A Study of the Perceptions and Adoption of Mobile Payment Platforms by Entrepreneurs in Zimbabwe's Informal Economy

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A research report submitted to the Faculty of Commerce, Law and Management, University of the Witwatersrand, in partial fulfilment of the requirements for the degree of Master of Management specialising in Entrepreneurship and New Venture Creation

Johannesburg, 2013

(Version February 2011)

ABSTRACT

With the growth of developing nations there has also been a growth in the need to recognize entrepreneurship and market-driven solutions as tools that can be used to bring the people in these developing nations out of poverty. If technology is widely adopted and accepted in a society, the long-term impact on that society can be more effective than any other social force. A great example of this phenomenon is the explosive growth of mobile devices technology that has infiltrated every part of the world and in all levels of the economic pyramid as they can play a large and critical role in social transformations in developed and developing economies (Lee et al 2010).

Since the introduction of the mobile phone in Zimbabwe in 1996, there are 9,527,520 users of mobile phones. .A mobile banking platform, Eco-Cash, was launched by Econet Wireless, a cellular phone network provider at the end of 2011. This platform was launched in order to take advantage of a large identified gap in the Zimbabwean economy (Makunike 2013). At the end of 2012 there were 270 000 active users and 1.5 million registered users of the Eco-Cash MPP (Kabweza 2012).

This study is of the perceptions and adoption of Mobile Payment Platforms (MPP) by informal entrepreneurs in Zimbabwe and employs the use of an adapted version of the Technology Acceptance Model, developed by F. Davis in his doctoral thesis in 1985, as the research framework. The model has been modified by different researchers over the years.

Data collection for this study was administered telephonically to the informal entrepreneurs in Zimbabwe and this study only used primary data sources. This data was extracted from the respondents answering the telephonic surveys.

This research found that although informal entrepreneurs, who are either personal or business users or non-users of the MPP are positively disposed, in terms of perceived usefulness, perceived cost, perceived support, perceived social influence, overall trust and perceived overall risk, this disposition may not necessarily lead to the increased usage of the MPP by informal entrepreneurs

in Zimbabwe.

However, perceived ease of use proved to be the exception, as the research study showed that the more informal entrepreneurs perceived the MPP to be simple and easy to use, this perception may lead to the increase in the perceptions and adoption of MPP.

As this is one of few studies that to look into the adoption of MPP in Zimbabwe, this study serves as the foundation for future research in Zimbabwe that pertains to the adoption of MPP by entrepreneurs in Zimbabwe's formal and informal economy.

DECLARATION

I, Thando Mbele-Sibotshiwe, declare that this research report is my own work except as indicated in the references and acknowledgements. It is submitted in partial fulfilment of the requirements for the degree of Master of Management in the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination in this or any other university.

Thando Mbele-Sibotshiwe

Signed at ……

On the …….. Day of …… 2013

DEDICATION (OPTIONAL)

To God, be the glory! Thank you Heavenly Father for giving me the Holy Spirit, who has always been my guide and my light even when I didn't know it.

To my pastor, Ps. Chris Oyakhilome, for making the word of God so tangible. Without your teachings I would never have truly believed that He lives in me.

My late brother, Ntokozo, thank you for teaching me at the age of 12 to never take the easy way out. Even in your absence I still strive to make you proud of me. I believe that with each passing day I do.

My darling mother, Ellen, your strength has always astonished me. I love you so much and will always strive to live up to the high standard of excellence that you have instilled in me.

To Deaconess Tsitsi, my mother in The Lord. I love you. Your continued love and guidance, even in your absence has and will always be a great source of motivation for me. I am committed to being at least half the woman you are. I know that if I at least achieve that, I would have achieved a great deal.

To my husband, you are truly sent from God. You are my best friend, without you this life would not be enjoyable. Thank you for giving me the room to discover who I am and thank you for taking me with you on the beautiful journey that is your life.

And last but not least, my children, Sizwe and Shiloh. Everything I do, I do to show you that God is real and so are the miracles and wonders that He performs. My life has been a testimony for His existence and I know that you are set to have many great encounters with Him. If you learn nothing else from me, learn that indeed all things are possible and that it is true that "all things work together for good, for those who love God and are called according to His purpose".

ACKNOWLEDGEMENTS

I wish to acknowledge the contributions and input from the following people, without whom this research report would not have been completed:

- Merle Werbeloff and Rob Venter, thank you so much for everything;
- My amazing class mates, especially Linda, Sazi, Phatso and George Tau;
- My husband, for keeping my fire burning;
- The respondents who took the time out of their day to answer these questions;
- Themba and Bonnita, I would not have done this without you;
- Ottilia, for your support and love, much appreciated;
- Kennedy, for your words of encouragement when I felt like I couldn't get up, thank you, and Abraham's blessings are truly yours.

To my heavenly Father, the glory is always Yours!!!!!

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER 1: INTRODUCTION

1.1 Purpose of the study

The purpose of this research is to investigate the perceptions and adoption of Mobile Payment Platforms (MPP) among informal Zimbabwean entrepreneurs in terms of a modified version of the Technology Acceptance (TAM2) model.

This research examined the informal Zimbabwean entrepreneurs perceptions of the perceived usefulness, ease of use, cost, security and privacy, support of the service provider, social influence, overall risk as well as the overall trust and satisfaction, and how these variables of the modified TAM2 model correlated with their perceptions and adoption of MPP.

1.2 Context of the study

With the growth of developing nations there has also been a growth in the need to recognize entrepreneurship and market-driven solutions as tools that can be used to bring the people in these developing nations out of poverty. That being said, if the opportunity presents itself and people have the right tools to exploit these opportunities, they can demonstrate the capacity for entrepreneurship and innovation (Lee et al 2010).

Lee et al (2010) further suggests that entrepreneurship, at any level, is not just about wealth creation and poverty reduction, but also about empowerment and the broader opportunities and control it gives people over their lives, and technology is a great contributor to people empowerment, as it provides humans with the tools to modify their environment.

Meyer (2007) concurred with this and further suggested that as entrepreneurship is associated with wealth generation and job creation, increasing the level of entrepreneurial activity can help in addressing unemployment and social inequalities.

If technology is widely adopted and accepted in a society, the long-term impact on that society can be more effective than any other social force. A great

example of this phenomenon is the explosive growth of mobile devices technology that has infiltrated every part of the world and in all levels of the economic pyramid as they can play a large and critical role in social transformations in developed and developing economies (Lee et al 2010). The Economist (2008) says the mobile phone has now become a powerful force for economic development in the poorest countries of the world.

This study is of the usage of MPP by informal entrepreneurs in Zimbabwe. Since the introduction of the mobile phone in Zimbabwe in 1996 by the country's first cellular network, Net*One (Mbendi Information Services 2013), as of 2011, 74.7% (9,527,520) of the Zimbabwean population were mobile phone subscribers, with Econet Wireless possessing 61% of the subscribers (Kabweza 2012).

Some of the reasons that this research chooses to support technology entrepreneurship (TE) instead of entrepreneurship in general are the following (Lee et al 2010; Therin 2007):

- Countries that are not resource endowed have focused on TE and their economies have seen sustainable long-term growth and high quality of life for the people of in their nations (Singapore and Israel are examples of these);
- Technology entrepreneurs create and capture economic value by exploring and exploiting new technology based solutions;
- TE ecosystems tend to be communities with the following characteristics:
    - Advanced education
    - International and collaborative networks
    - Global perspectives
    - Tolerance, openness and diversity
- TE is also the best way and the most sustainable way to disseminate technology

In order to achieve the objectives of this research study, this study adopts the Technology Acceptance Model (TAM) as a research framework. F. Davis

developed the model, in his doctoral thesis in 1985. The purpose of the model was to suggest that information systems are used as a response that can be explained or predicted through user motivation. According to the model, user motivation is explained by perceived ease of use, perceived usefulness and attitude toward using the system. The model was later refined to include other variables (Davis 1985).

Subsequent to the initial TAM, other researchers have applied and proposed additions to the TAM. Venkatesh et al (2000) introduced a second model Technology Acceptance Model 2 (TAM2) as they had identified certain limitations in explaining why a user would perceive a system as useful and, therefore proposed the inclusion of additional variables as antecedents of perceived usefulness as well as perceived ease of use.

The model has been modified to include behavioral intention as a variable that is directly influenced by the perceived usefulness of the system, and eliminated the attitude toward using variable. This became the final version of the TAM. The version introduced by Venkatesh et al (2000) resulted in (Chuttur 2009):

- Replicating of the model and testing propositions and possible limitations;
- Comparing it to other models like the Theory of Reasoned Action and the Theory of Planned Behavior;
- Adapting the model for various settings;
- Extending the model to include other variables, for example subjective norms, extrinsic motivations, etc.

This research study employs an adapted a version of the TAM2 that was used by Masinge (2010) in the study that investigated the factors that influence the adoption of mobile banking services at the Bottom of the Pyramid in South Africa.

Masinge (2010) adapted the TAM2 to exclude behavioral intention as a variable and included the following as predictors of the adoption of mobile banking:

- Perceived usefulness

- Perceived ease of use
- Perceived cost
- Overall trust
- Perceived overall risk (performance risk, security and privacy risk, time risk, social risk and financial risk)

This research study, also excludes behavioral intention as a variable but adapts the Masinge (2010) TAM2 version. However, these variables were slightly modified in this study, following the results on scale reliability and construct validity as outlined in section 3.6 and 3.8. The final set of predictors was composed of the following variables to include the following predictors as predictors of the adoption of MPP:

- Perceived usefulness
- Perceived ease of use
- Perceived low cost
- Overall trust and satisfaction
- Perceived social influence
- Perceived security and privacy
- Perceived support of the service provider
- Perceived overall risk

1.2.1 M-commerce

The growth of mobile wireless communication technology has brought with it a new dimension of information technology (Haque 2004). Thus, the growth of mobile devices is highly significant as there is now widespread acceptance that mobile ICT is what a region needs in order for it to participate in mobile commerce (m-commerce) (Meso et al 2005).

M-commerce has been defined as the use of wireless ICT, like mobile phones and personal data assistants for buying and selling goods and services and the use of these devices for transactional and business-related communications for individuals and companies (Meso et al 2005). It offers easy access to collect information from anywhere and anytime, saves time, increases productivity and improves performance (Haque 2004).

M-commerce is not just about transactions, it goes over and above providing services and information that trigger future transactions and is made up of three components (Boadi et al 2009):

- Transactions of monetary value
- Mobile or wireless communication devices and services
- Wireless telecommunication operators

The fact that customers of m-commerce can be targeted based on location, gives marketers the opportunity to target within geographical areas as mobile devices in most cases, have single owners thus allowing for the personalization and location flexibility (Swilley 2007).

M-commerce uses text messaging, micro-payments, financial services, logistics, information services and wireless customer relationship management as its main areas. Text messaging has been the most successful in m-commerce applications in developing countries where there are low rates of fixed line and Internet connectivity (Boadi et al 2009). Mobile entertainment is also a dominant service that m-commerce provides, as well as mobile banking and mobile brokerage (Swilley 2007).

M-commerce is composed of the following characteristics that make up the m-commerce space (Boadi et al 2009):

- Convenience and accessibility - people who make use of the application are not limited to time and space;
- Localization - due to technologies like GPS (global positioning system), m-commerce allows users to access information and services that are specific to their location;
- Personalization - the mobile devices used are generally configured to a single user.

1.2.2 The Informal Economy

According to Liimatainen (2002), the term informal sector was first used in reports on Ghana and Kenya done under the ILO World Employment programme in the 1970s. The term was first coined by Keith Hart, in 1973 when he studied the economic strategies of slum dwellers in Accra, Ghana. He identified the term to refer to the large volume of economic transactions that occurs outside the control of the state (Hart 1973).

In addition, the term refers to the segment of the labour market in developing countries that has absorbed jobseekers through self-employment and workers in small production units (Liimatainen 2002).

According to Ullah (2005), the term informal economy was used instead of informal sector at the 90th session of the International Labour Conference in 2002. Informal sector covered activities such as micro-entrepreneurs, petty traders, home-based and casual workers, while informal economy refers to a different group of workers, enterprises and entrepreneurs that engage in activities. Although the activities are lawful and not criminal or penal, they may not be covered by the law. This is because the law is not applicable in that instance or is not applied, or the activity is not encouraged by the law due to the fact that it is inadequate, burdensome or expensive.

Devey et al (2003) stated that the term economy implies a broader range of activities than the term sector and that if formal and informal activities are seen to be part of the economy it is easier to see the connection between the two.

The activities that are engaged in, in this segment, have low levels of capital, skills, access to organized markets and technology, low and unstable incomes, as well as poor and unpredictable working conditions (Liimatainen 2002). The common denominator in these activities is that they are unregulated by the state or government and are not taxed (Ragnhild 2007).

The informal economy has its own forms, rules and standardized practices and may also be organized along strong hierarchical family, ethnic and religious relationships. In most instances it is not easy to distinguish between formal and

informal enterprises as there is an intermixing of activities that are classified as formal and informal in all economic sectors (Liimatainen 2002).

According to Ragnhild (2007), this difficulty occurs, for example, because self-employed individuals may register their business without paying taxes, while unregistered traders can be heavily taxed. In addition it is sometimes found that untaxed activities are under government influence through the payment of some sort of fee, police control and the exclusion from certain areas.

There is, however, a need to differentiate between enterprises that are survivalist and those that could benefit from business development policies. Often the informal economy is seen as primarily urban or semi-urban, quite different from informal agricultural or non-agricultural activities in rural areas (Liimatainen 2002).

The importance of the informal economy is growing globally, due to the fact that its sheer size has remained at high levels in developing countries and is also an emerged in developed economies (Liimatainen 2002). In developing countries this sector contributes 40 to 60% of the Gross Domestic Product (GDP) (Schneider 2005).

In Africa, informal employment accounts for more than 60 percent of urban employment, and according to an OECD report the growth of this sector is due to the poverty associated with low levels of education and the lack of safety nets among a significant part of the population. In the European Union, 20 million people operate in this sector and the sector accounts for 15 percent of the GDP (Liimatainen 2002).

According to Ligthelm (2008) the informal economy sector can be categorized into three components:

- The part of the formal economy that is unrecorded and is formed due to companies avoiding compliance with procedures and regulations. These firms can be defined as “business that are unregistered but derive income from production of legal goods and services” and can be of any size (Nicther et al 2009, pp. 1455);

- The second economy consists of small, survivalist business who fall outside the income tax bracket and do not employ individuals outside their household;

- The illegal or third economy consists of people who engage in forbidden activities and has to do with the production and distribution of illegal goods and services amongst other things.

It is worth noting that Williams (2010) disagrees with Ligthelm (2008) in that informal entrepreneurs participating on illicit goods and services, such as drug trafficking, gun-running, etc., do not form part of the informal economy.

However, according to Devey et al (2003) over recent years the informal activities are as a result of the "informalizing" of formal firms. Informal activities have to do with (Devey et al 2003):

- Different types of economic activity, such as trading collecting, providing a service or manufacturing:

- Different employment relations such as the self-employed paid and unpaid workers as well as disguised wage workers and;

- Different economic potential such as survivalist activities and successful small enterprises.

Devey et al (2003) further states that the formal and informal economies are highly integrated, as it is in rare occasions that informal traders or operators are not connected to the formal economy through supply or customer networks.

In Africa, in percent of GDP, the average size of the informal economy was 42% between the years 1999 and 2000. Zimbabwe, Tanzania and Nigeria had the largest informal economies with 59.4%, 58.3% and 57.9% respectively (Schneider 2002).

The informal economy in Zimbabwe consist of businesses that mainly have to do with self-employment with an addition of one or two helpers who are generally members of the family or household. Subsequent to independence in

1980, this sector has absorbed 25% of the labour force in the face of the stagnating formal economy (Mhone 1998).

