used, but a sample. Saunders (2003) also defines a population as the entire group of people, events or things of interest that the researcher wishes to investigate.

The target population in this study is the adult population of Harare, who own mobile phones. The rationale for choosing Harare is that it is the capital city of Zimbabwe with a population of, according to ZIMSTAT (2012), 1.5 million people and represents 11.5% of Zimbabwe’s population of close to 13 million people. It is also the hub of activity and most of new developments including technology start from Harare.

3.4 SAMPLING AND SAMPLING TECHNIQUES

Sampling is a process of selecting a few (a sample) from the bigger group (the target population) to become the basis of estimating or predicting a fact, situation or outcome.
Probability Sampling technique and non-probability sampling technique are the two basic sampling techniques known.

- **PROBABILITY SAMPLING TECHNIQUE**

Probability sampling is also referred to as random sampling. Under this technique, each unit of the population has an equal and independent chance of being selected in the sample. Under probability sampling technique there are a number of sampling methods used, namely, simple random method, systematic method, stratified method and cluster method.

- **SIMPLE RANDOM METHOD**

Simple random method involves random selection from a list of the population of the number of required units for the sample. The selection can be done using number tables or a computer based selection and a proper selection ensures that each unit of the population has an equal chance of being included in the sample.
• SYSTEMATIC METHOD

Systematic method involves choosing a starting point in the sampling frame at random and then choosing every nth person. For the sample to be representative, this method relies on the list being organised in a way unrelated to the subject of the study. However, this method has certain statistical peculiarities. Whereas the initial chance of selection of any unit is the same, once the first unit has been chosen, most units have no chance of inclusion and a few will be automatically selected. Similarly, most combinations of units are excluded from the possible samples that might be chosen.

• STRATIFIED METHOD

Saunders et al (2000), guides that the stratified method involves dividing the population into a number of groups or strata, where members of a group share particular characteristics. Random sampling is then used within strata.

• CLUSTER METHOD

The cluster method involves dividing the population into a number of units or clusters, each of which contains individuals with a range of characteristics. The clusters themselves are chosen on a random basis. The subpopulation within the cluster is then chosen. This method is particularly useful when a population is widely dispersed and large, requiring a great deal of effort and travel to get the study information. (Saunders et al 2000).

• NON-PROBABILITY SAMPLING TECHNIQUE

Non probability sampling is also known as judgemental sampling and it occurs when selection of the sample is dependent on human judgement. It involves drawing a representative sample of the population by using judgement and the amount of error depends upon the degree of expertise of the person making the selection.
Judgemental sampling was used to select the four shopping malls in Harare, Sam Levy Village, Westgate Shopping Mall, Joina City Shopping Mall and High Glen Shopping Mall, due to their demographic activity in terms of affluence. Some of the non-probability sampling methods known are quota sampling method, convenience sampling method, and judgemental sampling method.

3.4.1 SAMPLE SIZE

A sample is a sub group of the population you are interested in. The sample size is critical as it has to be large enough to make meaningful and valid inferences about the population. Leedy and Ormrod (2001) advise that a sample should be representative enough to enable the researcher to draw reasonable conclusions, and minimise bias.

The aim of this study is to analyse the awareness and adoption of mobile payment system in Zimbabwe. Due to financial, time and logistical challenges, Harare, the capital city population was chosen for the target population. A sample 200 participants was randomly selected from the four main shopping malls in Harare, Joina City in the Centre, Westgate in the medium density areas of Harare West, High Glen which is situated in the high density areas of Harare South and Sam Levy Village, in the low density areas of Harare North.

The study consist of a sample of n=200 respondents made up of 50 shoppers randomly selected from each of the shopping malls. Using the sample to represent the population of mobile phone users in Zimbabwe facilitated meaningful analysis and be a representative of the population. The study was carried out on the last two weekends of June 2013, that is, Saturday and Sunday, 23 and 24 June and 29 and 30 June respectively, being a month end and salary pay days, in order to capture a wide-range of mall attendees when they would be spending their salaries.
3.5 SOURCES OF DATA

In order to meet the objectives of the research, the sources of data for the research were both primary and secondary.

3.5.1 PRIMARY DATA

Primary data is that data that is specifically collected by the researcher from the field (Moore 2000). There are three main ways of collecting primary data and these are questionnaires, interviews and observations. Wegner (2000) suggests that primary data is beneficial in research studies in that it is directly relevant to the problem at hand and that it generally offers greater control by the researcher over data accuracy. Due to the short period in which to complete the research and the nature of the response required as well as the costs involved, the researcher selected the time efficient questionnaire method as guided by Moore (2000), six principles of selecting a method which calls for one to:

i. Keep things simple (choosing between precision or overall impression in degree of accuracy and going for cost effective answers)

ii. Borrowing tools from others (since tools are not easy to invent or design but can be used in a range of circumstances with slight amendment or variation

iii. Collecting only what is needed

iv. Keeping watch of distortions that create the Hawthorne effect

v. Using available expertise

3.5.2 SECONDARY DATA

Secondary data is data collected for other purposes other than the current study (Wegner, 2000). Although the results of the research were highly dependent on the primary sources that the researcher gathered by questionnaires, it is essential to state that some secondary sources were used to understand the concepts, definitions, theories and empirical results. Mobile payment system is still in infancy hence, the
A researcher made use of secondary information from a lot of journals and publicised white papers accessed through the internet as well as technology websites. It was cheaper to obtain already published data and the researcher had access to a wide coverage of the area under study for review to complement the primary data from the survey.

The disadvantage associated with secondary data is that most of the time that data is outdated and not suitable for the current research and validation of the data may be doubtful. This is true for mobile payment acceptance previous research results might not be relevant in a fast changing environment of technology.

### 3.6 DATA COLLECTION

Data collection is the process in which the researcher obtains information and records observations about phenomena being studied, Nachimias and Nachimias (1981). There are various data collection methods when conducting a research and these include observations, questionnaires, personal and telephone interviews and experiments. For this research, the questionnaire instrument was used to collect the primary data.