The informal economy plays an important role in Zimbabwe, in that it cushions poverty and it's a great contributor to productive employment and the growth of the economy (Mhone 1998).

Its role in the Zimbabwean economy is due to the country's colonial legacy, the posy-independence socialist bias in economic policy, the secular recession that occurred in the mid-1980s as well as the economic meltdown of the 90s and 2000s (Mhone 1998).

The more natural assumption is that informal entrepreneurs stem from lower-income populations (Mwega 1991) but, informal entrepreneurs can be located at both ends of the income continuum, this is the poorest end and the most affluent (Williams et al 2010).

Williams (2010) addresses the linkage between those who engage in informal activities and entrepreneurship. Williams (2010) defines an entrepreneur as one who is actively involved in starting a business or is the manager or owner of a business that is less than 42 months old. This definition excludes aspects of intrapreneurship.

Not all entrepreneurs conform to what is deemed "mainstream" entrepreneurship, hence the term informal entrepreneur, who is a person that is actively involved in starting a business or is an owner or manager of a business that is less than 42 months old. The business takes part in the legitimate paid production and sale of goods and services, but the businesses are not registered or are hidden from the state or government for tax reasons (Williams (2010).

A school of thought has emerged, that states that informal entrepreneurs chose to operate as they do in order to avoid the costs, time and effort of formal registration. Informal entrepreneurship is now seen as people's response to the incapacity of the government or the state to meet the basic needs of the people (De Soto 1989).

Williams et al (2012) states that it is now recognized that many entrepreneurs function, somewhat, in the informal economy and that formalizing them would be an effective and innovative way of promoting economic development and growth.

According to Mbogo (2010) micro-businesses are businesses that are sole proprietorships or family owned and employs less than five people and primarily operates in the informal economy. These businesses tend to participate in small semi-organized and unregulated activities that are common in urban and some rural areas.

Another common assumption is that informal entrepreneurs are from parts of the population that are marginalized and excluded from the formal labor market (Williams et al 2010). In England it was found that only 4% of the informal entrepreneurs where unemployed or economically inactive when they established their business and, up to 70% were in formal employment and 16% were registered as self-employed (Williams 2008).

It is most commonly said that informal entrepreneurs are driven out of necessity rather than opportunity; that they are forced into it reluctantly and are therefore survivalist (Williams et al 2010). However, according to Gerxhani (2004) for many informal entrepreneurs it was a matter of choice because of the autonomy, flexibility and freedom enjoyed in the informal economy.

In Zimbabwe, informal trading is not limited to low-income areas. The Zimbabwe Cross Border Association is a body that represents traders that import goods into the country for resale. These traders source theses goods from South Africa, Hong Kong, Taiwan and Britain. It is estimated that at the peak of the Zimbabwean economic crisis up to three-quarters of the adult population where involved in some form of trade. These informal entrepreneurs were the ones that supplied almost all the goods that could not be found on the supermarket shelves (IRIN 2013).

The reason the country found itself with a large percentage of informal entrepreneurs is because hyperinflation in the years leading up to 2008 made salaries almost worthless and many were forced out of their jobs in the formal

economy. Subsequent to the economic crisis and the Zimbabwean dollar being replaced by the multi-currency financial system using the US dollar in 2009, which stabilized the economy and put a stop to hyperinflation, the informal economy still plays a critical role reducing poverty and unemployment in Zimbabwe (IRIN 2013).

1.2.3 Mobile Payment Platforms and the Informal Economy

In Zimbabwe, a mobile banking platform, Eco-Cash, was launched by Econet Wireless, a cellular phone network provider at the end of 2011. Eco-Cash is a mobile payment solution that enables a registered user to complete simple financial transactions like sending money to a loved one, buying prepaid airtime for the user or other Econet subscribers (Econet website 2013).

Econet Wireless launched this platform in order to take advantage of a large identified gap in the Zimbabwean economy (Makunike 2013). In 2012 there were 270 000 active users and 1.5 million registered users of the Eco-Cash MPP (Kabweza 2012).

A nationally representative consumer survey in 2011, commissioned by the Ministry of Finance in Zimbabwe, that showed the characteristics of the Zimbabwean socio-economic landscape, more specifically how Zimbabweans source their incomes and manage their finances and gave insight into their attitudes and perceptions as far as financial products and services are concerned (Makanjee 2011).

The study showed that many Zimbabweans are locked out of the formal financial system, as they do not have access or use any of the formal financial products or services. These individuals borrow from friends and family and save their money at home. They also make use of informal methods of borrowing and saving such as cooperatives, farmers associations, savings clubs and groups. Furthermore, exclusion from the formal financial system is relatively high in rural areas due to the inaccessibility of banks and formal employment opportunities and 40% of Zimbabweans send or receive money.

Money is generally received from outside the country, and 58% of remittance is through friends and family (Makanjee 2011).

Mobile banking is presented with a viable opportunity to serve these individuals as 85% of the Zimbabwean population has access to a cell phone and only 16% have access to the Internet. 46% of the respondents in the 2011 consumer survey highlighted that they would use their cell phone Internet facility to transfer money or make payments (Makunike 2013).

South Africa, on the other hand, has 13 million economically active people who do not possess bank accounts, yet unlike the Kenyan partner, Safaricom, Vodacom and Nedbank's M-Pesa service is far from reaching their target of 10 million users within 3 years since its launch in 2010. Vodacom has only 500 000 registered users with very low activity levels to date (Maake 2012).

M-Pesa is a m-commerce, mobile payments, facility that allows users to conduct monetary transactions on their mobile phones, and mobile payments are procedures and channels that users make use of to make payment transactions (Mbogo 2010). Transactions include receiving money from network agents whether or not the recipients do not have bank accounts (Maake 2012).

In Kenya, M-Pesa has 13 million users, which is 30% of the Kenyan population, who engage is small cash transfers individually, but the high volume of transfers make the venture extremely profitable for the network provider (Maake 2012).

The previously mentioned consumer survey conducted in Zimbabwe in 2011 did not look at are Small Medium Enterprises, which themselves are largely unbanked and find it difficult to gain access to finance (Makunike 2013). It is against this backdrop that this research is being conducted.

With mobile operators and banks forming partnerships to take advantage of the opportunity mobile payment presents in Africa, it is worth taking the time to uncover how informal entrepreneurs in Zimbabwe perceive and use MPP.

1.3 Problem statement

This research seeks to investigate the perceptions and adoption of Mobile Payment Platforms in Zimbabwe by entrepreneurs in the informal economy in terms of the (TAM2) model adapted for the purposes of this study.

1.3.1 Main problem

Explain the perceptions and adoption of Mobile Payments Platforms by informal entrepreneurs in Zimbabwe in terms of the Venkatesh et al (2000) version of the Technology Acceptance (TAM2) model.

1.3.2 Sub-problems

The first sub-problem is to describe the actual adoption of MPP by informal entrepreneurs in Zimbabwe.

The second sub-problem is to describe the perceptions of informal Zimbabwean entrepreneurs of MPP in terms of the following variables of the TAM2 model adapted for this purposes of this study:

- Perceived usefulness;
- Perceived ease of use;
- Perceived cost;
- Perceived security and privacy;
- Perceived support of the service provider;
- Perceived social influence;
- Perceived overall risk;
- Overall trust and satisfaction.

The third sub-problem is to examine the relations between the predictors of the TAM2 model adapted for this study and the actual adoption of the MPP by informal entrepreneurs in Zimbabwe by comparing the perceptions of the users and the non-users.

1.4 Significance of the study

This study fills a gap in that it looks at whether the adoption of MPP by informal entrepreneurs in Zimbabwe can be explained in terms of the TAM2 model approach.

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 m-commerce sector (Meso et al 2005).

There are four things to consider with respect to the adoption and diffusion of m-commerce that are critical to all major players in the m-commerce industry (content providers, service providers, mobile network operators payment operators, logistics providers and manufacturers) (Boadi et al 2009):

- User convenience and usability - the greater the difficulty the lower the usage
- Security – methods to deal with the theft or loss of devices and the use of applications once the devices have been lost or stolen are essential
- Profitability
- Marketability and business potential

This study will provide the information required that can assist with understanding whether the perceptions and adoption of MPP by informal entrepreneurs in Zimbabwe can be explained in terms of perceptions of usefulness, ease of use, cost, security and privacy, support of the service provider, social influence, overall risk as well as the overall trust and satisfaction.

1.5 Delimitations of the study

The study focuses on the perceptions of usefulness, ease of use, cost, security and privacy, support of the service provider, social influence, overall risk as well

as the overall trust and satisfaction levels thereof in line with a TAM2 model and MPP by informal entrepreneurs in Zimbabwe.

The informal entrepreneurs are those that are registered agents of MPP administered by Green Mobile[1]. These agents are where customers register to use the MPP. Adoption of the MPP was measured by asking the respondent if they used the MPP and if they used it for the following:

- Buy airtime
- Check account balances
- Use in business
- Pay store accounts
- Pay electricity
- Cash withdrawals

The research study targets respondents that exhibit entrepreneurial behaviour. The survey was administered telephonically to a sample of informal entrepreneurs in Zimbabwe who are registered agents of this MPP.

The information pertaining to the organizations was accessed with the assistance of an executive from Green Mobile.

Zimbabwean informal entrepreneurs that operate outside of Zimbabwe were excluded from this research study.

The research methodology used in this study is Quantitative and cross-sectional. Cross-sectional studies are done once and show a snapshot of the population being studied at one point in time, as opposed to longitudinal studies that are repeated over an extended period of time (Cooper et al 2011, 142).

In addition this study makes use of descriptive data, in that it is concerned with answering the questions that pertain to the *who, what, where, when and how*

[1] Green Mobile is not the real name of the organization. A pseudonym was used to maintain the confidentiality of the organization.

much (Cooper et al 2011, 142).

The sampling method used in conducting this research is the non-probability snowball sampling method. In this sampling method respondents are discovered and may or may not be identified and selected through probability sampling methods (Cooper et al 2011, 386).

1.6 Definition of terms

Certain terms are repeatedly used in this study, thus definition of these terms is required at the onset.

Informal economy or economy: Individuals that engage in the production of goods or services with the main objective of generating employment and income for themselves. They more often than not, operate on a small scale, with little or no distinction between labor and capital factors of production (OECD website 2013).

Entrepreneurship: at the core of entrepreneurial activity is new venture creation and new venture creation process, also often used in the context of small businesses whose size is below certain threshold (Venter et al 2011).

Technology Entrepreneurship: is a term used to define the creation and capturing of economic value through exploring and exploiting new-technology based solutions (Therin 2007).

Mobile commerce (m-commerce): any type of transaction of an economic value that has a mobile terminal and uses the mobile telecommunications network (Tsalgatidou et al 2000).

Mobile Payment Platforms (MPP): is a subset of m-commerce that has to do with the completion of payments (Kreyer et al 2002).

1.7 Assumptions

The study assumes that the respondents have an understanding of m-commerce and mobile payments and have some knowledge of the term entrepreneur or entrepreneurship.

Due to the fact that the MPP is in existence, this research study assumes that the use of this technology would be a feasible option for use by informal entrepreneurs in the Zimbabwean economy for business purposes.

2 CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

This literature review looks at studies previously done on mobile commerce, adoption of m-commerce by businesses (informal, small and large). In addition this chapter attempts to show that informal traders do exhibit entrepreneurial behavior and thus qualify to be described as entrepreneurs, and maybe even technology entrepreneurs through the adoption and usage of m-commerce as service technologies (Venter et al 2011).

In Zimbabwe there has not been much research done on entrepreneurial perceptions and adoption of m-commerce. This research uses the mobile telecommunications and banking industries to collect data information.

This literature review includes the following:

- The success of MPP in other parts of Africa;
- And m-commerce adoption theory and models.

2.2 The Success of Mobile Payment Platforms in other parts of Africa

In 2007, Safaricom, a cell phone company in Kenya, introduced M-Pesa, a mobile payment solution that allows its customers to deposit money with their agents, who subsequently transfer the money into e-money, in order to enable the customer to send the money to anyone with the use of SMS messaging (Madger 2012).

The beauty of M-Pesa is in its simplicity; all that is needed is the customer to have the recipient's cell phone number and a pin code, while Safaricom, charges a small variable fee for the cost of the transaction (Giles 2009).

The popularity of M-Pesa has grown to the extent that banks have begun to form partnerships with Safaricom so that customers can earn interest in their M-

Pesa accounts (Madger 2012).

By 2011, more than 17 million of Safaricom's subscribers were registered M-Pesa users and M-Pesa revenues had grown by 56% and represented 12.4% of the overall revenue (Oxford Analytical Daily Brief Service 2011). The number of monthly transactions increased from 354 298 in July 2007 to 16 747 419 in July 2009, a 4627 % increase. The transactions generated substantial returns as well as created job opportunities for approximately 12 300 agents in Kenya (Gikenye 2011).

According to Omwansa (2009) the reasons that M-Pesa has been successful in Kenya are:

- The fast adoption of mobile phones;
- The unmet need to access financial services;
- The high demand for domestic remittances;
- Low cost of the service;
- Faster and more convenient than cash methods.

At its conception, M-Pesa targeted individuals that had no access to formal financial services. However, they soon reached critical mass and subsequently opened up to a broad range of payment options that were designed for users above the low-income group (Oxford Analytical Daily Brief Service 2011). Some of these payment options are (Oxford Analytical Daily Brief Service 2011):

- Payments for power and water utility bills;
- Retail transactions;
- Bulk payment for corporate clients;
- In partnership with western Union, M-Pesa users can receive remittances into their mobile money account;
- Access savings services;
- Access an overdraft facility
- A prepaid VISA card that is charged from the M-Pesa account (this was done in partnership with I&M Bank).

Entrepreneurs in the informal economy, in Kenya, have been the biggest beneficiaries of M-Pesa, as they now have a timesaving service, allowing them more time to work on their businesses (Omwansa 2009).

Due to the small size of these businesses the entrepreneurs are less inclined to use Information and Communication Technologies (ICTs) such as computer. They have instead adopted mobile phones and mobile money transfer services for the management of their business, as the technology is well adapted to the local economic environment to be used by the banked and unbanked in Kenya (Gikenye 2011).

According to the study conducted, using the Technology Acceptance Model by Gikenye (2011) informal entrepreneurs in Kenya, their business became easier and faster to run subsequent to the adoption of M-Pesa and the business also become more profitable. In addition, the mobile money transfer services simplified business and social financial transactions, decreased the cost of travelling and increased the efficiency of doing business, thus saving time and money. The study further concluded that the money transfer services are generally more flexible and because they can be used to save and withdraw small amounts of money, the operating hours are longer and they are cheaper that bank accounts and have no need for a minimum balance (Gikenye 2011).

At the beginning of 2009, just two years after the launch of M-Pesa in Kenya, its success had led to similar launches in Uganda, Tanzania, where the product had 1.6 million active users and 7 million register users (AllAfrica.com 2011) and Afghanistan. While Kerl Haslam, is attempting to introduce a similar concept in the United Kingdom (Giles 2009).

In South Africa, M-Pesa, a Vodacom and Nedbank partnership, did not live up to expectations. In 2011, it had registered just over 100 000 users, a far cry from the 10 million, of the 13 million unbanked population, that it had expected to register within three years of the launch (AllAfrica.com 2011).

According to the CEO of Vodacom at the time, the reason for the failure of M-Pesa is South Africa is due to the fact that the South African banking sector is more developed (AllAfrica.com 2011).

In Zimbabwe, Eco-Cash is popular among the lower LMS of the country especially in historically unbanked and financially excluded areas of Zimbabwe, and to date 1.5 million registered users. The platform moves approximately $2.5 million daily into Zimbabwe and has over 1500 agents (Eco-Cash Press Release 2013) across the country that offer banking services to people in remote parts of Zimbabwe and traditionally unbanked areas (Staff Reporter 2013).