### 3.6.1 QUESTIONNAIRES

A questionnaire represents the simplest, flexible and most common research instrument for collecting primary data and it consists of a set of questions presented to respondents, Kotler and Keller (2006). Questionnaires would suit the primary method of research that the researcher has chosen because:

- it is less costly and less time consuming,
- a wide coverage of respondents can be reached using a uniform format.
- Objectivity and structure of the research is maintained as the questions are linked to the objectives of the study.
The drawback of questionnaires, that of respondents failing to understand what is being asked and a tendency of questionnaires being shelved and not responded to, was overruled by the presence of the research field help who were able to assist in explanations as well as ensuring the responses were handed back. The questionnaire method was also appropriate for this study as it provided a quantitative description of attitudes, experiences and opinions of the sample population.

The focus of the questionnaire administered research was to identify the awareness level of people concerning Mobile Payment System in Zimbabwe, establish the respondents' level of acceptance and utilisation as well as collect their feedback on issues to be addressed that ensure how the system would be beneficial to them. The scope of the questionnaire included assessing people’s knowledge on mobile phone usage, banking, mobile payment system as well as assessing people’s observations and reservations about the mobile payment platform.

The questionnaire also aimed at obtaining information about people’s opinions on what the factors are that would hinder a widespread use of Mobile Payment System in Zimbabwe. Also obtained were information about the services or features desired that would facilitate the wide acceptance of the system as a convenient alternative payment system in the country.

### 3.6.2 QUESTIONNAIRE DESIGN AND STRUCTURE

In the context of the research problem and objectives, primary data was collected through the use of self administered questionnaires. The questionnaire was designed and structured in a manner that ensured that questions regarding the awareness, adoption and factors that influence mobile payments adoption according to the study proposed TAM model, would explicitly be responded to, in line with the study objectives and to provide answers to the research questions.

The questionnaire was structured to follow the guidance of the Technology Acceptance Model proposed by Davis (1989) and refined by Venkatesh and Davis (1996) as well as
adoption factors put forward by Mallat (2007). The study begins by examining to what extent are Zimbabwean consumers aware of and already using mobile payments. The second part applies the adopted model to enquire on external factors that affect use of mobile payment services.

A. General Information (Demographic information like age, gender, highest level of education, occupation and monthly income was requested.)

B. Awareness of Mobile Payments (ownership of mobile phones, period of ownership, service provider name, awareness of mobile payment service, from where first information was got, how well informed respondent is on mobile payment and lastly participant views on how mobile payment can be improved.)

C. Acceptance Of Mobile Payment in Zimbabwe. This covers Perceived Ease of Use and Perceived Usefulness (Access to a bank account, which method of payment is preferred and why, intention to use mobile payment, platforms used on mobile payment if ever used and for which functions, which amounts, how often and opinion on convenience and ease of use)

D. Factors Affecting mobile payment adoption (network availability, security and privacy, trust, compatibility and cost as well as views on other barriers and ranking security risks inherent in mobile payment systems)

3.6.3 PILOT SURVEY

In order to test the validity, reliability and clarity of the questionnaire, a pilot survey was conducted through twenty questionnaires issued out to work colleagues and relatives. The pilot survey was done primarily in order to pre-test the effectiveness of the survey instrument and to reveal possible challenges with the actual study. Issues of concern were rectified in order to ensure the responses in the actual study yielded the required results without any unanswered questions due to ambiguity or misunderstanding.

3.6.4 QUESTIONNAIRES ADMINISTRATION

The data for the research was collected in the form of a survey; (see questionnaire in appendices). The survey was personally administered by a team of University Of
Zimbabwe students on internship with BancABC Zimbabwe selected to assist in data collection. Personally administered questionnaires were used in order to improve the response rate of the research and to provide explanations where necessary.

The respondents were randomly selected from the four main shopping malls of Harare over a period of two last week ends of June 2013. This was done because of time limitations, financial resource limitations and convenience for the researcher.

3.6.5 QUESTIONNAIRE VALIDITY AND RELIABILITY

Validity is the ability of the instrument to measure what it is supposed to measure, (Saunders et al 2003). This was ensured through a thoroughly crafted questionnaire which sought to zero in on the actual issues around mobile payment adoption factors and subsequent attitude towards mobile payment adoption in Zimbabwe. Validity must always be considered within the context of inferences the researcher makes regarding a particular area.

Reliability refers to consistency and/or repeatability of the measurement, (William and Trochim 2006). Easterby-Smith et al (2002), also states that reliability is concerned about the question on whether the same result will be obtained through the measure used, on a different occasion, or will a different observer make the same observation. The reliability is then shown by similar responses obtained when the same research instrument is administered to different respondents.

A pretest determines the appropriateness of a group of response categories. This enables the researcher to ascertain the validity of questions and the subsequent reliability of the data, Saunders et al (2003). For this study, a pilot questionnaire was done to check the reliability and validity of the instrument in terms of clarity of instructions, sequencing of questions and time needed for completion of one questionnaire.
3.7 DATA ANALYSIS TECHNIQUES

Data and information collected was analyzed in order to provide conclusion and recommendations of the study. Data processing consisted of questionnaires coding, data entry and data cleaning. Data entry and presentation was done using Microsoft Excel 2007, and was presented in form of tables, charts and graphs to clearly and concisely indicate the findings in line with the objectives and research questions. Various types of graphs such as the single and multiple-line and bar were used to show trends in the variable(s) under focus against time. Pie charts were used to show proportion and/or share of occurrences. Charts were used to pictorially display categorical data from qualitative random variables and then comparing and contrasting it.

3.8 RESEARCH LIMITATIONS

The research suffers from the quality of the composition of the sample, which were Harare’s main shopping malls. By virtue of consisting of mall shoppers in Harare alone, the sample was not sufficiently heterogeneous of the Zimbabwean population. The limited heterogeneity in respondents’ demographic characteristics could have affected both the nature and the extent of the results.

The researcher, being a Harare resident, was also limited by financial and time resource challenges to broaden the study outside of Harare.

3.9 ETHICAL CONSIDERATION

Ethics pertains to doing good and avoiding harm. Harm can be prevented or reduced through the application of appropriate ethical principles (Orb et al (2001). It refers to the correct rules of conduct necessary when carrying out research. The researcher felt that they had a moral responsibility to protect research participants from harm. The researcher ensured participants were not forced to participate, neither offended nor
embarrassed and were given an outline of what the research was all about, and then asked their consent to take part.

In order to ensure their consent, the participants were given important details of the study, including the aim and purpose of the study before they completed the questionnaires. The participants were assured that the responses were confidential and were requested not to disclose their names or any personal information in order to ensure confidentiality.

3.10 CHAPTER CONCLUSION

The research used both positivism and phenomenological research approaches to enhance the representativeness of the gathered information. A non probability sampling, judgmental sampling method was used for primary data collection, of which both primary and secondary data was used to come up with research findings, conclusions and recommendations.

The following chapter analyses the empirical data to ascertain the adoption of mobile payments by consumers in Zimbabwe.
CHAPTER FOUR

RESEARCH FINDINGS, ANALYSIS AND DISCUSSIONS

4. INTRODUCTION

This chapter focuses on the presentation of results, analysis and discussed the findings in an effort to determine how the findings addressed the research objectives. It thus conducts an analysis of the findings and identifies gaps in Mobile Payment Services user adoption. As such, it either confirms or refutes the hypothesis that countries with a high rate of mobile penetration and relatively underdeveloped payments infrastructure have a large potential for high mobile payments adoption, hence Mobile payment systems will be prolific.

Specifically, the results are analyzed and discussed in line with the study objectives, the research questions and in relationship to the literature review relating to mobile payment awareness and acceptance in some parts of the world as well as the factors driving acceptance of the service in the different markets. The chapter analyses and discusses responses to Mobile Payment awareness, mobile payment adoption with regards to perceived usefulness and perceived ease of use as well as factors affecting mobile payment adoption responses.

4.1 RESPONSE RATE

The response rate gives the researcher indications on whether meaningful conclusions can be made from the responses. A higher response rate, usually gives the researcher a reason to rely on the data. From the survey of 200 questionnaires, to shopping mall attendees at the four main shopping malls in Harare, a 100% response rate was achieved, which was adequate for the sample analysis. This response rate was high due to that field help first asked agreement to participation before handing out the
questionnaire and waited for the recipient to complete the questionnaire before collecting the completed form. Any clarifications required on the questionnaire were attended to by the research field help.

4.2 DEMOGRAPHIC DATA ANALYSIS

4.2.1 AGE DISTRIBUTION

The ages of the respondents that took part in the survey are shown in figure 9 below:

![Figure 9: Age Distribution](image)

Findings above reveal that 21% were aged below 21 years, the highest, with 48% were aged between 21 and 30 years, 17% were aged between 31 and 40 years and 9% were aged between 41 and 50 years while the least age group of above 50 years constituted 5% of the respondents. The findings above present the diversity of the respondents that took part in the survey to represent all the population groups. The diversity is beneficial as it will give us the diversified needs of the population as that will be shown by their expectations on mobile payment services. For our purposes, the age group of 21-30 years are appropriately represented as they are the techno-savvy age group and would be expected to understand and analyze technology much faster than any other group. This age group relies heavily on their
mobile phones for a variety of content services hence can drive mobile payment adoption in Zimbabwe.

4.2.2 GENDER DISTRIBUTION

![Gender Distribution Chart]

**Figure 10: Gender Distribution**

The gender representation was as shown in figure 10 above. About 58% of the respondents were male and about 42% were female. According to ZIMSTAS (2013) 60% of the Zimbabwean population are female and 40% are male. In spite of this more income earners and financial decision makers are male than female. For the purpose of this study, the males representation helps in getting opinions and facts from the financial decision makers in the home.

4.2.3 HIGHEST EDUCATIONAL QUALIFICATION

The highest educational qualifications for the respondents that took part in the study are shown in figure 11 below. It is shown in the figure that about 40% of the respondents hold a secondary school qualification, about 32% hold a certificate or
diploma education, about 15% hold a degree qualification, about 9% with a masters’ degree qualification and about 5% with a primary education as their highest qualification. The findings give assurance that the respondents have a reasonable level of education to appreciate the new technology and be able to consider whether to adopt or not adopt it.

Figure 11: Highest Educational Qualification

4.2.4 OCCUPATION

Survey participants presented their occupation as shown on figure 12 below. The majority of the respondents were office workers with about a 45% representation, about 20% were self employed and about another 20% were general laborers. Traders and vendors’ representation was about 7%, unemployed about 5% and students represented about 3% of the participants.

The representation is proper for the study purposes as this group’s diverse occupations assist in evaluating payment preferences according to how well consumers appreciate technology and its usefulness.
Figure 12: Occupation

4.2.5 MONTHLY INCOME

Figure 13: Monthly income
Figure 13 above shows the range of the respondents’ monthly income. The country’s poverty datum line is US$510 for a family of 5 people (ZIMSTAT 2013). The readings show that the majority of the participants, about 58% earn below US$500, with about 29% earning between US$250 and US$500 and about 29% earning below US$250. This is not far from the ZIMSTAT (2013) figures which state that 65% of the population of Zimbabwe lives below the poverty datum line. About 16% earn between US$1001 and US$3000, about 10% earn US$801 to US$1000, about 9% earn between US$501 and US$800 and the least representation of about 7% being those earning above US$3000. The findings show that the majority of Zimbabweans, although reasonably educated earn relatively low salaries and expectation is that they take a preference to mobile payment services usage due to its perceived low cost and ease of access.

4.3 MOBILE PAYMENT AWARENESS

4.3.1 MOBILE PHONE OWNERSHIP

The survey participants were asked about mobile phone ownership and the results showed that almost 100% participants owned a mobile phone.

![Mobile Phone Ownership Chart]

Figure 14: Mobile phone ownership
The findings resonate with previous researches which show that the mobile phone has been the most widely adopted form of technology which cuts across all racial, geographical and economic classes. The results also reflect the teledensity in Zimbabwe of 97%, making Zimbabwe one of the countries with a high rate of mobile phone penetration in Africa, Techzim (2013). Zimbabwe might be like Asian countries, KPMG (2007) where a strong penetration of mobile phones enabled wide mobile technologies adoption. The high mobile phone ownership assists in evaluating the knowledge of MPS as one of the uses of the mobile phone thus ascertains the level of willingness to mobile payments adoption.