With the aid of the Technology Acceptance Model in the following section, the hypothesized model for this study, this research will investigate the usage of MPP in Zimbabwe by entrepreneurs in the informal economy.

2.3 Hypothesized Mobile Payments Platform Perceptions and Adoption Model (adapted TAM2 model)

As previously stated this research study applies the Technology Acceptance Model (TAM2) Theory in order to understand what it is that influences the use of MPP by informal entrepreneurs in Zimbabwe. TAM is a model that explains how a user comes to accept and use a technology (Mbogo 2010).

A limitation that of the TAM that is taken into account in this research study is the limitation highlighted by Bagozzi (2007), where the research stated that there is a poor theoretical relationship between the behavioral intention and actual adoption link. Bagozzi (2007) argued that behavior may not be representative of actual adoption as the time between intention and adoption can have uncertainties and other factors that may influence the user's decision to adopt the technology. It is for this reason that the TAM model adapted in this research excludes behavioral intention to use as a variable.

The TAM2 model adapted for this study includes all the predictors included in the TAM2 model adapted for the study conducted by Masinge (2010), with the exception of splitting perceived overall risk and overall trust into different categories. The reason for including perceived overall risk and overall trust as single constructs is due to fact that the research instrument used did not have

sufficient items to correlate the constructs at those levels. Therefore, this research study has adapted the TAM2 to include the following factors:

- Perceived usefulness;
- Perceived ease of use;
- Perceived cost;
- Perceived security and privacy;
- Perceived support of the service provider;
- Perceived social influence;
- Perceived overall risk;
- Overall trust and satisfaction.

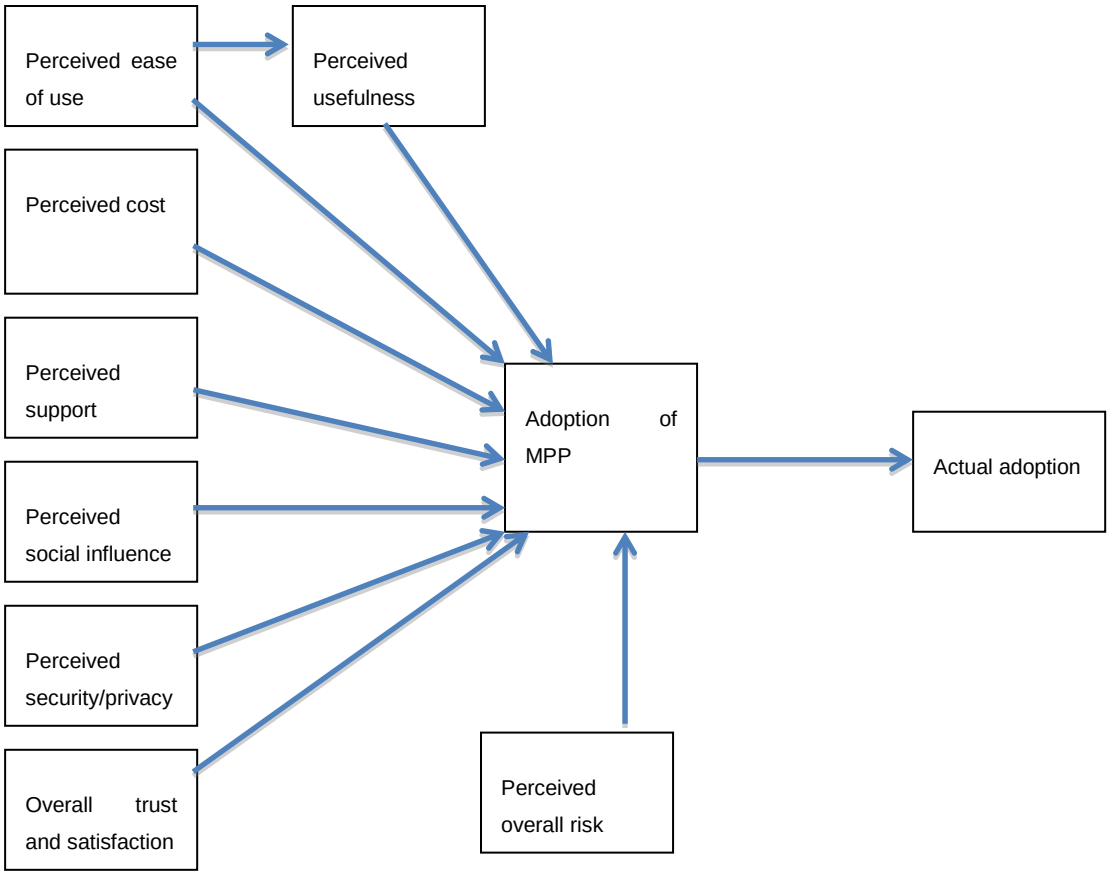


Figure 1: Research framework based on TAM2 model adapted by Masinge (2010) and further adapted for this study

The TAM Model has been applied in various contexts in order to investigate a variety of information technologies and to understand the acceptance of these technologies (Lallamahmood 2007).

This model is an extension of the Theory of Reasoned Action (TRA) as well as the Theory of Planned Behavior (TPB) and seems to be the most widely accepted model among information technology (IT) researchers, due to its prudence as well as the amount of empirical support that it has (Lallamahmood 2007). There have been more than 700 citations that have used the original proposal of the TAM, and the model itself has been adapted and extended in several ways (Chuttur 2009).

2.3.1 Background on the Theory of Reasoned Action (TRA)

The objective of the TRA is meant to show how a specific behavior is produced by an individual's beliefs, attitudes and intentions toward the specific behavior. This includes the subjective norm this is the individual's perception of social pressures of whether to continue or not to continue with the behavior (Braun 2012).

According to Ajzen et al (1980), individuals are rational and often make systematic use of the information that is available to them, and therefore think of the implications of their actions and behavior and then they decide whether or not they should continue with their behavior.

Because of the function of the attitude toward the behavior as being good or bad, and the subjective norm, with this model behavior is predictable through the individual's intention to perform the said behavior (Ajzen et al 1980).

The behaviors referred to in the model are those that the individual has "free will" to control, and do not need special skills, resources and can be performed at will (Ajzen et al 1980).

According to the theory, behavior toward an IS usage is better predicted by intentions that are determined by the users' attitude and subjective norm (social environment) regarding the behavior, meaning that attitude towards an object

influence intentions and also end up influencing user behavior with respect to the object in question (Jackson et al 1997).

2.3.1 Background on the Theory of Planned Behavior (TPB)

TPB evolved from TRA and was developed with the purpose of understanding and predicting the influences of human behavior and the strategies needed to influence change in a target behavior (Ajzen et al 1980, Braun 2012). It is based on cognitive processing, making it quite different from affective processing models (Braun 2012).

This theory is based on an individual's intention to carry out a behavior, making behavioral intention a determinant of behavior (Ajzen et al 1980).

The theory states that there is a relationship that exists between attitude and behavior, and that relationship is at its strongest when both are measured to the same degree of specificity (Ajzen et al 2005).

Behavior consists of the following elements (Braun 2012):

- An action performed toward a goal;
- An action performed in a specific setting;
- An action performed at a specified time.

TPB assumes that an individual's intention to perform a certain behavior impacts the individuals' behavior (Ajzen et al 1980), thus behavioral intentions are the individuals' motivations to dedicate some effort in performing the said behavior (Braun 2012).

2.3.1 Technology Acceptance Model

According to Davis (1989) the TAM model assumes that the adoption of an information system (IS) or technology is based on the whether the user intends to use the system. In other words, the TAM model is about the intended adoption behavior to use it, which is also determined by the perceived usefulness and the perceived ease of use of the system.

- Perceived usefulness is the extent to which someone believes that using a system would increase his or her job performance (Davis 1989).
- Perceived ease of use is the extent to which someone believes that using a system would require little or no effort (Davies 1989).

That being said, more variables need to be addressed, as usefulness, ease of use and user acceptance as well as intention may not fully demonstrate the users' intention to adopt an IS (Davis 1989).

These other variables can be: (Mbogo 2010):

- Security concerns
- Cost
- Convenience
- Satisfaction

Legris et al (2002) suggested that the TAM model could and should be integrated into a broader model that includes other variables that are related to human and social change processes and the adoption of the innovation model.

Mbogo (2010) used the extended version of the model that includes other factors:

- Perceived ease of accessibility of mobile payment services;
- Perceived low cost of the mobile payment services;
- Perceived support from the mobile service provider and the government;
- Actual adoption of the mobile payments services.

This research strives to investigate the usage of MPP by informal entrepreneurs in with the assistance of the TAM2 model.

2.4 Adoption and Actual Usage

Previous studies have used TRA in Internet banking services to predict the performance of behavior and intention. In Taiwan it was used to examine the effect of customers' attitude and subjective norms on Internet banking adoption

and it was found that attitude has a large effect on adoption intention and subjective norm has not (Malek 2011). In Hong Kong it was used to investigate the factors that influence bank customers to adopt four major banking channels services and the study demonstrated that the theory was not as applicable when behaviour is habitual (Malek 2011).

TRA states that behavioural intention is determined by the user's intention to accept, use or adopt one or more of the information technology (IT) fields, and because it is one of the most important factor in determining actual adoption, research in internet banking has found that there is a significant and positive relationship between intention to use and actual adoption (Malek 2011). That being said, other studies have also found that perceived overall risk has a negative effect on attitude toward Internet banking adoption in western and eastern cultures in many countries (Malek 2011). Other studies have also shown that overall trust is the most important factor that influences customer's attitude toward using Internet banking services as well as lack of awareness and family influence as a subjective norm (Malek 2011).

According to Vaughn (2009), mobile phones give the users an easy way to communicate and MPP facilities in Kenya have reduced the average transaction costs for the user.

The way in which the mobile payment usage impacts on entrepreneurial performance has a lot to do with whether an enabling environment exists. An enabling environment is a set of conditions that encourage the success of the product for its users (Porteous 2006). The fact that micro-businesses in Kenya are spread throughout the country allows them to easily access the MPP service providers in order to register and make cash deposits (Mbogo 2010).

Entrepreneurs can be described as individuals who have a high need for achievement; internal locus of control; high need for independence and effective leadership; high need for autonomy; information processing capability; preference for moderate levels of risk, low conformity; aggression, support and benevolence; high energy level, risk-taking and change; dominance, endurance, innovation self-esteem, low anxiety levels and cognitive structure; and low

interpersonal effect, social adeptness, low harm avoidance, and low succorance; and more commonly innovativeness and perseverance (Ndubisi 2005).

Ndubisi (2005), used innovativeness (the more innovative the entrepreneur is, the more positive his beliefs and his use of technology) and perseverance (continuing to do something that a person believes for an extended period, through difficulty and finding ways to work around and through the obstacles and challenges) as moderators of the relationship between perceptions and technology usage.

Interestingly, the study by Ndubisi (2005) concluded that the influence of perceived ease of use on usage is indirect; through the perceived usefulness innovativeness and perseverance moderate the impact of perceived usefulness and perceived ease of use respectively of the use of IT. However, perseverance does not moderate the impact of perceived ease of use on perceived usefulness and the impact of perceived usefulness and usage, while on the other hand, innovativeness does not moderate the relationship between perceived ease of use and usage.

Ndubisi (2005) state that the regardless of the level of education, exposures to information systems, age, years in business, gender of the entrepreneur, the impact of ease of perceived ease of use on perceived usefulness depends on the level of innovativeness of the user. Similarly, the demographics of the entrepreneur do not confound the moderation effect of innovativeness in the relationship between perceived usefulness and usage.

A study found that the factors that mediate the ability of low-income, low-literate users in developing countries to use mobile platforms are the household type, the key service adopted, the pace of uptake, the frequency of use and the ease of use (Medhi et al 2009).

This research study aims to answers several propositions and hypotheses. The propositions relate to sub problems one and two, while the hypotheses relate to sub problem three. The reason for this is due to the fact that the first two sub problems require descriptions of the said variables while sub problems three has to do with the relationship between the constructs or predictors and the

outcome variable. A proposition is a statement about the observable concept that may be judges as true or false, while a hypothesis is a proposition that is created for the purposes of empirical testing (Cooper et al 2011, 62).

In Kenya, micro-business owners have taken to the use of MPP in their businesses extremely well. They see MPP as an easier method of cash delivery to their supplier and business partners. As many of these business owners do not have bank accounts, this method of cash delivery is relatively affordable, personal and can be used from any location. The MPP has helped them make savings and gain access to more customers and services (Mbogo 2010).

According to Anurag et al (2009), informal entrepreneurs no longer have to leave their place of business to transact as the MPP affords them this luxury.

The use of MPP is extremely beneficial to the informal entrepreneur as all that is needed s a mobile phone, basic literacy to operate the phone and no physical infrastructure is required (Elder et al 2009).

Thus, the above discussion leads to the formulation of the following propositions in relations to sub problem 1:

2.4.1 Proposition 1:

Informal entrepreneurs in Zimbabwe are using MPP in their daily personal and work environments.

2.5 Predictors of Mobile Payment Platform Perceptions and Adoption

2.5.1 Perceived Usefulness and Perceived Ease of Use

Figure 1 show that perceived ease of use has a direct effect on perceived usefulness and has a positive relationship on user's adoption; in addition perceived ease of use has a direct impact on perceived usefulness (Kim et al 2008) and impacts user adoption directly and indirectly. as depicted in the figure

above. Research also shows that perceived usefulness is a strong determinant of user acceptance and usage behavior (Kim et al 2008).

The usefulness of an IS, is the subjective probability that the IS can change or improve the manner in which a user completes a given task (Jahangir et al 2007). While some research shows that perceived usefulness is a determinant of actual behavior and usage, other research states that perceived usefulness depends largely on what the IS actually offers (Jahangir et al 2007).

Prior research has shown that perceived usefulness is a strong determinant of intention to use and perceived ease of use is an important secondary determinant. Research also tells us that when usage is mandatory, subjective norms have a direct impact on intention, and when usage is voluntary, subjective norms have no direct effect on intention over and above what is explained by the perceived usefulness and ease of use (Venkatesh et al 2000).

As far as perceived ease of use is concerned, some researchers argue that it largely depends on the extent to which the user believes that using the IS will be at no cost to him or her, not too difficult to understand, learn or operate and better that the alternative (Jahangir et al 2007).

Rogers (1962; 1983) confirms the above, where he states that perceived ease of use is what is used to represent the degree to which an innovation is perceived not to be difficult to understand, learn or operate and to which users perceive a new product or service as better than its substitutes.

Another researcher described perceived ease of use as the degree to which an innovation is easy to understand or use (Zeithaml et al 2002).

In a study of Internet banking, Mathieson (1991) stated that perceived ease of use is the user's perception that banking on the internet involves minimum effort. Consult (2002) cemented this notion by adding that perceived ease of use, the necessity and functionality of banking services, along with their convenience and security, where necessary factors for the growth of internet banking.

As previously mentioned, perceived usefulness and ease of use are important factors that affect the acceptance of an IS. Therefore, it is assumed at this juncture that if a system is deemed to be more useful and easier to use than others, it is more likely to be adopted than the alternative (Lallamanhmood 2007).

Previous research has hypothesised that perceived usefulness and perceived ease of use are determinants of behavioural intention (Venkatesh et al 2003). Since this research study excludes behavioural intention, perceived usefulness and perceived ease of use will have a significant impact on the user's adoption of MPP (Masinge 2010).

The relationship between the two variables is such that perceived usefulness mediates the effect of perceived ease of use on attitude and intended use, meaning that while perceived usefulness has a direct impact on attitude and use, perceived ease of use influences attitude and use indirectly through perceived usefulness (Masinge 2010) and the intention to adopt the IS determines the actual adoption of the IS (Davis 1989).

A study by Wu et al (2005) concluded that both perceived usefulness and perceived ease of use influence the actual adoption, which is consistent with the findings of Venkatesh et al (2000). Masinge (2010)'s study reinforces this as the outcome of that study showed that perceived ease of use and perceived usefulness both have a significant effect on the adoption of mobile platform by the Bottom of the Pyramid.