4.3.2 PERIOD OF USING MOBILE PHONE

Figure 15: Period of mobile phone usage

Figure 15 above shows that about 27% of the participants started using mobile phones more than ten years ago, that is, 2003, whilst the highest number of respondents of mobile phone usage of about 45% has been using mobile phones between 5 to 10 years. About 21% of respondents have been using mobile phones for between 3 to 5 years, about 6% 1 to 3 years and about 1% have been using a mobile phone for less than a year. Mobile phones were first introduced in Zimbabwe in 1996 but then, a mobile phone was a status symbol and not many
people could afford one. Since then the country has seen a proliferation of mobile phone ownership to almost 100% of the people of Zimbabwe owning a mobile phone. It was only ten years ago that the cost of acquiring and using a mobile phone went down, coupled with deteriorating infrastructure and poor service delivery from the Government owned telecommunication company, Telone, that most people started using a mobile phone. The findings also show us that mobile phones are one of the most embraced technologies in Zimbabwe and consumers know what a mobile phone is capable of doing.

4.3.3 MOBILE SERVICE PROVIDER

The figure 16 below shows that of the three mobile network operators, Econet Wireless Zimbabwe, has the highest number of subscribers from the participants with about 62% representation, NetOne had the second representation of about 21% and Telecel Zimbabwe the least representation of about 17%.

![Mobile Service Provider](image)

**Figure 16: Mobile service provider**

The findings show that Econet Wireless Zimbabwe is the dominant MNO in Zimbabwe as propounded in Chapter One. This is good for the study as Econet Wireless Zimbabwe is the one offering a diversified range of mobile payment
services as compared to the other two MNOs. The findings, though not significant for this study, contrast the position of NetOne and Telecel Zimbabwe in the market as previous research has revealed that Telecel Zimbabwe has more subscribers than NetOne (Techzim 2013).

4.3.4 MOBILE PAYMENT SERVICES AWARENESS

The participants were asked whether they were aware of Mobile Payment Services, that they could use their mobile payment to make purchase payments and about 92% responded that they were aware of the services. Figure 17 below also shows that about only 8% of respondents are not aware of mobile payment services. The findings confirm that the mobile payment service providers have marketed the services and Zimbabweans are aware of the service.

![Mobile Payment Awareness](image)

**Figure 17: Mobile payment awareness**

Due to the widespread usage of mobile phones, just like the world over as supposed from the literature review, mobile payment services awareness has been high. The service providers would utilize the mobile phones as the channel for marketing the
service for awareness. There is need for affirmation on whether the high awareness by Zimbabweans would translate into acceptance and usage.

4.3.5 FIRST INFORMATION ON MPS

Participants were asked to reveal how first they got to know about the mobile payment service and about 78% revealed that they first got to know about MPS through advertisements, 15% through Agents recruitment and about 7% first got to know about MPS through other people’s word of mouth.

The findings on figure 18 below show us that the MNO have done considerable work in ensuring awareness of the mobile payment service, confirmed by the high rate of the service awareness shown in figure 17.

![First Information on MPS](image)

*Figure 18: First information on MPS*

4.3.6 DOES MOBILE NETWORK OPERATOR PROVIDE MPS

Although mobile payment services can be provided by a Mobile Network Operator, a financial institution or partnership by both, in Zimbabwe the service has been championed by Mobile Network Operators.
A question was posed to participants to see whether they knew of MPS being operated by their own mobile network provider. The findings as shown by figure 19 below, show that about 89% of the respondents knew that their mobile network operator offers the service and about 11% were not sure. The 11% translates to the 8% who own mobile phones but are not aware of MPS and some who are aware of MPS but are not aware that their MNO offers the service.

![Pie chart showing MPS knowledge](image)

**Figure 19: Does MNO operate MPS**

### 4.3.7 Knowledge of Mobile Payment Services usage

Participants who knew about MPS were asked on how well informed they were and about 55% opened up that they were fairly informed, about 27% said they were less informed whilst about 18% revealed that they were very well informed.

The high percentage of the fairly informed indicates that the advertisements by the service providers have not been giving enough information to consumers and this might lead to mistrust for the service and inhibit adoption of MPS. Consumers need more information on this new technology especially on the benefits to users, clear information
on the robustness of security and privacy on the platform, otherwise adoption will be affected by cynicism.

Figure 20: Knowledge of MPS Usage

<table>
<thead>
<tr>
<th>Knowledge of MPS Usage</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Category</strong></td>
</tr>
<tr>
<td>Very Well Informed</td>
</tr>
<tr>
<td>Fairly Informed</td>
</tr>
<tr>
<td>Less Informed</td>
</tr>
</tbody>
</table>

**Figure 20: Knowledge of MPS usage**

4.3.8 SUGGESTIONS ON MPS AWARENESS

Participants were at one point asked on what they viewed as issues that could improve mobile payment awareness in Zimbabwe and the summarized views were that;

- Extensive and continuous advertising is required.
- Interactive road shows and demonstrations
- More Agents /Merchants nationwide to ensure ubiquity.

4.4 ACCEPTANCE OF MOBILE PAYMENT SYSTEM

4.4.1 ACCESS TO BANK ACCOUNT

The participants were asked if they hold a bank account and the findings are shown on figure 21 below.
Findings show that about 85% of the participants hold a bank account. Although the figure is relatively high for a country like Zimbabwe, it is less than the percentage of people who own mobile phones, (99.9%). This collaborates with earlier cited literature, UNCTAD (2010), that in Africa, more people have mobile phones than bank accounts. However, the access to bank account figure would have been much lower if the study had included participants from the rural areas where there are no financial institutions branches and access to bank accounts is difficult.

![Access to Bank Account](image)

**Figure 21: Bank account**

### 4.4.2 FREQUENTLY USED PAYMENT METHOD

From a number of retail payment methods, participants were asked to disclose a payment method they use most.