A study into the adoption of mobile banking by people in rural Zimbabwe showed that perceived usefulness and perceived ease of use have a positive relationship in influencing the respondents' intentions to adopt the technology, which is consistent with other findings (Chitungo et al 2013).

The above discussion leads to the formulation of the following propositions in relations to sub problem 2:

a. ***Proposition 2:***

The informal entrepreneurs in Zimbabwe have a positive perception of the usefulness of MPP.

b. ***Proposition 3:***

The informal entrepreneurs in Zimbabwe have a positive perception of the ease of use of MPP.

The above discussion leads to the formulation of the following hypotheses in relation to sub problem 3:

c. ***Hypothesis 1:***

There is a positive relationship between perceived usefulness of MPP and their perceptions and adoption in the case of informal Zimbabwean entrepreneurs.

d. ***Hypothesis 2:***

There is a positive relationship between perceived ease of use of MPP and their perceptions and adoption in the case of informal Zimbabwean entrepreneurs.

2.5.2 Perceived Cost

For the banked informal trade in Nairobi, if the cost of sending and receiving money through the mobile payment facility is lower that the banking system, the mobile payment option is more viable and the saving could then be passed onto the user (Mbogo 2010).

Huge upfront costs are generally associated with the use or innovation of a new technology. This is generally due to the initial investment, training of workers, marketing and research development of the technology (Machogu 2012). Firms are willing to invest in new technologies only if they can obtain profits at a later stage to justify the initial investment (Khan 2002).

The use of Information and Communication Technology (ICT) in firms is multifaceted, and these uses have different direct and indirect costs associated

to them (Gerald et al 2006). Indirect costs can be more significant than direct costs; furthermore organizational costs can arise from transfer from old to new practices. Initially, at the deployment of the technology, there may be a temporary loss in productivity and more costs may occur once the basic functions of the system are in place (Machogu 2012).

Other costs may be incurred in the time the management spends leading, planning and organizing the integration of new systems into existing practices. In addition, perceived cost can also be seen as the cost involved in obtaining the new technology as well as the cost saving that will be achieved by the banks and the customers through the use of the technology (Machogu 2012).

Even though cost is a concern as the initial stage of adoption, it has a little influence on usage of the technology. In the study by Wu et al (2005), respondents highlighted that the benefits of m-commerce far surpass the cost when there is an emergency or a sudden need.

While Mbogo (2010) found that cost had a significant impact on behavioural intention to use the mobile platform, and this was significant as behavioural intention was significantly correlated with actual adoption, the study by Masinge (2010) showed that cost had a significant effect on the adoption of mobile platform on the Bottom of the Pyramid, and these are both consistent with previous findings.

Chitungo et al 2013 found that costs had a negative effect on the adoption of mobile banking services. Although this outcome is consistent with some research (Mbogo 2010 and Masinge 2010) is conflict with the findings of Wu et al (2005).

The above discussion leads to the formulation of the following propositions in relations to sub problem 2:

a. ***Proposition 4:***

The informal entrepreneurs in Zimbabwe have a positive perception of the cost of MPP.

The above discussion leads to the formulation of the following hypothesis in relation to sub problem 3:

b. ***Hypothesis 3:***

There is a positive relationship between perceived cost of MPP and their perceptions and adoption in the case of informal Zimbabwean entrepreneurs.

2.5.3 Perceived Support from Service Providers

When adopting and information system there are many issues to consider such as the lack of firm readiness, inadequate support that is required for the change, lack of alignment with strategic change, inadequate support and user involvement and unrealistic expectations (Twati 2008).

Previous research shows that management support and training support do positively influence technology acceptance, as management support has a very strong impact on subjective norms that impact the use of the information system (Jones et al 2010).

Mbogo (2010) found that there was a low degree of correlation between perceived support and actual adoption of MPP.

The above discussion leads to the formulation of the following propositions in relations to sub problem 2:

a. ***Proposition 5:***

The informal entrepreneurs in Zimbabwe have a positive perception of the support from service provider of MPP.

The above discussion leads to the formulation of the following hypothesis in relation to sub problem 3:

b. ***Hypothesis 4:***

There is a positive relationship between perceived support from service provider of MPP and their perceptions and adoption in the case of informal Zimbabwean entrepreneurs.

2.5.4 Perceived Social Influence

The number of people using or trading on an m-commerce platform affects the decision of other people to adopt the technology, therefore if critical mass of the platform is not established this has a negative effect on the adoption of m-commerce (Mbogo 2010).

Social risk is the possibility that using a mobile technology may lead to the disapproval of the users' social group (Lee 2009). Research has found that social influence processes like subjective norms, voluntariness, image and cognitive instrumental processes and perceived ease of use are all contributing factors in the acceptance of new technologies (Mazman et al 2009).

According to Malhotra et al (1999) a Technology Acceptance Model that does not take social influences into account is limited. Chen et al (2007) found that social coercion imitation and normalization where key methods of social pressure being applied, and Goldstein (2009) states that the management of these social forces and how they are harnessed demonstrates that users are more likely to adopt a technology if others who are like them also adopt the technology.

In the study conducted by Masinge (2010) it was found that social influence had no significant effect on the adoption of mobile platform by the Bottom of the Pyramid. While Chitungo et al (2013) found that social norms had a strong positive correlation to the adoption of mobile banking.

The above discussion leads to the formulation of the following propositions in relations to sub problem 2:

a. ***Proposition 6:***

The informal entrepreneurs in Zimbabwe have a positive perception of social influence of MPP.

The above discussion leads to the formulation of the following hypothesis in relation to sub problem 3:

b. ***Hypothesis 5:***

There is a positive relationship between perceived social influence of MPP and their perceptions and adoption in the case of informal Zimbabwean entrepreneurs.

2.5.5 Perceived Security and Privacy

Perceived security and privacy is seen from the perceptive of the user in this research. There are reduced security concerns as registered user do not have to be concerned about a third party accessing their account if the mobile phone is lost or stolen (Mbogo 2010). This is extremely important as security and safety are what users are primarily concerned with when it comes to the use of m-commerce, (Mbogo 2010).

Mbogo (2010) goes on to state that the use of personal identification numbers and secret codes for transactions increases the security and privacy issues and that the key requirements for electronic financial transactions are confidentiality authentications, data integrity, non-repudiation, anonymity and privacy.

Many studies have highlighted the importance of security and privacy concerns in online environments and have seen to be a major barrier in the adoption of information systems that use online environments (Masinge 2010).

Security, in this context, is a “threat that creates circumstances, condition or event with the potential to cause economic hardship to data or network resources in the form of destruction, disclosure, modification or data, denial of service and/or fraud, waste and abuse” (Kalakota et al 1997). Security can be breached through network or data transaction and transmission attacks as well

as through unauthorised access to an account by false authentication (Lallamahmood 2007).

Privacy is defined as “the claim of individuals, groups, or institutions to determine when and to what extent, information about then is communicated to others” (Agranoff 1991).

It is the users’ perception of his or her protection from security threats and the control of their personal data and information in an online environment. Wu et al (2000) noted that challenges with security and privacy must first be overcome for users to accept an m-commerce technology.

In addition perceived security and privacy is about the extent to which the user believes that the system can securely conclude a transaction and maintain the privacy of his or her personal information (Lallamahmood 2007).

While Mbogo (2010) found that security and privacy had a significant impact on behavioural intention to use the mobile platform, and this was significant as behavioural intention was significantly correlated with actual adoption, which is consistent with previous research.

The study by Masinge (2010) is in contrast with the literature above as it showed that security and privacy had no significant effect in the adoption of mobile platform at the Bottom of the Pyramid in South Africa.

The above discussion leads to the formulation of the following propositions in relations to sub problem 2:

a. ***Proposition 7:***

The informal entrepreneurs in Zimbabwe have a positive perception of the security and privacy of MPP.

The above discussion leads to the formulation of the following hypothesis in relation to sub problem 3:

b. ***Hypothesis 6:***

There is a positive relationship between perceived security and privacy of MPP and their perceptions and adoption in the case of informal Zimbabwean entrepreneurs.

2.5.6 Overall Trust and Satisfaction

Overall trust is a critical factor in the success of the adoption of mobile platforms (Masinge 2010). According to Kim et al (2009) overall trust is a psychological expectation that the trusted party will not behave opportunistically. It is defined as the feeling of security and willingness to depend on someone or something (Kim et al 2010).

Kim et al (2009) further suggests that the adoption of mobile platforms has fallen short of the service providers' expectations and this is mainly due to the users' initial lack of overall trust.

There is a difference between initial overall trust and the experience and knowledge based (Kim et al 2009). Like the study conducted by Masinge (2010), this study focuses on the initial overall trust as the respondents have less experience with service providers with respect to the use of the mobile platform.

A study conducted by Zhou (2011) found that the main factors that affect initial overall trust are structural assurance and information quality. Information quality and system quality significantly affect perceived usefulness and that initial overall trust affects perceived usefulness and both of these factors predict the usage intention of the mobile platform.

In a study about the adoption of mobile banking among the rural under-banked, it was found that generating overall trust on mobile platforms was one of the major challenges that were faced by service providers in ensuring the adoption of the platform. Thus the lack of overall trust of the technology was one of the factors found to act as a barrier to the adoption of the technology (Dass et al (2010).

Usability, usefulness, speed and convenience are key indicators of whether users are satisfied with their adoption of m-commerce (Pagani 2004). Usage and satisfaction with existing customers influence new customers to adopt m-commerce.

User satisfaction can be defined as the users' perception of attitude toward the information system (Galetta et al 1989), and is an emotional attitude that has five dimensions (content, accuracy, format, ease of use and timeliness) (Doll et al 1988). Meaning that a user should be happy if the system output is appropriate, correct and in a desirable format (Lee et al 2010).

An early study suggested that a model should take account positive and negative responses of users with respect to information systems, thus ensuring that user satisfaction is an aggregate of positive and negative feeling or attitude (Bailey et al 1983).

According to Lee et al (2010), user satisfaction can be used to measure system effectiveness, meaning if users are satisfied with a system as they use it, then the system is working well. Other research has also found that user satisfaction is vital to the success of a system (Lee et al 2010).

Mbogo (2010) found that satisfaction positively correlated with the behavioural intention to use MPP. Thus, the above discussion leads to the formulation of the following propositions in relations to sub problem 2:

a. ***Proposition 8:***

The informal entrepreneurs in Zimbabwe have a positive perception of trust and satisfaction of MPP.

The above discussion leads to the formulation of the following hypothesis in relation to sub problem 3:

b. ***Hypothesis 7:***

There is a positive relationship between perceived trust and satisfaction of MPP and their perceptions and adoption in the case of informal Zimbabwean entrepreneurs.

2.5.7 Perceived overall risk

A study on m-commerce conducted by Wu et al (2005) highlighted that up to 60% of the respondents in that study had online experience and that perceived overall risks did indeed have positive influences on the behavioral intention to use the m-commerce technology as they may been aware of the existing risk of m-commerce.

Furthermore, if the perceived overall risk in m-commerce is higher, this results in a lower usage rate. Perceived overall risk is also a barrier to online transactions and negatively influences the usage of a technology (Wu et al 2005).

In a study on the adoption of Internet banking by Tan et al (2000) perceived overall risk was highlighted as a significant determinant of usage of the technology.

The study by Masinge (2010) showed that perceived risk had no significant effect of the adoption of mobile banking by the bottom of the pyramid and the respondents were neutral on their perception of performance risk of the mobile banking service. Chitungo et al (2013) found that there is a strong negative correlation between perceived risks and the adoption of mobile banking in rural Zimbabwe.

The above discussion leads to the formulation of the following propositions in relations to sub problem 2:

a. ***Proposition 9:***

The informal entrepreneurs in Zimbabwe have a positive perception of the overall risk or MPP.

The above discussion leads to the formulation of the following hypothesis in relation to sub problem 3:

b. ***Hypothesis 8:***

There is a positive relationship between perceived overall risk of MPP and their perceptions and adoption in the case of informal Zimbabwean entrepreneurs.

2.6 Conclusion of Literature Review

To begin with the purpose of this research study is to explain the adoption of Mobile Payments by informal entrepreneurs in Zimbabwe in terms of the Venkatesh et al (2000) version of the Technology Acceptance (TAM2) model.

In doing so, the literature review had to first establish that informal traders are classified as entrepreneurs and that the Venkatesh et al (2000) revised Technology Acceptance Model is the most appropriate model to use in order to explain the adoption of Mobile Payments by informal entrepreneurs in Zimbabwe.

In the process of answering the research problem, the literature review gave insight into the sub problems listed in the previous chapter.

The first sub-problem describes the actual adoption of MPP by informal entrepreneurs in Zimbabwe, with respect to the TAM2 adapted for this purposes of this study.

Research shows that the actual adoption of MPP is largely determined by the predictors mentioned above, as well as the demographics of the user (Medhi et al 2009).

The second sub problem highlighted the need to describe the levels of perceptions of informal Zimbabwean entrepreneurs of MPP in terms of the TAM2 adapted for this purposes of this study using predictors of perceived usefulness, perceived ease of use, perceived cost, perceived security and privacy, perceived support of the service provider, perceived social influence, perceived overall risk as well as the overall trust and satisfaction.

Previous research shows perceived usefulness, perceived ease of use, perceived low cost and overall trust are the most highly rated of predictors of the adoption of mobile platforms (Masinge 2010).

The third sub-problem is to examine the relations between the predictors of the TAM2 model adapted for this study and the actual adoption of the MPP by informal entrepreneurs in Zimbabwe by comparing the perceptions of the users and the non-users.

Masinge (2010) shows that perceived ease of use, perceived usefulness, perceived low cost, perceived support of service provider and overall trust had a significant effect on the adoption of MPP, which resulted in the actual adoption of the technology, while perceived social influence, perceived performance risk and perceived financial risk had no significant impact.

Table 1: Sub problems, propositions and hypotheses

CONSTRUCT	SUB PROBLEM 1 Description of the actual adoption of MPP	SUB PROBLEM 2 Description of the perceptions	SUB PROBLEM 3 Relate the predictors to actual adoption
	Use of MPP in their daily personal and work environments		
Perceived usefulness		Perceptions of the usefulness of MPP	Positive relationship between perceived usefulness and perceptions and adoption of MPP
Perceived ease of use		Perceptions of the ease of use of MPP	Positive relationship between perceived ease of use and perceptions and adoption of MPP
Perceived cost		Perceptions of the cost of MPP	Positive relationship between perceived cost and perceptions and adoption of MPP
Perceived support from service provider		Perceptions of the support of MPP	Positive relationship between perceived support and perceptions and adoption of MPP
Perceived social influence		Perceptions of the social influence of MPP	Positive relationship between perceived social influence and perceptions and adoption of MPP
Perceived security and privacy		Perceptions of the security and privacy of MPP	Positive relationship between perceived security and privacy and perceptions and adoption of MPP
Overall trust and satisfaction		Perceptions of the overall trust and satisfaction of MPP	Positive relationship between overall trust and satisfaction and perceptions and adoption of MPP

CONSTRUCT	SUB PROBLEM 1 Description of the actual adoption of MPP	SUB PROBLEM 2 Description of the perceptions	SUB PROBLEM 3 Relate the predictors to actual adoption
Perceived overall risk		Perceptions of the overall risk of MPP	Positive relationship between perceived overall risk and perceptions and adoption of MPP

3 CHAPTER 3: RESEARCH METHODOLOGY

3.1 Introduction

This purpose of this chapter is to describe the research methodology used in this study. This is achieved by specifying how the study was conducted in order for the objective to be attained. The main objective of the study was to investigate how informal entrepreneurs have perceived and used MPP in Zimbabwe.

The study achieves this by investigating the perceptions, overall trust and satisfaction, adoption usage of MPP by looking at how perceived usefulness relates to the perceived ease of use, perceived low cost, perceived security, perceived convenience, perceived security, perceived privacy, perceived support and perceived social influence of MPP.

This study aims to investigate the perceptions and adoption of informal entrepreneurs towards MPP. Thus, the direction that this study has taken is a positivist social research approach, in order to assess perceptions and adoption towards MPP.

It is argued that positivism is a research philosophy that studies social behaviors in ways similar to the methods used by natural scientists to study the behavior the natural world (Livesey 2006). This type of research strives to follow the principle of natural scientific research and in addition it continues in the formulation and testing of hypotheses with the aim of making inferences about the casual connections between two or more social phenomena (Hamersley 1993).

The nature of this study requires that a quantitative research methodology should be employed, as it measures consumer behavior, knowledge, opinions or attitudes (Cooper et al 2011). The reason for this is to limit or be able to control the bias, the sample size is large and the research was able to build and test theories (Cooper et al 2011).

This study used a combination of propositions and hypotheses. The reason for this is that the research framework used in this study, presented the need for more than just using hypotheses for empirical testing but to also use propositions to observe the constructs or predictors, whether they can be deemed as true or false (Cooper et al 2011).

This research study used a Green Mobile database that listed the various MPP agents across Zimbabwe. This is a descriptive study of the degree of satisfaction with MPP and the adoption of MPP among informal entrepreneurs in Zimbabwe. A cross-sectional survey was employed in order to understand the perceptions of MPP among informal entrepreneurs.

3.2 Research Design

The data was collected in the form of surveys (see questionnaire in appendix A). Surveys are data collection tools that collect demographic, behavioral and attitudinal information (Harvard University 2012). The survey questions were constructed with the following in mind: (Harvard University 2012):

- Short and simple questions
- Questions will not be leading
- Few answer choice will be presented when the respondent is required to make a choice
- The questions will be placed in a logical order
- The survey will be pretested to ensure that no questions are unclear or bothersome

The survey was administered telephonically, by a team selected to assist in this research. The informal entrepreneurs were drawn from the database are agents of the MPP administered by Green Mobile in Zimbabwe.

In addition, the data also collected by questionnaires include demographic characteristics (FAO 2009).

3.3 Population and sample

3.3.1 Population

The sample size was taken from the database of 1842 registered agents of the MPP that was supplied by Green Mobile, in Zimbabwe. Of the 1842 agents, 558 are informal entrepreneurs. These agents are where customers register to use the MPP.

The sample was extracted from the database of agents operating only in Zimbabwe and had to meet the following characteristics:

- Registered agents;
- Non-registered business entities (look at the definition of informal entrepreneurs in the Literature Review section above);
- Operate in only in Zimbabwe;

3.3.2 Sample and sampling method

This study made use of non-probability sampling methods, more specifically purposive judgment sampling. The probabilities of selecting population elements are unknown and there are many ways to choose respondents and cases to include in the sample (Cooper et al 2011, 384).

With purposive sampling the sample has to conform to certain criteria (Cooper et al 2011, 385). In this study the criteria for the sample are that they must be informal entrepreneurs.

With non-probability sampling, unlike probability sampling, there is a greater chance of bias that comes into the sample selection procedure and could possibly distort the study findings. However, there are some advantages to using non-probability, sampling methods to probability sampling methods (Cooper et al 2011, 384):

- It satisfactorily meets the sampling objective;
- A random sample may not give a true cross section of the population;

- Non-probability sampling is less costly and less time consuming than probability sampling;

Up to 100 agents were contacted telephonically as budgetary and time constraints did not permit for more agents to be surveyed. The final sample size in this study was 100.

3.4 The research instrument

The constructs used in the research framework are taken from existing measures developed and employed in previous research conducted by Masinge (2010) used to ascertain the factors influencing the adoption of mobile banking services at the bottom of the pyramid in South Africa. The research model used by Masinge (2010) included the original variables of the extended TAM used by Venkatesh et al 2000). These constructs and constructs have been adapted to fit the purposes of this study as stated below.

The research study conducted by Masinge (2010) made use of the TAM2 and had five predictors of the level of user perception of mobile banking, which this research study initial intended to use. These were perceived usefulness, perceived ease of use, perceived cost, overall trust, and perceived overall risk. Perceived overall risk included performance risk, security and privacy risk, time risk, social risk and financial risk.

However, a factor analysis based on the responses obtained revealed that certain items correlated better with subscales other than the ones they were designed to measure. Furthermore, once these items were reallocated, the resultant scales had satisfactory reliabilities, whereas beforehand they had not. Thus the final set of scales with satisfactory psychometric properties measured the following predictors:

- Perceived usefulness;
- Perceived ease of use;

- Perceived cost;
- Perceived security and privacy;
- Perceived support of the service provider;
- Perceived social influence;
- Perceived overall risk;
- Overall trust and satisfaction.

The questionnaires consisted only of closed-ended questions. Respondents were asked demographic questions in order for the researcher to collect information about their age, gender, education and past business behavior (Yang 2005), and also asked to participate in the questionnaire voluntarily (Mbogo 2010).

The research instrument made use of 5-point Likert scale and closed-ended questions, with each of the constructs in the model represented. The scale represents all the constructs in the research framework (perceived usefulness, perceived ease of use, perceived cost, perceived security and privacy, perceived support of the service provider, perceived social influence, perceived overall risk as well as the overall trust and satisfaction).

The 5-point Likert scale had strongly agreed at one end of the continuum and strongly disagree at the other end of the continuum. The frequencies of the most positive responses to each item and the scale totals of the mean and standard deviation.

The questions in the final allocation to scales are in line with the formulated hypotheses as shown in the following table as follows:

Table 2: Constructs and related questionnaire items

Construct	Questionnaire items
Perceived usefulness	20. I think that using MPP would enable me to accomplish my tasks much quicker. 21. I think that using MPP would make it easier for me to carry out my tasks. 22. I think that MPP are useful.
Perceived ease of use	24. I think that learning to use MPP would be easy 25. I think that interaction with MPP does not require a lot of mental effort 26. I think that it is easy to use MPP to accomplish my tasks
Perceived cost	37. I think the access costs of MPP are expensive to use 38 I think the transaction fee of MPP are expensive to use
Perceived support from service provider	39. MPP providers have the skills and expertise to perform transactions in an expected manner 40. MPP service providers have access to the information needed to handle transaction appropriately. 41. MPP service providers are fair in their customer service policies following a transaction. 42. MPP service providers are fair in their customer service policies following a transaction
Perceived social influence	31. I'm sure that if I decided to use MPP and something went wrong with the transaction, my friends, family and colleagues would think less of me. 32. When my MPP account incurs fraud or hacking I will have a potential loss of status in my social group.

Perceived security and privacy	34. I'm worried about using MPP because other people may be able to access my account 35. I would not feel secure sending sensitive information across MPP
Overall trust and satisfaction	45. I believe mobile network operators are overall trustworthy 46. I believe wireless infrastructure can be overall trusted. 47. Has MPP positively affected your customer base? 48. MPP has improved your business relationships

A pilot study was conducted before administering the questionnaire to the main sample to establish the lack of ambiguity and proper wording of the questionnaire. The pilot involved the telephoning of 10 agents and errors such as the numbering of the questions in the questionnaire were corrected. The correspondence used to obtain the database from Green Mobile as well as the actual instrument is in **Appendix A.**

The questionnaire was administered telephonically, as previously mentioned, and the advantages and disadvantages of this method of data collection are (Vancouver Island University 2013):

Advantages:

- The interviewers can obtain more complete answers, as well as request more clarification from the respondents;

- Allows for broad reach to potential respondents;
- Allows for quick contact to the respondents;
- Eliminates distance as a factor.

Disadvantages:

- In some cases sales calls disguise themselves as research calls;
- There is a small calling window, typically from 6-9pm and often respondents do not like being interrupted;
- There is limited personal time and no visual support;
- More expensive than other survey methods.

The reason for using telephonic surveys in this study was because the study involves respondents who are based in Zimbabwe while the researcher was based in South Africa. During the data collection period of this study, it was found that these advantages and disadvantages are indeed true. Due to the time constraints it did prove to be rather expensive as calls were made using cell phones, and the calling window was small as the respondents were not willing to talk about business after working hours.

That being said, the telephonic survey did allow for the respondents to be contacted quicker than another method would have allowed and the distance factor was indeed eliminated.

3.5 Procedure for data collection

For quantitative research random sampling and structured data collection methods are essential as they produce results that are easy to summarize, compare and generalize (University of Wisconsin 2003).

The data collection method for this study was administered telephonically to the informal entrepreneurs in Zimbabwe. The database that contained the details of these entrepreneurs was obtained from Green Mobile.

This study only used primary data sources as this information was extracted from the respondents answering the telephonic surveys.

3.6 Data analysis and interpretation

The research made use of statistical analysis (Barrett et al 1998) in order to describe the perceptions of the respondents of MPP and to evaluate the relationship between the dependent variables and predictor variables (perceived ease of use, perceived usefulness, perceived cost, perceived security and privacy, overall trust and satisfaction, perceived support from service provider, perceived overall risk, and perceived social influence).

During the data analysis, the collected data was converted into a format that made the data usable in order to address the research problem. The data was prepared by extracting it from the answered questionnaires into Microsoft Excel format in order for it to be manipulated by the statistics software programme.

In this research study, the results were analyzed in the following sequence:

3.6.1 Descriptive Statistics for Categorical Demographic Variables

The questions on demographics related to the owner or the respondent and to the business in question. Descriptive statistics in the form of frequencies and supporting pie charts were used on categorical variables such as gender, age, race, if the respondent was the owner of the business, how long the business has been operating, if it was the owners' first business, the sector in which the business operates in and which network operator the respondent subscribes to. Frequencies or counts are the actual number of responses to a question (Cooper et al 2011).

3.6.2 Construct Validity of the Measurement Scale

The pre-existing scale used by previous researchers (Masinge 2010) was used. This scale was developed to tap the subscales of perceived ease of use,

perceived usefulness, perceived low cost, perceived security and privacy, overall trust, perceived support and ability of the service provider, perceived performance risk, perceived financial risk, and perceived social influence.

Initially, a pilot test was used to check the face validity, possible errors and ambiguity based on a sample of 10 respondents. Face validity is also known as content validity, and is the assessment of the correspondence of the variables to be included in a summated scale and its conceptual definition (Hair et al 2010, 92).

This pilot process resulted in the rewording of some of the questions. However, as the construct validity of the scale could not be guaranteed in the context of informal entrepreneurs in Zimbabwe, it was necessary to check its underlying dimensions on the empirical data of the research. Construct validity is the extent to which a set of measured items that reflects the theoretical latent construct, those the items are designed to measure (Hair et al 2010, 631).

Factor analysis, was used to investigate formally the construct validity of the scale, in other words, to investigate whether the scale measured what it was meant to measure. Factor analysis is meant to look at patterns among the variables in order to ascertain the underlying combinations of the original factors that can be summarized as the original set (Cooper et al 2011, 530). It is also a suitable technique for analyzing the patterns of complex, multidimensional relationships that researchers encounter and can be used to examine the underlying patterns or relationships for a large number of variables and to establish in the information can be summarized into a smaller set of factors (Hair et al 2010, 94).

This technique gives the researcher the tools for analyzing the structure of interrelationships or correlations among a large set of variables, this is done by defining sets of variables that are highly interrelated, also known as factors (Hair et al 2010, 94).

In this study exploratory factor analysis was used along with principal component extraction in order to extract the underlying dimensions of the scale.

Component analysis is a method of analysis is used when the aim is to summarize most of the original information in a minimum number of factors for the purpose of prediction. It is also known as principal component analysis and considers the total variance and derives factors that contain small proportions of unique variance and sometimes error variance (Hair et al 2010, 92).

According to Hair et al (2010) this method of analysis is most useful when:

- Data reduction is a main concern and the focusing on the minimum number of factors is required in order to account for the maximum portion of the total variance represented in the original set of data variables;
- The prior knowledge suggests that specific and error variance represents a relatively small proportion of the total variance.

Prior to conducting the factor analysis, the inter-correlations matrix was checked using Bartlett's test for the overall significance of the correlations (Hair et al 2010).

In order to determine the number of factors to be extracted the scree plot was used. The scree test criterion is used to identify the optimum number of factors that can be extracted before the amount of unique variance begins to dominate the common variance structure (Hair et al 2010). Following the decision of the number of factors to extract, Varimax rotation was used to maximise the loadings to achieve an interpretable and meaningful factor structure. Varimax is the most popular orthogonal factor rotation method that focuses on simplifying the columns in factor analysis (Hair et al 2010, 94).

The resultant factor loadings were used to interpret the role of each item of the questionnaire in defining each factor. The loadings show the degree of the correspondence between the variable and the factor. The higher loadings make the variable representative of the factor (Hair et al 2010, 118). In the present research factor loadings of .5 and above were considered as sufficiently high for the item to define the factor in the process of investigating the construct validity of the scale.

Validity can also be defined as the extent to which the measured value reflects the characteristic it is meant to measure (Lewis 1999). The word itself implies that there is an external standard that exists against which the current measurement is being compared to (Lewis 1999).

3.6.3 Reliability of the Measurement Scales

In this research study, Cronbach's Alpha was used to measure internal consistency, the degree to which the items in the instrument are homogeneous and reflect the same underlying constructs (Cooper et al 2011). As Cronbach's Alpha is positively correlated with the number of items in the scale, an additional criterion of reliability used was the average inter-item correlation, which according to Hair et al (2010) should exceed 0.3.

Reliability is the extent that a measure provides consistent results, the said measure is reliable. It is also concerned with the estimates of the degree to which the measurement is free from random error. Although reliability is a necessary contributor to validity, it is not a sufficient condition for validity (Cooper et al 2011, 283). When instruments are reliable, they are robust, work well at different times in different conditions (Cooper et al 2011, 283). The reliability of the final set of scales satisfied at least one of the criteria of acceptable Cronbach's Alpha (greater than .6) or average inter-item correlations of at least .3 (Hair et al 2010).

3.6.4 Descriptive Statistics of Scales

Descriptive statistics on the predictor variables were used to assess the perception levels of perceived ease of use, perceived usefulness, perceived low cost, perceived security and privacy, perceived support from service provider perceived overall risk, and perceived social influence as well as overall trust and satisfaction. In line with the propositions related to the first and second sub problems of the research.

Measures of central tendency in the form of means and medians and measures

of variability in the form of standard deviation and variance were computed on the continuous predictor variables and satisfaction, The mean is the sum of the values for all observations of a variable divided by the number of observations, measuring the average response of the respondents (Hair et al 2010).

Descriptive statistics are statistical measures used to depict the centre, spread and shape of distributions. They assist in research as the preliminary tools of data description (Cooper et al 2011, 423). In other words, descriptive statistics makes use of frequencies, in terms of usage, means, modes, medians, standard deviation and coefficients of variation in order to summarise the characteristics of large data sets. (Cooper et al 2011).

3.6.5 Test of Propositions and Hypotheses

To test proposition 1, this research looked at how the respondents responded to the questioned that related to their usage of the MPP. The outcome of the results looked at the number of uses the respondents had for the MPP if they were users and how many of the respondents had the same number of uses.

In order to test propositions 2-9, descriptive statistics were used to assess the respondents' disposition to MPP, using the predictors as the basis. The descriptive statistics of the scales made use of measures of central tendency such as the mean and median, standard deviation and the range as the measures of variability (s for symmetry a used and skewness) and Cronbach's coefficient alpha for internal consistency reliability.

To test the hypotheses in this study, t tests were used to compare users and non-users of MPP in terms of their mean levels of TAM's predictor variables of perception levels of usefulness, ease of use, cost, security and privacy, support of the service provider, social influence, overall risk as well as the overall trust and satisfaction. T tests are tests used to assess the statistical significance of the difference between two sample means for a single dependent variable (Hair et al 2010).