Cash was the leading method of payment frequently used by the participants with about 76.5% representation as compared to about 23.5% usage of debit cards. None of the participants uses cheques, electronic payments or MPS as a frequently used method of
payment. This confirms that in terms of payment methods, Zimbabwe is cash based economy although debit cards are starting to gain acceptance as a payment method. Cheques are rarely used in Zimbabwe even for B2B transactions, businesses preferring to use electronic funds payment methods. This cash dominance is what mobile payments are supposed to reduce, if mobile payment service is to be adopted fully in the country.

**Figure 22: Most Used payment method**

4.4.3 REASON FOR MOST PREFERRED PAYMENT METHOD

A number of factors were presented to the participants to ascertain why they preferred a certain payment method over the others. Most people indicated that their preference of cash and to a lesser extent cards, was driven by convenience due to wide acceptance, about 36.9%, ease of use about 25%, safety and security 14.8%, ready availability
12.7% and cost 10.7%. The findings reveal that there are some aspects of the MPS that have not been as appealing as cash and cards like lack of a wider merchant acceptance can inhibit adoption. The factors indicated here as reasons for preferring the dominating cash indicate that there are not enough opportunities for consumers to use mobile payments as they are not widely accepted. Without ubiquity, ease of use and security, the potential for mobile payment to complement cash and card payment is little.

**Figure 23: Reason or most preferred payment method.**

### 4.4.4 USE OF MOBILE PAYMENT SERVICES

To establish MPS adoption, the participants were asked if they had used any mobile payment system and their responses indicated that about 72% had used some kind of MPS, whilst about 28% had not.
4.4.5 INTENTION TO USE MPS

Of the 28% participants who had indicated that they had not used MPS before, they were asked if they had intentions to use it in the future.
The findings showed that about 80.5% had intention of using mobile payment services, about 12% indicated that they needed more information and about 7.5% indicated that they had no intention of using mobile payment services.

The findings in figure 24 and figure 25 above reveal that consumers in Zimbabwe are aware of mobile payment services and despite the fairly adequate knowledge, the majority have used the platform and a lot more have intention to use it. This is a good indication for adoption of mobile payment services in Zimbabwe and just like any new technology, consumers are driven by an internal drive as well as external factors and proceed with their intention to use with caution.

Although there is intention of use, there is still a hold back because of issues to do with either the supply side of ubiquity, that is wide availability and acceptability by merchants, network availability and reliability of the systems, cost or the demand side being limited knowledge of MPS operations, security concerns, and trust issues.

4.4.6 MOBILE PAYMENT PLATFORMS

Several platforms of mobile payment services have been instigated by Mobile Network Operators and financial institutions in Zimbabwe. The participants indicated their usage of the platforms as shown in diagram 26 below.

Econet Wireless Zimbabwe’s EcoCash proved to be the most widely used mobile payment platform amongst the participants with 79% representation compared to other platforms like TextaCash and OneWallet at 10.2%, and an insignificant 0.5% of other platforms. SKwama registered a nil representation.
The study has confirmed that EcoCash is the largest MPS in Zimbabwe and that Telecel Zimbabwe’s SKwama mobile platform might no longer be in existence.

**4.4.7 Functions used for MPS**

For the participants who have used MPS before, they were also asked what functions they normally carry out on their MPS. Transfer of money was the highest function participants used for MPS (48%), followed by topping up of credits (22%), Payment of bills (17%), physical goods purchases (8%), then online purchase (4%) and transport tickets (1%). There is a disconnection between the intrigue that consumers find with mobile payments and the actual use of them for in-store physical goods purchase and public transport ticketing. The reason why the rate is not high has to do with lack of a wider coverage of agents and the unreliable and underdeveloped infrastructure to enable payment using one’s mobile phone.
A commuter would not want the inconvenience of missing a ride on a bus because they failed to connect on mobile payment service and they had not carried cash.

On line purchasing is affected by the low access in internet access as suggested by the World Economic Forum (2012). The good news is that there seems to be interest as the previous findings demonstrated that Zimbabweans are willing and ready to use mobile payment services, notwithstanding that the common function used is the money transfers. This is the beginning of adoption and people are warming up to the service.

Just like for other millions of Africans in Kenya, Tanzania, Ghana and Nigeria, mobile phones act like bank accounts through services like Vodacom’s M-Pesa, the world’s leading mobile money network. Customers can transfer funds to other people and pay bills using their mobile phones. They top up their M-Pesa accounts at newsstands, supermarkets and other retailers that act as agents. It is no wonder that money transfers are the biggest driver of mobile payments.
4.4.8 AMOUNTS USED FOR MPS

Where participants have used MPS, results as shown by figure 25 below, show that about 47% have used it for amounts less than US$100, and about 34% for any amounts and about 19% have used it for amounts above US$100.

This collaborates with previous researches by Mwaura, (2009), Dewan and Chen, (2006) and Delloitte Research, (2011; 2012), that consumers are comfortable with using mobile payment for micropayments. According to Gartner Group (2009) users will make frequent transactions for small amounts because the transaction costs are lower than they are for bank-related services and access is widely available. This satisfies their perception of usefulness, ease of use, ubiquity, security and cost effectiveness. The other reason for transacting in small amounts is limited trust resulting from incomplete knowledge of the service reflected earlier. Consumers are not sure of the service providers’ robustness in the security of their technologies, hence they reduce the magnitude of exposure to loss.

![Amount Used for MPS](image)

**Figure 28: Amounts used for MPS**
4.4.9 FREQUENCY OF MPS USAGE

When participants were asked how often they use MPS, the responses were as shown by the diagram figure 29 below.

41.7% responded that they use MPS platform once a month, probably to send money to relatives in remote areas after receiving their monthly pay. Interestingly almost 29% seldom use the platform, indicating that they are registered members but are not as active as expected. 23.7% use the platform probably for top up credits and 5.8% use it daily. The fact that MPS is not a commonly used mode of payment has already been expounded, meaning that for people’s daily transactions, they are still using the traditional methods of payment. Despite the low frequency, low values and low volumes, consumers find the service useful and are willing to use it more if only the service is widely acceptable.

![Frequency of MPS Usage](image)

**Figure 29: Frequency of MPS usage**

4.4.10 USEFULNESS OF MPS METHOD OF PAYMENT

The study intended to establish whether participants who had used MPS found it useful and the results are as shown in figure 30 below.
Similar to Mwaura (2009) research on M-PESA the majority of the recipients found the service useful with 50% finding it fairly useful and (46%) to very useful. A small proportion of 1% of the respondents find MPS not useful and 3% are not sure. Literature review has indicated that in developing countries, mobile payment is useful as it bypasses the constraint of having a bank account.

4.4.11 MOBILE PAYMENT EASE OF USE

For a method of payment to be useful, it should not be complex to use otherwise the payment experience will be uncomfortable. The question then is, "if MPS is widely known and is useful, why is the uptake on some payment functions low?"
The research goes on to enquire on the ease of use of the payment method. The participants were asked on whether the service was easy to use and the results, as shown in figure 31 above revealed that the participants perceive the service to be very easy to use (49%) and fairly easy to use (47%). Again, only a small proportion of 2% considers the service to be complicated and another not sure, probably have not tried to use it. This goes to confirm that consumers are at ease with the payment technology and service providers just need to make the system accessible. The difference on infrastructure and network availability between developed markets and developing markets are obvious when we compare results from surveys done in Europe and USA.

4.5 FACTORS THAT AFFECT MOBILE PAYMENT ADOPTION IN ZIMBABWE

4.5.1 FACTORS AFFECTING MPS ADOPTION

Participants’ sentiments were sought to establish factors that affect successful adoption of MPS in Zimbabwe.
As the diagram Figure 32 above show, about 42% of the respondents reckon security as the most factor of concern, about 33% believe trust of the service is of utmost important to them, about 16% feel that the service should be cost effective and only 9% are concerned about network availability. The respondents have characterized security and trust as critical basics for the adoption of Mobile Payments. Although cost is also an important factor, most consumers need the service to come with wider assurances and respectable reputation on security and trust rather than network availability and cost. As revealed by Accenture Consumer Survey (2012), USA consumers are also worried about security, privacy and convenience of mobile payments. To achieve widespread adoption, the benefits of security and convenience should be clearly articulated so as to earn consumer trust. Service providers have to be transparent on what consumers should expect in terms of risk and how they should mitigate them. There is a big opportunity for this service waiting to be exploited by the service providers.
4.5.2 Security Risk Factors Ranking

![Security Risk Factors](image)

Figure 33: Security Risk Factors Ranking Source: Mallat, (2007).

Taking a cue from previous researchers who indicated security as the main factor affecting mobile payment adoption, the researcher set to explore security issues further by interrogating respondents to elaborate more on what their security concerns are.

Security risk factors as identified by Mallat N (2007) and Dahlberg et al (2008) were also presented to the participants to establish how they would rank the factors as they would affect their MPS usage and the responses were as follows:

i. Transaction errors was a top priority concern as consumers feared that own and system errors like overpayments would take longer to be detected and
reversed as the chain of stakeholders would be too long. Despite promises of robustness in security, confusion exists on how mobile payment will effect reversals on fraudulent and unauthorized transactions.

ii. Second of the list was unauthorized use of mobile phone. Unauthorized use from theft of mobile phones and fraudulent use of the same concern Zimbabwean consumers as robustness of security in service providers systems has not been convincing.

iii. Privacy issues was third on the ranking with some consumers feeling that private issues should be private and would prefer anonymity in payments. Having a bank, an MNO a merchant having access to their private information like contact details, address and identification numbers is like letting the whole world know who you are.

iv. On the fourth position is lack of control of the payment process and device and mobile network unavailability. Consumers felt that their power is being taken away from them especially where they would not be able to verify transactions. Mobile Network and device unavailability is also a concern as it is a period of undesirable anxiety for the consumers to have a transaction cut off midway due to mobile phone battery failure, network unavailability due to electricity cut or network going offline.

v. Lack of transaction record and documentation was the lease of security worries. Consumers are used to scrutinizing transaction receipts and statement after doing transactions, a comfort MPS seems to be denying them, but however, this is not a big impediment.

Consumers are worried about fraud and hesitant to trust a mobile wallet. In Zimbabwe, security is also one of the consumers concerns and thus said, security of transactions over the mobile phone is a concern for most consumers and the onus is on retailers now to sustain and promote the successful security measures they put in place to enable mobile payment.
4.5.3 Other Factors Affecting MPS Adoption success

Participants were asked for additional barriers to MPS success and they highlighted that:

i. Lack of compatible mobile phones as in the case of EcoCash which does not work on new android phones.

ii. Emotional attachment to cash as a method of payment.

iii. Ready availability of cash reduces willingness to change habits.

iv. Queuing is still involved, hence MPS not better than cash.

v. Mobile payment should be free

4.5.4 Preference of MPS Provider

Participants were asked their preference on the provider of MPS between a Mobile Network Operator and a Bank and the results are as shown in diagram 33 below.

![Preference of MPS Provider](image)

**Figure 34: Preference of MPS provider**

To establish preference and trust of a service provider the participants were requested to give an indication of their preferred mobile payment provider. Of the 200 participants, the highest representation of 40% said that they prefer the service to be administered by both a bank and an MNO, 27% revealed that they prefer it be
administered by a bank, whilst 19% said the prefer MPS be administered by an MNO and 14% felt it was not important. The reason why most respondents prefer a bank to be involved is that they trust banks to handle their financial matters more than MNOs and they also know that they could benefit from an MNO and bank collaborations for improved convenience and service delivery. MNOs and a number of financial institutions have rolled out technology and are falling over each other to announce their latest technology in mobile payment solutions. Meanwhile, the fight rages on between MNOs and financial institutions and between MNOs themselves on the business models that dodge cooperation and interoperability all in pursuit of killing off competition for revenue. Mobile Network Operators who would be thinking of going it alone without bank collaboration are most likely not to get a return on their investments as consumers feel their finances secure under a bank custody, although they appreciate the convenience of having MNO handle their transactions.