To conclude the test of the hypotheses, the research study then looked at

Cohen's effect size (d), with cut-off criteria of 0.2, 0.5 and 0.8 as low, medium and high differences respectively (Cohen 1988). The effect size is the standardized measure of group differences used in the calculation of statistical power. It is calculated as the difference in the group means divided by the standard deviation. After this the effect size is than comparable across research studies as a generalized measure of effect (Hair et al 2010). It is also the technique used to estimate the degree to which the phenomenon being studied, i.e. its correlation or difference in means exists in the population (Hair et al 2010).

3.7 Limitations of the study

This research was limited to informal entrepreneurs who have introduced the MPP into their business. The study excluded individuals that use the MPP for non-business purposes as well as Informal entrepreneurs that are registered users of the platform but who operate outside of Zimbabwe.

The study was subject to the following limitations:

- This research was conducted in the context of the financial limitations of the Zimbabwean environment;
- Poor response rate.

3.8 Validity and reliability of research

3.8.1 External validity

External validity assesses if the observed relationship can be generalized across people, settings and times. It is concerned with the interaction of the experimental treatment with other factors and the resulting impacts on the ability to generalize are times, settings or people (Cooper et al 2011, 219). The outcome of this research study can be generalised to informal entrepreneurs in Zimbabwe only, thus limiting the external validity to a certain extent.

In order to maximise external validity, the study had to first ensure internal validity. The purpose of this was to secure as much external validity that is compatible with the internal validity requirements. This was done by making experimental conditions as similar as possible to conditions where the results will apply (Cooper et al 2011, 219).

3.8.2 Internal validity

Internal validity is the extent to which the independent variable can accurately be stated to produce the observed effect (Tariq 2009). Internal validity is achieved if the effect of the dependent variable is as a result of the independent variable, thus limiting the extent to which the results can be manipulated (Tariq 2009). In other words, it has to do with the conclusions that can be drawn about an experimental relationship truly imply cause (Cooper et al 2011, 217).

As this study is purely correlational in design, no claims of casual relationships are made. The researcher attempted to maximise the internal validity by designing sampling selection criteria to arrive at a homogenous group of Zimbabwean informal entrepreneurs and using the same for all respondents administered by the same questionnaire.

4 CHAPTER 4: PRESENTATION OF RESULTS

4.1 Introduction

In this chapter, the results of the research study are presented in discussion with the aid of tables and graphs for the results derived from the 100 usable responses.

4.2 Demographic profile of respondents

Descriptions are broken down into owner-related and business-related variables.

Table 3: Profile of owner related demographic variables

Variable	Level	n (%)
Age	Over 35 years old	63
	26-35 years old	31
	18-25 years old	6
Sex	Male	69
	Female	31
Race	Black African	99
	White	1
Highest education level	Diploma/degree completed	29
	High school completed (O'level or A 'level)	42
	Short programme completed	9
	Some high school	8
	Some primary school	1
	Post graduate qualification completed	8
	Primary school completed (grade 7/standard 5)	3

Almost two-thirds (63%) of the respondents were over the age of 53% and more than two-thirds (69%) of them were male. Only one of the respondents was white, and 80% of the respondents have completed high school, a programme, diploma or degree.

Table 4: Profile of business-related demographic variables

Variable	Level	n
Owner of business	yes	85
	no	14
	Missing	1
Age of business	6 or more years	28
	3-5 years	39
	1-2 years	17
	Less than 1 year	12
	Missing	4
First business	no	46
	yes	51
	Missing	3
Number of businesses previously started	1	2
	2-3	30
	4-5	14
	6-9	3
	Missing	51
Area of operation	In a shopping centre	27
	From a container or caravan	9
	In a formal building	51
	At home or at a friend's home	4
	In a craft market	5
	On the street	1
	In a metro mall	1
	Missing	2
Sector	Retail	58
	Other	5
	Trade	29
	Manufacturing	3
	Missing	5
Mobile platform usage	no usage	43
	1 application	14
	2 applications	28
	3 applications	14
	6 applications	1
Network subscribed to[2]	Green Mobile	84
	Star Wireless	7
	CosmoCom	3
	RainbowTel	6

[2] Green Mobile, Star Wireless, CosmoCom and RainbowTel are not the real names of the network services providers, Pseudonyms have been used to maintain the confidentiality of these organizations.

Of all the respondents, 85% of were owners of the business, of these 46% said this was not their first business and 67% of the businesses have been in operation for more than 3 years. Half (51%) of the businesses operate from a formal building, while 27% operate from a shopping centre. Over half 58% of these businesses operate in the trade sector.

The majority of respondent subscribe to Green Mobile, a third 34% of the respondents subscribe to multiple networks. The reason they gave for this was to always be able to use the cell phone even during the congestion times, which are frequent.

Table 5: Sources of business venture finance

Sources of finance	Bank	Family	Friends	Micro-finance	NGO	Own money
Used alone & in combination	19	16	4	1	0	82
Used only	6	4	0	0	0	66

Table 5 shows that most of the informal entrepreneurs' financed their businesses with their own money. For most (80% of the 82%) it was the sole source of financing, this means that two-thirds (66%) of the sample financed the current venture solely with their own finances. Other sources of finance used alone or in combination include bank loans (19%) or loans from family or friends (11%). Only four respondents financed their businesses solely with their family as their source of finance. None of the respondents financed their business through NGOs and only one used a micro-finance organization to finance their business.

4.3 Results pertaining to Sub-problem 1 (Proposition 1)

The first sub-problem is to describe the actual adoption of MPP by informal entrepreneurs in Zimbabwe.

The proposition that relates to this sub problem is:

Informal entrepreneurs in Zimbabwe are using MPP in their daily personal and work environments.

Figure 2: Pie Chart of MPP Usage

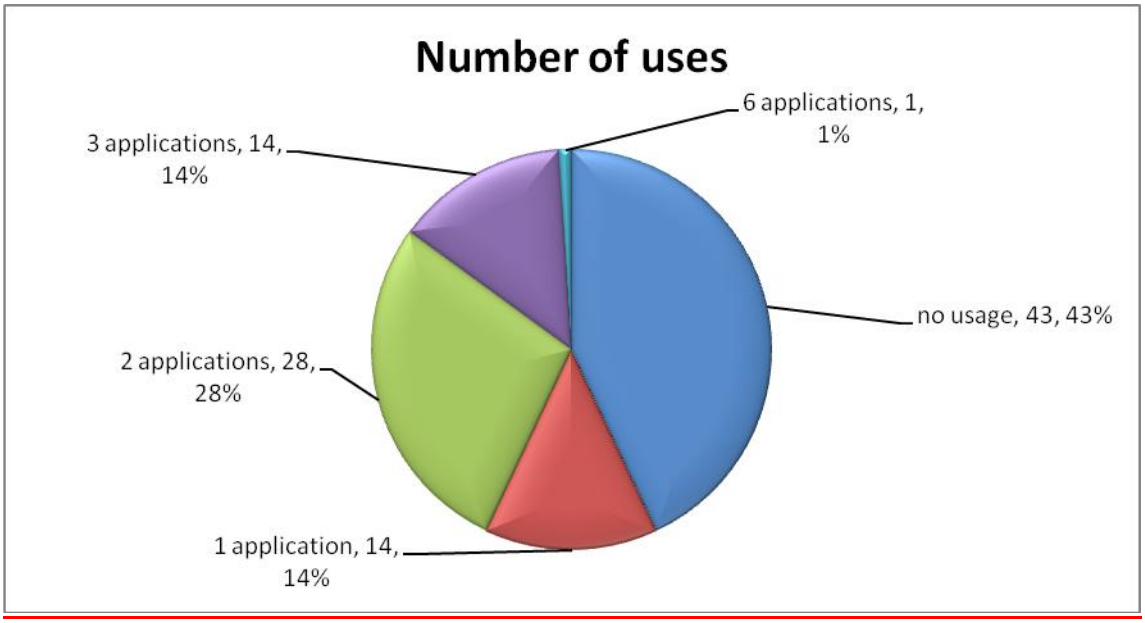


Table 6: Use of MPP

M Commerce application (MULTIPLE RESPONSES)	Buy airtime	42
	Check account balances	24
	Transfer money	41
	Use in business	2
	Pay electricity	2
	Cash withdrawal	6
	Other	1
	None	43

The respondents were asked if what they used the mobile payments platform for (personal or business). 43% of the respondents do not use the mobile platform, 14% use it for a single application, while the rest (43%) use it for up to six applications (Figure 1). The most common uses are the purchasing of airtime and transferring money. Only 2% of the respondents use the application for business purposes.

The respondents highlighted that they would more use of the platform in their business if the transactions limits where raised. The current limits only allow for

small transactions to be carried out and not the transaction limits required by a business. The transaction limits are currently:

- US$1000 per day, with a maximum of US$500 per transaction;
- US$3000 per month.

4.4 The Psychometric Properties of Scales

The scale was developed to tap the subscales of perceived ease of use, perceived usefulness, perceived cost, perceived security and privacy, overall trust, perceived support from service provider, perceived overall risk, and perceived social influence.

Before proceeding to test the hypotheses of the research, it was necessary to check the validity and reliability of the scales:

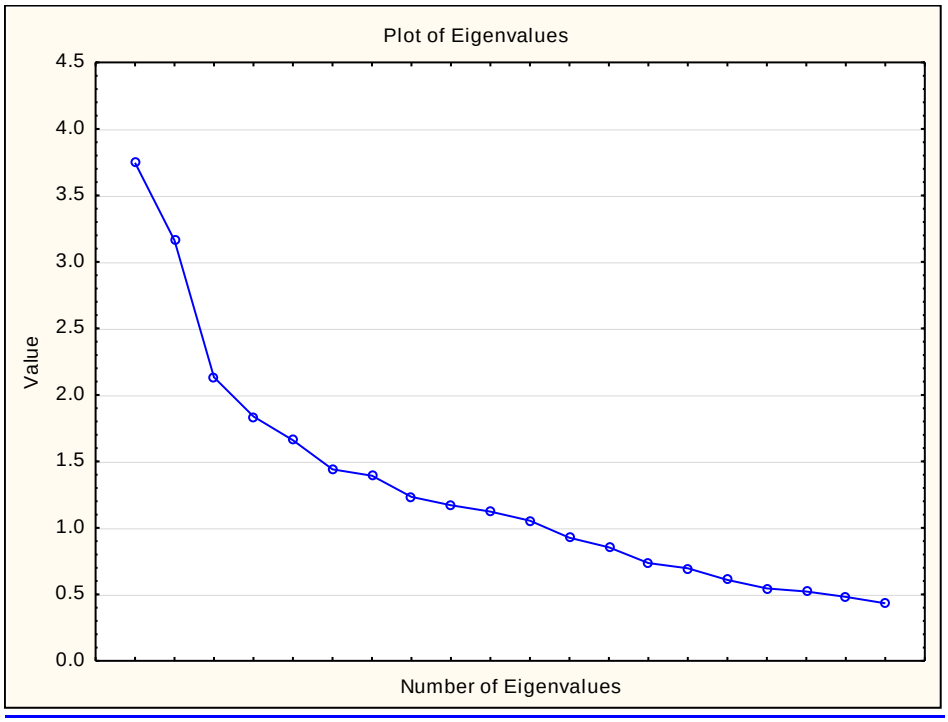
4.4.1 Construct Validity

In order to assess the construct validity of the measurement scales, exploratory factor analysis with principle component extraction was used to extract the underlying dimensions of the scale and thereafter Varimax rotation was used.

Initially the data matrix of correlations was assessed to see if the item inter-correlations were sufficient to justify the application of factor analysis. Factor analysis was considered appropriate as Bartlett's test of sphericity was significant (Chi0Square =812.51, $p<0.001$) and the Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO) value of 0.60 was acceptable.

Next the **Scree plot** was used to suggest the number of underlying factors. The plot suggested two strong factors, with a total of 11 factors with eigenvalues greater than 1 (Kaiser Criterion). Factors with only one high loading were not retained.

Figure 3: Graph Plot of Eigenvalues



The following step involved the perusal of the factor loadings (Table 8) following varimax rotation of the factor structure. Table 7 displays the items that were retained and the corresponding name of the factor.

Table 7: Variable/Predictor to item

Variable/Predictor	Item
Perceived usefulness	20, 21, 22
Perceived ease of use	24, 25
Perceived cost	37, 38
Perceived support of service provider	39, 40, 41, 42
Perceived social influence	31, 32
Perceived security and privacy	34, 35
Overall trust and satisfaction	45, 46, 47, 48
Perceived overall risk	29, 30

Table 8: Varimax Rotated Factor Loadings with Principle Component Extraction (Absolute Values)

	Cost	Support	Usefulness	Trust & Satisfaction	Ease of use	Risk		Security and Privacy	Ease of Use	Social influence
20. using MPP would enable me to accomplish my tasks much quicker	0,04	0,02	0,89	**0,09**	0,05	0,02	0,03	0,02	0,12	0,14
21. using MPP would make it easier for me to carry out my tasks	0,07	0,01	0,90	**0,04**	0,08	0,05	0,02	0,04	0,06	0,16
22. MPP is useful	0,33	0,21	0,56	**0,13**	0,08	0,12	0,05	0,29	0,00	0,21
23. mobile technology is advantageous	0,00	0,09	0,10	**0,00**	0,13	0,02	0,12	0,03	0,02	0,10
24. learning to use MPP would be easy	0,09	0,01	0,17	**0,02**	0,79	0,03	0,00	0,05	0,20	0,03
25. interaction with MPP does not require a lot of mental effort	0,21	0,03	0,04	**0,06**	0,60	0,33	0,04	0,30	0,21	0,22
26. it is easy to use MPP to accomplish my tasks	0,06	0,12	0,11	**0,12**	0,20	0,08	0,09	0,13	0,78	0,02
27. R MPP may not perform well because of network problems	0,08	0,05	0,10	**0,12**	0,19	0,09	0,46	0,10	0,48	0,36
28. R MPP may not perform well and process payments correctly	0,09	0,04	0,04	**0,09**	0,02	0,04	0,83	0,04	0,10	0,05

29. R When transferring money through MPP am afraid that I will lose money due to careless mistakes such as input the wrong details	0,09	0,11	0,01	**0,02**	0,00	0,73	0,00	0,10	0,10	0,05
30. R When transaction errors occur I worry that I cannot get compensation from the bank or network provider	0,06	0,06	0,12	**0,03**	0,05	0,82	0,02	0,02	0,11	0,13
31. R I'm sure that if I decided to use MPP and something went wrong with the transaction, my friends, family and colleagues would think less of me	0,18	0,08	0,21	**0,03**	0,04	0,16	0,10	0,29	0,03	0,67
32. R When my MPP account incurs fraud or hacking I will have a potential loss of status in my social group	0,43	0,05	0,08	**0,06**	0,07	0,33	0,03	0,44	0,07	0,17
33. R It would take lots of time to learn to use MPP	0,05	0,04	0,11	**0,13**	0,03	0,02	0,07	0,00	0,04	0,85
34. R I'm worried about using MPP because other people may be able to access my account	0,18	0,02	0,05	**0,22**	0,17	0,33	0,16	0,61	0,03	0,01

35. R I would not feel secure sending sensitive information across the platform	0,06	0,08	0,00	**0,09**	0,05	0,04	0,04	0,76	0,21	0,18
36. MPP service providers are open and receptive to customer needs	0,07	0,38	0,06	**0,23**	0,26	0,07	0,46	0,04	0,05	0,01
37. R I think the access costs of mobile payment platforms are expensive to use	0,89	0,03	0,02	**0,13**	0,06	0,10	0,03	0,00	0,09	0,04
38. R I think the transaction fee of MPP is expensive	0,87	0,00	0,07	**0,09**	0,04	0,00	0,06	0,13	0,15	0,10
39. MPP providers have the skills and expertise to perform transactions in an expected manner	0,15	0,61	0,04	**0,12**	0,04	0,15	0,20	0,06	0,03	0,07
40. MPP service providers have access to the information needed to handle transactions appropriately	0,11	0,75	0,13	**0,12**	0,00	0,07	0,18	0,08	0,08	0,03
41. MPP service providers are fair in their customer service policies following a transaction	0,05	0,78	0,01	**0,04**	0,10	0,05	0,06	0,07	0,12	0,11

42. MPP service make good-faith efforts to address most customer concerns	0,05	0,71	0,31	**0,06**	0,14	0,11	0,03	0,28	0,05	0,04
43. I believe banks are trustworthy	0,32	0,20	0,03	**0,11**	0,27	0,01	0,16	0,28	0,41	0,33
45. I believe mobile network operators are trustworthy	0,07	0,14	0,08	**0,50**	0,44	0,14	0,07	0,28	0,27	0,00
46. I believe wireless infrastructure can be trusted	0,10	0,11	0,06	**0,72**	0,24	0,11	0,20	0,20	0,31	0,01
47. Has phone banking affected your customer base?	0,14	0,07	0,07	**0,74**	0,08	0,00	0,19	0,07	0,05	0,19
48. MPP has improved your business relationships	0,35	0,10	0,03	**0,63**	0,32	0,16	0,03	0,03	0,19	0,01
Expl.Var	2,29	2,38	2,20	**1,98**	1,68	1,70	1,37	1,75	1,46	1,71
Percentage of variance explained	8,2%	8,5%	7,9%	**7,1%**	6,0%	6,1%	4,9%	6,3%	5,2%	6,1%

Table 9: Factor Cronbach's Alpha and Average inter-item correlations

Factor Number	Factor Name	Items	Cronbach's Alpha	Average inter-item correlation
1	Perceived usefulness	20 21 22	0.75	0.54
2	Perceived ease of use	24 25	0.5	0.34
3	Perceived cost	37 38	0.83	0.71
4	Perceived support	39 40 41 42	0.72	0.39
5	Perceived social influence	31 32	0.54	0.37
6	Perceived security & privacy	34 35	0.54	0.38
7	Overall trust and satisfaction	45 46 47 48	0.63	0.3
8	Perceived overall risk	29 30	0.53	0.37

4.5 Test for Sub Problem 2 (Propositions 2-9)

Propositions 2 to 9 relate to sub problems 2 and seek to describe the Zimbabwean informal entrepreneurs' perception of the usefulness, ease of use, cost, social influence, support from service provider, overall risk, security and privacy and overall trust and satisfaction of MPP.

The descriptive statistics of the scales made use of measures of central tendency such as the mean and median, standard deviation and the range as the measures of variability (s for symmetry a used and skewness) and Cronbach's coefficient alpha for internal consistency reliability.

All the means and medians are less than 3, the neutral value or midpoint of the scale and at least half the respondents scored less than or equal to 2, indicating that respondents appear to be positively disposed to MPP.

The results indicate that the informal entrepreneurs in Zimbabwe have positive perceptions of this MPP with respect to its usefulness, ease of use, cost, support from service provider and security and privacy. The results also show that informal entrepreneurs in Zimbabwe are not influenced by their social circle with respect to their perception of the MPP and that they perceive the overall risk of the MPP to be minimal. As far as their perception of their overall trust and satisfaction with the MPP, the informal entrepreneurs in Zimbabwe have positive perceptions of this.

Table 10: Summary Statistics for Central Tendency and Variability of the Metric Scales of the Research

Descriptive Statistics										
	Valid N	Mean - No	Mean - Yes	CI - 95%	Median	Minimum	Maximum	Std.Dev.	Skewness	Kurtosis
Perceived usefulness	100	1,80	1,72	1,87	2,00	1,00	2,67	0,38	-1,08	0,38
Perceived ease of use	100	2,07	1,96	2,17	2,00	1,00	4,00	0,55	0,65	1,33
Perceived low cost	100	2,34	2,18	2,49	2,00	1,00	4,50	0,77	1,01	0,59
Perceived support and service	100	2,08	2,00	2,16	2,00	1,00	4,00	0,40	1,46	5,76
Perceived social influence	100	2,27	2,11	2,42	2,00	1,00	4,50	0,78	0,76	0,58
Perceived security & privacy	100	2,17	2,05	2,29	2,00	1,00	4,00	0,60	0,81	1,16
Overall trust	100	1,98	1,88	2,08	2,00	1,00	3,50	0,50	0,58	0,46
Perceived overall risk	100	2,41	2,26	2,56	2,00	1,00	4,50	0,73	0,91	0,68

4.6 Test of Sub Problem 3 (Hypotheses 1-8)

The two groups of respondents were categorised as users (n=54) and non-users (n=44) of MPP. This section compares users versus non-users of MPP using t tests for independent groups to assess the statistical significance of the difference between the two sample means for each scale. The effect size is provided in each situation as a measure of the strength of the difference. All the

t test results are provided in Table 11. The t tests showed that both groups appear t be positively disposed to MPP with mean values of less than 3 and differ significantly only on the perceived ease of use subscale (t (64.07) – 2.70, p<0.001, with moderate effect size (d-0.58)).

An additional test has been applied that correlates the various perception of respondents with the number of usages that the respondents indicated they have for MPP (0-6). Table 12 indicates that perceptions are not significantly correlated with the number of uses that respondents have for MPP. Note that the negative correlations are expected as low scores indicate favourable perceptions of the construct.

Table 11: T Tests Grouping Mobile Payment Platforms

T-tests; Grouping: Use MPP Group 1: no Group 2: yes													
	Mean - no	Mean - yes	t-value	df	p	t separ. - var.est.	df	p - 2-sided	Valid N - no	Valid N - yes	Std.Dev. - no	Std.Dev. - yes	p - Levene
Perceived usefulness	1.86	1.75	1.35	96	0.179	1.38	95.81	0.17	44	54	0.34	0.40	0.120
Perceived ease of use	2.24	1.93	2.85	96	0.005	2.70	64.07	0.009	44	54	0.69	0.38	0.000
Perceived low cost	2.33	2.35	-0.14	96	0.888	-0.14	89.83	0.888	44	54	0.80	0.76	0.692
Perceived support and service	2.15	2.03	1.56	96	0.122	1.46	59.67	0.149	44	54	0.52	0.26	0.000
Perceived social influence	2.22	2.31	-0.62	96	0.537	-0.60	76.02	0.551	44	54	0.92	0.66	0.110
Perceived security & privacy	2.17	2.17	0.03	96	0.975	0.03	90.21	0.976	44	54	0.62	0.59	0.933
Overall trust and satisfaction	1.93	2.05	-1,.4	96	0.255	-1.16	95.33	0.250	44	54	0.46	0.52	0.874
Perceived overall risk	2.47	2.36	0.70	96	0.487	0.70	90.98	0.488	44	54	0.75	0.73	0.985

Table 12: Correlations with Measure of Actual adoption

Correlations and P-values		
Scale/Component	**Actual adoption**	**P-values**
Perceived usefulness	-0,19	0,179
Perceived ease of use	-0,18	0,005
Perceived cost	-0,03	0,888
Perceived support and service	-0,13	0,122
Perceived social influence	-0,01	0,537
Perceived security & privacy	-0,10	0,975
Overall trust	0,13	0,255
Perceived overall risk	-0,13	0,487

4.6.1 Results pertaining to Hypothesis 1

There is a positive relationship between perceived usefulness of MPP and their perceptions and adoption in the case of informal Zimbabwean entrepreneurs.

The t test comparing the means of users and non-users of MPP show (Table 11). That there is no significant difference between the means of the two groups t (96) =1.35, p>0.05. Perceived usefulness means for users = 1.75 and for non-users – 1.86. Moreover, this predictor has a correlation of -0.19 with sum of uses, which is the actual adoption (p>0.05). (Table 12).

Thus using a level of significance a=0.05, no support is found for the difference between users and non-users of MPP in terms of perceived usefulness, nor is there evidence that those who perceive greater usefulness of MPP make more usage of this payment method. There is thus no support for hypothesis 1.

4.6.1 Results pertaining to Hypothesis 2

There is a positive relationship between perceived ease of use of MPP and their perceptions and adoption in the case of informal Zimbabwean entrepreneurs.

The t test comparing the means of users and non-users of MPP show (Table 11). There is a significant difference between the means of the two groups t (96) =2.85, p<0.05. Perceived ease of use means for users = 1.93 and for non-users – 2.24. Moreover, this predictor has a correlation of -0.18 with sum of uses, which is the actual adoption (p<0.05). (Table 12).

Thus using a level of significance a=0.05, support is found for the difference between users and non-users of MPP in terms of perceived ease of use, thus there is evidence that those who perceive that the MPP is simple make more usage of this payment method. Thus, there is support for hypothesis 2.

4.6.2 Results pertaining to Hypothesis 3

There is a positive relationship between cost of MPP and their perceptions and adoption in the case of informal Zimbabwean entrepreneurs.

The t test comparing the means of users and non-users of MPP show (Table 11). That there is no significant difference between the means of the two groups t (96) =-0.14, p>0.05. Perceived cost means for users = 2.35 and for non-users – 2.33. Moreover, this predictor has a correlation of -0.03 with sum of uses, which is the actual adoption (p>0.05). (Table 12).

Thus using a level of significance a=0.05, no support is found for the difference between users and non-users of MPP in terms of perceived cost, nor is there evidence that those who perceive the cost of MPP to be affordable make more usage of this payment method. There is thus no support for hypothesis 3.

4.6.3 Results pertaining to Hypothesis 4

There is a positive relationship between perceived support from service provider of MPP and their perceptions and adoption in the case of informal Zimbabwean entrepreneurs.

The t test comparing the means of users and non-users of MPP show (Table 11). That there is no significant difference between the means of the two groups t (96) =1.56, p>0.05. Perceived support from the service provider means for users = 2.03 and for non-users – 2.15. Moreover, this predictor has a correlation of -0.13 with sum of uses, which is the actual adoption (p>0.05). (Table 12).

Thus using a level of significance a=0.05, no support is found for the difference between users and non-users of MPP in terms of perceived support from the service provider, nor is there evidence that those who perceive greater support from the service provider of MPP make more usage of this payment method. There is thus no support for hypothesis 4.

4.6.4 Results pertaining to Hypothesis 5

There is a positive relationship between perceived social influence of MPP and their perceptions and adoption in the case of informal Zimbabwean entrepreneurs.

The t test comparing the means of users and non-users of MPP show (Table 11). That there is no significant difference between the means of the two groups t (96) =-0.62, p>0.05. Perceived social influence means for users = 2.31 and for non-users – 2.22. Moreover, this predictor has a correlation of -0.01 with sum of uses, which is the actual adoption (p>0.05). (Table 12).

Thus using a level of significance a=0.05, no support is found for the difference between users and non-users of MPP in terms of perceived social influence, nor is there evidence that those who perceive that they have less or more of an influence about MPP from their social circle make more usage of this payment method. There is thus no support for hypothesis 5.

4.6.5 Results pertaining to Hypothesis 6

There is a positive relationship between perceived security and privacy of MPP and their perceptions and adoption in the case of informal Zimbabwean entrepreneurs.

The t test comparing the means of users and non-users of MPP show (Table 11). That there is no significant difference between the means of the two groups t (96) =-.03, p>0.05. Perceived security and privacy means for users = 2.17 and for non-users – 2.17. Moreover, this predictor has a correlation of -0.10 with sum of uses, which is the actual adoption (p>0.05). (Table 12).

Thus using a level of significance a=0.05, no support is found for the difference between users and non-users of MPP in terms of perceived security and privacy, nor is there evidence that those who perceive the MPP to be secure and make more usage of this payment method. There is thus no support for hypothesis 6.

4.6.6 Results pertaining to Hypothesis 7

There is a positive relationship between overall trust and satisfaction of MPP and their perceptions and adoption in the case of informal Zimbabwean entrepreneurs.

The t test comparing the means of users and non-users of MPP show (Table 11). That there is no significant difference between the means of the two groups t (96) =-1.14, p>0.05. Overall trust and satisfaction means for users = 2.05 and for non-users – 1.93. Moreover, this predictor has a correlation of 0.13 with sum of uses, which is the actual adoption (p>0.05). (Table 12).

Thus using a level of significance a=0.05, no support is found for the difference between users and non-users of MPP in terms of overall trust and satisfaction, nor is there evidence that those who trust the MPP and the service provider and are satisfied with the MPP make more usage of this payment method. There is thus no support for hypothesis 7.

4.6.7 Results pertaining to Hypothesis 8

There is a positive relationship between perceived overall risk of MPP and their perceptions and adoption in the case of informal Zimbabwean entrepreneurs.

The t test comparing the means of users and non-users of MPP show (Table 11). That there is no significant difference between the means of the two groups t (96) =0.70, p>0.05. Perceived overall risk means for users = 2.36 and for non-users – 2.47. Moreover, this predictor has a correlation of -0.13 with sum of uses, which is the actual adoption (p>0.05). (Table 12).

Thus using a level of significance a=0.05, no support is found for the difference between users and non-users of MPP in terms of perceived overall risk, nor is there evidence that those who perceive the MPP to have less risk make more usage of this payment method. There is thus no support for hypothesis 8.

4.7 Summary of the results

4.7.1 Summary of the results of the Propositions

a. ***Proposition 1***

Informal entrepreneurs in Zimbabwe are using MPP in their daily personal and work environments.

There is support for this proposition, therefore this proposition is accepted.

b. ***Proposition 2***

The informal entrepreneurs in Zimbabwe have a positive perception of the usefulness of MPP.

There is support for this proposition, therefore this proposition is accepted.

c. ***Proposition 3***

The informal entrepreneurs in Zimbabwe have a positive perception of the ease of use of MPP.

There is support for this proposition, therefore this proposition is accepted.

d. ***Proposition 4***

The informal entrepreneurs in Zimbabwe have a positive perception of the cost of MPP.

There is support for this proposition, therefore this proposition is accepted.

e. ***Proposition 5***

The informal entrepreneurs in Zimbabwe have a positive perception of the support from service provider of MPP.

There is support for this proposition, therefore this proposition is accepted.

f. ***Proposition 6***

The informal entrepreneurs in Zimbabwe have a positive perception of social influence of MPP.

There is support for this proposition, therefore this proposition is accepted.

g. ***Proposition 7***

The informal entrepreneurs in Zimbabwe have a positive perception of the security and privacy of MPP.

There is support for this proposition, therefore this proposition is accepted.

h. ***Proposition 8***

The informal entrepreneurs in Zimbabwe have a positive perception of trust and satisfaction of MPP.

There is support for this proposition, therefore this proposition is accepted.

i. ***Proposition 9***

The informal entrepreneurs in Zimbabwe have a positive perception of the overall risk or MPP.

There is support for this proposition, therefore this proposition is accepted.

4.7.2 Summary of the results of the Hypotheses

a. ***Hypothesis 1***

There is a positive relationship between perceived usefulness of MPP and their perceptions and adoption in the case of informal Zimbabwean entrepreneurs.

There is no support for this hypothesis, therefore this hypothesis is rejected.

b. ***Hypothesis 2***

There is a positive relationship between perceived ease of use of MPP and their perceptions and adoption in the case of informal Zimbabwean entrepreneurs.

There is support for this hypothesis, therefore this hypothesis is accepted.

c. ***Hypothesis 3***

There is a positive relationship between cost of MPP and their perceptions and adoption in the case of informal Zimbabwean entrepreneurs.

There is no support for this hypothesis, therefore this hypothesis is rejected.

d. ***Hypothesis 4***

There is a positive relationship between perceived support from service provider of MPP and their perceptions and adoption in the case of informal Zimbabwean entrepreneurs.