4.6 CONCLUSION

As per objectives of the study, this chapter analysed and discussed the research findings which were then evaluate against earlier research findings in the literature review. The findings reveal that Zimbabweans are aware of mobile payment services and are ready for adoption. Other than money transfers and bill payment, Zimbabwean consumers have not yet bought into mobile payments enough to transact on as many retail products and services. The level of adoption is far much lower than Kenya Safaricom’s M-Pesa on its own, with 2 billion transactions processed in a day (Mas and Radcliffe 2010).

From the study proposed research model, perceived usefulness and ease of use are a requirement to adoption of mobile payment, however it is the prerogative of mobile payment service providers to build consumer trust through ensuring robust security and reliable systems. Network availability, wider merchant acceptance and reliable infrastructure promote adoption of mobile payment as the service is already a necessity
in Zimbabwe. The stakeholders need to know that the consumers are ready and willing to adopt the innovation as long as the infrastructure is available and their private information and funds are secure.
CHAPTER FIVE
CONCLUSIONS AND RECOMMENDATIONS

5. INTRODUCTION

This chapter presents the conclusions and recommendations of the study. The conclusions were found to be valid as the researcher feels the demographics of the participants selected was properly represented.

The conclusions were derived from chapter four and most of the recommendations were derived from respondents’ suggestions. An area of further study has been provided in this chapter.

5.1 CONCLUSION

The objective of this study was to examine consumer adoption in Zimbabwe in the light of TAM, Davis (1989) and adoption factors derived from Mallat (2007) factors.

With high mobile phone penetration the opportunities of mobile payment services adoption in Zimbabwe are high. However, aspects of accessibility to and reliability of the payment infrastructure as well as lack of security and trust are hampering wide adoption. Limited merchant acceptance and unreliable systems where service can be disrupted due to power cuts, network availability or merchant offline are also other hindrances to increased adoption by consumers.

The researcher concluded that Zimbabweans are aware of mobile payment services and they have found the service useful, easy to use and compatible with their lifestyles so much that they are not concerned about the cost. The consumers have high intentions to use it and most consumers have used the service on several functions especially money transfers and bill payments despite the low frequency and low
amounts. Adoption of mobile payment is relatively low if compared to other countries like Kenya, Nigeria and South Africa. There is high potential for growth in Zimbabwe, ingredients for high levels of adoption are there, the stakeholders need to ensure the proper and adequate infrastructure is available and ensure the issues of security and trust are addressed.

From a theoretical point of view, the results assist stakeholders in mobile payment services in a number of ways. The study makes contribution to mobile payment literature by providing insights on the factors that drive adoption of the service in Zimbabwe. The advantage of this study is that it focuses on the consumer, who is the key to mobile payment success in any market. The study is also based on a validated user acceptance model, TAM, Davis, (1989) and takes into considerations enhancement on external factors that affect the user towards adoption of mobile payment services.

The success of any payment system is reliable on usefulness, ease of use, compatibility, security, ubiquity, low cost, network availability and reliability and trust. In Zimbabwe, whilst the service providers are making awareness advertisements, factors like reliable infrastructure, security, ubiquity and wide merchant acceptance have to be given priority and addressed adequately otherwise mobile payment adoption is not guaranteed. The results hint that a widely accessible and easy mobile payment process with well articulated user benefits is a winner solution for consumer adoption.

The study findings also indicate that robust and advanced security features have a positive effect on the trust of the mobile payment service provider. Consumers in Zimbabwe are in a dilemma. They believe that banks have more robust security systems than mobile network operators but because they do not offer convenience like mobile network operators, consumers prefer a Bank/MNO partnership model. This also confirms consumers want for convenience, ease of use and usefulness.
Although the results can be considered significant in most parts, the study has limitations that may affect the reliability and validity of the findings. The respondents are urban dwellers whose social habits and economic condition is different from rural and small town dwellers that constitute the highest number of the Zimbabwe population.

The other limitation on the study is that the questionnaire design does not segment responses per age group, which information might be interesting to know where mobile payment lies with the new generation and the future.

5.2 RECOMMENDATIONS OF THE STUDY

From the views of the respondents, the following recommendations were identified:

- The Financial Regulator, Reserve Bank of Zimbabwe should be seen to be exercising sufficient control and support over mobile payment services to ensure a safe and effective payment method, public trust and ultimately mass adoption.
- Zimbabwe lags behind of other African countries in terms of technology and the government should take advantage of mobile technology as a gateway to development and enable dynamism in the environment without restrictive policies.
- There is mileage to be gained from offering value added services as well as incentives to merchants and consumers alike for mobile payment usage in the form of assistance in infrastructure deployment, discounts or promotions to encourage mass adoption.
- Extensive advertising and interactive road shows have been done but consumers feel they have not been enough. The MNO need to hold road shows and awareness programs in malls and other high traffic locations to inform on their security features on mobile payment services.
- More agents and merchants are required nationwide to ensure that the service is ubiquitous and readily available.
5.3 AREAS OF FURTHER STUDY

A further study should be conducted on the merchants and regulatory bodies on their readiness for mobile payment service to ensure success of mobile payment service in Zimbabwe. It is worthwhile to explore the factors of concern by merchants and regulatory bodies to ensure that all stakeholders focus on the goal of mobile payment adoption success.

5.4 CHAPTER CONCLUSION

This chapter discusses the conclusion in line with the objectives of the study and proffered recommendations for the stakeholders to take note of what the consumer wants in order to fully adopt mobile payment. An area of further study was also raised to evaluate the position of the other players in the mobile payment arena to ensure that all concerned have a common goal of ensuring mobile payment service adoption a success in Zimbabwe. Mobile network operators, retailers, banks and the regulators need to work together to define a standard platform of mobile payment services where consumers do not need to use multiple processes.

The power of adoption lies with the consumer, hence service providers need to make mobile payment convenient, safe and available. There is a opportunity cost to inaction and if mobile payment services opportunities in Zimbabwe are not exploited by the government, merchants, banks and mobile network operators, this would be negligence on their part.
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APPENDIX 1: GSM Letter.
Graduate School of Management
University of Zimbabwe
Mt Pleasant
Harare

Contact Telephone: 263 772102045

09 June 2013

Ref: AN ANALYSIS OF MOBILE PAYMENTS SERVICES CONSUMER ACCEPTANCE IN ZIMBABWE

In order to fulfil the requirements of the Masters in Business Administration degree with the Graduate School of Management – University of Zimbabwe, I am conducting an analysis on the subject mentioned above.

May you kindly assist by completing this questionnaire as this will help the service providers and other interested parties to look at customers concerns and improve on the service. The information obtained shall be treated in strict confidence and will not be used for purposes other than those unintended for this study.

You assistance is greatly appreciated.

Yours sincerely

Tendero Ethel Chifamba
MBA Student
APPENDIX 2

Questionnaire for customers

### SECTION A: DEMOGRAPHICS

1. **Age**
   - a) Less than 21 years [ ]
   - b) 21-30 years [ ]
   - c) 31-40 years [ ]
   - d) 41-50 years [ ]
   - e) Above 50 years [ ]

2. **Gender**
   - a) Female [ ]
   - b) Male [ ]

3. **Highest level of education**
   - a) Primary [ ]
   - b) Secondary [ ]
   - c) Diploma [ ]
   - d) Degree [ ]
   - e) Masters [ ]

4. **Occupation**
   - a) Office Worker [ ]
   - b) Self Employed [ ]
   - c) Trader [ ]
   - d) General Laborer [ ]
   - e) Student [ ]
   - f) Unemployed [ ]

5. **Monthly Income**
   - a) $3 000 and above [ ]
   - b) $1 001-US$3 000 [ ]
   - c) US$801-US$1000 [ ]
   - d) $501 – US$ 800 [ ]
   - e) $250-US$500 [ ]
   - f) less than $250 [ ]
SECTION B: THE AWARENESS OF MOBILE PAYMENT

5. Do you own a mobile phone?
   a) Yes [ ]           b) No [ ]

6. For how long have you been using a mobile phone?
   a) 10 year and above [ ]          b) 5-10 years [ ]          c) 3-5 years [ ]
   d) 1-3 years [ ]          e) less than 1 year [ ]

7. Who is your mobile service provider?
   a) Econet [ ]           b) Net-one [ ]              c) Telecel [ ]

8. Are you aware of mobile payment, that you can make payments using your mobile phone?
   a) Yes [ ]                                b) No [ ]

9. How did you know about mobile payment systems?
   a) Advertisements [ ]       b) Agents Recruitment [ ]       c) Word of mouth [ ]
   d) Other…………………………

10. Does your mobile network service provider operate a mobile payment system?
    a) Yes [ ]           b) Not sure [ ]              c) No [ ]

11. Are you well informed on how to use the mobile payment system?
    a) Very informed [ ]       b) fairly informed [ ]          c) Less informed [ ]

12. In your own view how can awareness of mobile payment system be improved in Zimbabwe?
    ---------------------------------------------------------------------------------------------------------------------------------
    ---------------------------------------------------------------------------------------------------------------------------------
    ---------------------------------------------------------------------------------------------------------------------------------

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SECTION C: THE ACCEPTANCE OF THE MOBILE PAYMENT SYSTEM IN ZIMBABWE

13. Do you have a bank account?
   a) Yes [ ]  
   b) No [ ]

14. Which payment method do you use most for your payments?
   a) Cash [ ]
   b) Debit Card [ ]
   c) Cheque [ ]
   d) EFT [ ]
   e) Mobile Payment [ ]

15. Why do you prefer this method of payment?
   a) Suits my lifestyle [ ]
   b) Easy to use [ ]
   c) Safe and secure [ ]
   d) Widely Acceptable [ ]
   e) Cheaper [ ]

16. Would you like to use a Mobile Payment System (MPS) on your phone?
   a) Yes [ ]
   b) No intention [ ]
   c) Need more information [ ]

17. Have you ever used mobile payment system?
   a) Yes [ ]
   b) No [ ]

18. If yes, which platform do you use in your MPS?
   a) Skwama [ ]
   b) Texta cash [ ]
   c) Ecocash [ ]
   d) One Wallet [ ]
   e) Other [ ] (specify ........................................)

19. Which functions do you use in your MPS?
   a) Transfer Money [ ]
b) Pay bills [ ]
c) Transport tickets [ ]
d) Online purchase [ ]
e) Top-up credits [ ]
f) Physical goods purchases [ ]

20. **Which amounts do you use Mobile payments for?**
a) Less than US$100 [ ] b) More than US$100 [ ] c) Any Amount [ ]
d) Would not trust platform with any amount [ ]

21. **How often do you use mobile payment service?**
a) Daily [ ] b) Weekly [ ] c) monthly [ ] d) Seldom [ ]
e) Never [ ]

22. **Do you feel mobile payment is useful in your life?**
a) Very useful [ ] b) fairly useful [ ] c) not useful [ ]
d) Not sure [ ]

23. **Do you see this system as clear, understandable and easy for you?**
a) Very easy [ ] b) fairly easy [ ] c) Complicated [ ] d) No sure [ ]

**SECTION D: FACTORS AFFECTING SUCCESS OF THE MOBILE PAYMENT ADOPTION IN ZIMBABWE**

24. From your understanding, what do you think are the factors that can affect the success of mobile payment adoption?
a) Trust [ ] b) Security [ ] c) Network availability [ ] d) Cost [ ]
25. Rank the following security risks with the most concern ranking 5  
   a) Unauthorized use: Mobile phone is lost and concerned someone might use it  
      [  ] 
   b) Transaction errors: Own mistakes, system errors and unreversed overpayments  
      [  ] 
   c) Lack of transaction record and documentation: no receipt, no statement  
      [  ] 
   d) Vagueness of the transaction: lacking control when paying with mobile phone  
      [  ] 
   e) Privacy Issues: Payment providers having information on your personal details  
      [  ] 
   f) Device and mobile network unavailability: Network challenges and battery failure in the middle of a transaction  
      [  ] 

26. What are the other factors that can impede on the success of mobile payment adoption?

27. Would you prefer and trust Mobile Payment platform administered by:  
   a) Bank [  ]  b) Mobile Network Operator [  ]  
   c) Both [  ]  d) Not important [  ]

Thank you for your time and effort