There is no support for this hypothesis, therefore this hypothesis is rejected.

e. ***Hypothesis 5***

There is a positive relationship between perceived social influence of MPP and their perceptions and adoption in the case of informal Zimbabwean entrepreneurs.

There is no support for this hypothesis, therefore this hypothesis is rejected.

f. ***Hypothesis 6***

There is a positive relationship between perceived security and privacy of MPP and their perceptions and adoption in the case of informal Zimbabwean entrepreneurs.

There is no support for this hypothesis, therefore this hypothesis is rejected.

g. ***Hypothesis 7***

There is a positive relationship between overall trust and satisfaction of MPP and their perceptions and adoption in the case of informal Zimbabwean entrepreneurs.

There is no support for this hypothesis, therefore this hypothesis is rejected.

h. ***Hypothesis 8***

There is a positive relationship between perceived overall risk of MPP and their perceptions and adoption in the case of informal Zimbabwean entrepreneurs.

There is no support for this hypothesis, therefore this hypothesis is rejected.

In conclusion, the presentation of the results has depicted the following:

- The measures have construct validity and are sufficiently reliable at subscale level only;
- Both users and non-users of the mobile payments platform appear to be favourable or positively disposed to all aspects of the MPP;

- There is a moderately strong, significant difference between the means of users and non-users of the perceived ease of use construct or predictor.

5 CHAPTER 5: DISCUSSION OF THE RESULTS

5.1 Introduction

This chapter presents a discussion of the results of the findings of the research study. Here the results in the previous chapter are discussed in detail. The results are compared to the theoretical premise previously examined in the literature review.

The discussion involves the comparing of the theoretical underpinnings of the literature and the research findings obtained from the respondents. Discussed here also are that relationships between the different constructs and these relationships are explained in further detail. In addition, this chapter also discusses the hypothesis test and comparison to the theories previously discussed in the literature review.

5.2 Demographic profile of respondents

There were two demographic profiles measured in this study, owner-related and business-related. The owner-related demographic profiles were measured by asking the respondent their age, gender, race, highest level of education, which network operator they subscribe to, if they where the owners of the venture, and if so, whether or not this was their first business venture.

The **respondent's age** is shown in Table 3 and the table shows obs erved data from the sample results. It shows three classifications of age, where 63 of the respondents where over the age of 35 years old, 31 where between the ages 26 and 35 years old and 6 of the respondents where between the ages 18 and 25 years old.

The **gender** is shown in Table 3 and the table shows observed data from the sample results. It shows two classifications of gender, where 69 if the respondents where male and 31 of the respondents where female.

The **race** is shown in Table 3 and the table shows observed data from the sample results. It shows two classifications of race, where 99 if the respondents where Black African and 1 of the respondents was white.

The **highest level of education** is shown in Table 3 and the table shows observed data from the sample results. It shows seven classifications of levels of education, where 8 if the respondents obtained a post-graduate qualification, 29 obtained a diploma or degree, 9 completed a short programme, 42 completed their O'level or A 'level education, 8 went through some years of high school, 3 only completed primary school and 1 went through a few years in primary school.

The **owner of the business** is shown in Table 4 and the table shows observed data from the sample results. The responses to the question were either a yes or a no. More than two-thirds (85%) of the respondents where owners of the business and 15% of the respondents where managers of the business.

If the respondents answered yes to being the owner of the business, they where then asked if this was their **first business**. Table 4 shows the observed data from the sample results. The purpose of this question was to establish entrepreneurial behaviour. 54 of the 85 respondents said it was their first business, while 46 said it was not their first business.

The **mobile network operator subscription** is shown in Table 4 and the table shows observed data from the sample results. The table shows four classifications of network operators. While 84 of the respondents subscribe to Green Mobile, 3 subscribed to CosmoCom, 7 subscribed to Star Wireless and 3 subscribed to RainbowTel. An interesting observation was made with the responses to this question, as 34% of the respondents said that the in fact subscribe to multiple network operators.

The business-related demographic profiles where measured by asking the respondents where the business mainly operates from, the sector in which the business operates and how the business was initially financed.

The **place where the business operates from** is shown in Table 4 and the table shows observed data from the sample results. It shows eight classifications of areas of operation, were 27 of the respondents operate from a shopping centre, 51 from a formal building 4 from their home or a friend's home, 9 from a caravan or container, 5 from a craft market, 1 from the street, 1 in a metro mall and 2 from a taxi rank.

The **sector in which the business operates** is shown in Table 4 and the table shows observed data from the sample results. It shows four classifications of sectors in which the businesses operate were 58 of the respondents operate in the retail sector, 29 of the respondents operate in the trade sector, 8 of the respondents operate in the manufacturing sector and 5 of the respondents operate in other unspecified sectors.

How the business was financed is shown in Table 4. The structure of the question was such that the respondents could give multiple responses to the questions. Therefore there were 19 that said that the business was financed through a bank loan, 16 said through a loan from their family, 4 said through a loan from a friend, 1 said through a loan from a micro-financing organization, 1 said through a loan from an NGO and 82 said through their own money.

5.3 Discussion pertaining to Proposition 1

The levels of actual adoption of MPP are positive, as more than 50% of the respondents make use of the platform. The majority of the respondents use the platform for the purchasing of airtime and transferring money and 2% of the respondents use the platform for business purposes.

In comparison to the Kenyan MPP, there seem to be a low usage of MPP in Zimbabwe among informal entrepreneurs. Unlike the Kenyan counterparts, the

Zimbabwean business owners have not taken to the use of the MPP in their business well.

As previously stated, in Keya the MPP is seen as an easier method of cash delivery to their supplier and business partners and since many of these business owners do not have bank accounts, this method of cash delivery is relatively affordable, personal and can be used from any location. The MPP has helped them make savings and gain access to more customers and services (Mbogo 2010).

The respondents highlighted that they would make more use of the platform in their business if the transactions limits where raised. The current limits only allow for small transactions to be carried out and not the transaction limits required by a business. The transaction limits are currently:

- US$1000 per day, with a maximum of US$500 per transaction;
- US$3000 per month.

Therefore, the proposition is correct in that informal entrepreneurs in Zimbabwe do make use of the MPP in their daily personal and work environments. However the low rate of usage implies that the informal entrepreneur in Zimbabwe is yet to fully understand the impact the technology can have on their business, with respect to coping with the growth of their businesses (Mbogo 2010).

5.4 Discussion pertaining to Proposition 2

With respect to the perceived usefulness of the MPP, the mean for non-users of the MPP is 1.80, the mean for users is 1.72 and the median for this construct is 2.

Therefore, since both means and the median are less than 3, it shows that as far as the perceived usefulness of the MPP, the informal entrepreneurs are positively disposed to it. Meaning that there are positive levels of the perception of the usefulness of MPP.

This result is consistent with the previous studies. The positive levels of the perception of the usefulness of MPP show that the respondents understand that the MPP can change or improve the way in which they complete their tasks (Jahangir et al 2007).

5.5 Discussion pertaining to Proposition 3

With respect to the perceived ease of use of the MPP, the mean for non-users of the MPP is 2.07, the mean for users is 1.96 and the median for this construct is 2.

Therefore, since both means and the median are less than 3, it shows that as far as the perceived ease of use of the MPP, the informal entrepreneurs are positively disposed to it. Meaning that there are positive levels of the perception of the ease of use of MPP.

This result is consistent with the previous studies. The positive levels of the perception of the ease of use of MPP show that the respondents understand that using the MPP will be at no cost to them, not too difficult to understand, learn or operate and is better than using the alternative (Jahangir et al 2007).

5.6 Discussion pertaining to Proposition 4

With respect to the perceived cost of the MPP, the mean for non-users of the MPP is 2.34, the mean for users is 2.18 and the median for this construct is 2.

Therefore, since both means and the median are less than 3, it shows that as far as the perceived cost of the MPP, this means that regardless of cost, the informal entrepreneurs are positively disposed to the MPP.

This result is consistent with the previous studies. The positive levels of the perception of the cost of MPP show that the respondents understand that the sending and receiving money through the MPP is lower than the banking system and is also more viable to them and the saving could be passed onto them (Mbogo 2010) and they are also aware that the benefits of the MPP far

surpass the cost when there is an emergency or a sudden need (Wu et al 2005).

It is important to note that this research did not take into account the huge upfront cost generally associated with the implementing of a new technology (Khan 2002), but the cost of the use of the technology subsequent to adoption.

5.7 Discussion pertaining to Proposition 5

With respect to the perceived support from service provider of the MPP, the mean for non-users of the MPP is 2.08, the mean for users is 2.00 and the median for this construct is 2.

Therefore, since both means and the median are less than 3, it shows that as far as the perceived support from service provider of the MPP, the informal entrepreneurs are positively disposed to it. Meaning that there are positive levels of the perception of the support from the service provider of MPP.

This result is consistent with the previous studies. The positive levels of the perception of the support from the service provider of MPP show that the respondents believe that the service provider will provide the adequate support required for their MPP (Twati 2009).

5.8 Discussion pertaining to Proposition 6

With respect to the perceived social influence of the MPP, the mean for non-users of the MPP is 2.27, the mean for users is 2.11 and the median for this construct is 2.

Therefore, since both means and the median are less than 3, it shows that as far as the perceived social influence of the MPP, the informal entrepreneurs are positively disposed to it. Meaning that there are positive levels of the perception of the social influence of MPP.

This result is consistent with the previous studies. The positive levels of the perception of the social influence of MPP show that the respondents do not

believe that using the MPP will led to disapproval from their social group (Lee 2009).

5.9 Discussion pertaining to Proposition 7

With respect to the perceived security and privacy of the MPP, the mean for non-users of the MPP is 2.34, the mean for users is 2.18 and the median for this construct is 2.

Therefore, since both means and the median are less than 3, it shows that as far as the perceived security and privacy of the MPP, this means that the informal entrepreneurs are positively disposed to the MPP.

This result is consistent with the previous studies. The positive levels of the perception of the security and privacy of MPP show that the respondents do not believe that there is a possibility of a third party accessing their account if their mobile phone is lost or stolen (Mbogo 2010). The respondents show that they perceive they are protected from security threats and that they can securely conclude a transaction and maintain the privacy of their personal information (Lallamahmood 2007).

5.10 Discussion pertaining to Proposition 8

With respect to the perceived overall trust and satisfaction of the MPP, the mean for non-users of the MPP is 1.98, the mean for users is 1.88 and the median for this construct is 2.

Therefore, since both means and the median are less than 3, it shows that as far as the perceived overall trust and satisfaction of the MPP, the informal entrepreneurs are positively disposed to it. Meaning that there are positive levels of the overall trust and satisfaction of MPP.

This result is consistent with the previous studies. The positive levels of the perception of the overall trust and satisfaction of MPP show that the respondents trust that the service provider will not behave opportunistically (Kim

et al 2009) and they are confident structural assurance and information quality (Zhou 2011). The respondents also demonstrated to be satisfied with the MPP. However, since the respondents do not make use of the MPP in their businesses, this satisfaction is with respect to the increase in the customer base and the general improvements in their business relationships.

5.11 Discussion pertaining to Proposition 9

With respect to the perceived overall risk of the MPP, the mean for non-users of the MPP is 2.41, the mean for users is 2.26 and the median for this construct is 2.

Therefore, since both means and the median are less than 3, it shows that as far as the perceived overall risk of the MPP, this means that regardless of the overall risk the MPP presents, the informal entrepreneurs are positively disposed to it.

This result is consistent with the previous studies. The positive levels of the perception of the overall risk of MPP show that the respondents believe that the overall risk of the MPP is low and this is not a barrier for them to adopt the MPP (Wu et al 2005).

5.12 Discussion pertaining to Hypothesis 1

Research shows that perceived usefulness is a strong determinant of user acceptance and usage behaviour (Kim et al 2008) and that if a technology is perceived to be more useful it is more likely to be adopted over the alternative option (Lallamanhmood 2007).

Wu et al (2005), Venkatesh et al (2000) and Masinge (2010) all concluded through their research that perceived usefulness has a significant effect on the adoption of MPP adoptions.

When comparing the means of the different groups (users and non-users of MPP), the results show no significant difference between the groups. The p-

value is greater than the significance level of $p<0.05$ thus the hypothesis is rejected and shows that there is no positive relationship between perceived usefulness and the actual adoption of MPP by informal entrepreneurs in Zimbabwe.

In addition, the correlations demonstrate that perceived usefulness does not have a relationship nor has a negligible relationship with the actual adoption. This result is in contrast with the research above. This means that for informal entrepreneurs in Zimbabwe, though both users and non-users perceive the mobile platform to be useful, this perception may not lead to increase personal or business usage of the mobile platform.

This study found that although the respondents have seen an increase in their customer base and improved business relationship since becoming agents of this MPP, the rate of usage of the MPP among the entrepreneurs is low. This is interesting as Chitungo et al (2013) highlighted that there is a positive correlation between perceived usefulness and the adoption of mobile banking among the Zimbabwean rural community. The reason for this is, the availability of pamphlets and banners to aid the user in the adoption of the MPP as well the agents themselves who prompted many people in rural Zimbabwe to adopt the MPP (Chitungo et al 2013).

This implies that the agents encourage adoption of the MPP amongst the community to increase revenue for the business. However not much time has been spent in encouraging the agent to use the MPP in the business itself, in order to assist the entrepreneur in business processes. It would therefore be difficult for the entrepreneur to view the MPP as useful to the business.

5.13 Discussion pertaining to Hypothesis 2

The correlations demonstrate that perceived ease of use has moderate correlation with the actual adoption.

As previously stated, perceived ease of use depends largely on the extent to which the user believes that using the technology is at no cost and will not be

too difficult to understand, learn or operate and is better than the alternative technology (Jahangir et al 2007).

Research shows that much like perceived usefulness, perceived ease of use has a significant effect on the adoption of MPP (Masinge 2010). And the intention to adopt the technology is a determinant of the actual adoption of the technology (Davis 1989).

Wu et al (2005), Venkatesh et al (2000) and Masinge (2010) all concluded through their research that perceived ease of use has a significant effect on the adoption of MPP adoptions.

When comparing the means of the different groups (users and non-users of MPP), the results show a significant difference between the groups. The p-value is less than the significance level of $p<0.05$ thus the hypothesis is accepted and shows that there is a positive relationship between perceived ease of use and the actual adoption of MPP by informal entrepreneurs in Zimbabwe.

In addition, the correlations demonstrate that perceived ease of use has a moderate relationship with the actual adoption. This result is in line with the research above. Meaning that for informal entrepreneurs in Zimbabwe, though both users and non-users perceive the mobile platform to be simple and easy to use, this perception may lead to increase personal or business usage of the mobile platform.

5.14 Discussion pertaining to Hypothesis 3

When comparing the means of the different groups (users and non-users of MPP), the results show no significant difference between the groups. The p-value is greater than the significance level of $p<0.05$ thus the hypothesis is rejected and shows that there is no positive relationship between perceived cost and the actual adoption of MPP by informal entrepreneurs in Zimbabwe.

The correlations, however, show that perceived cost has an extremely weak and negative correlation with the actual adoption.

Previous findings have demonstrated that although cost is a concern at the initial stage of the adoption of a technology, it does not have much influence on the usage of the technology (Wu et al 2005). This is in contrast with the outcomes of the study conducted by Masinge (2010) that showed that cost had a significant effect in the adoption of a mobile platform.

This research, however, demonstrates that perceived cost does not have a relationship nor has a negligible relationship with the actual adoption. This result is in contrast with the research conducted by Masinge (2010), Mbogo (2010) and Chitungo et al (2013) but is consistent with the findings of Wu et al (2005). Meaning that for informal entrepreneurs in Zimbabwe, though both users and non-users perceive the mobile platform to be non-expensive, this perception may not led to increase personal or business usage of the mobile platform.

The cost of the MPP may not be a factor because like the study conducted by Wu et al (2005) the respondents are in a higher income range as they are business owners as compared to the study by Chitungo et al (2013) whose respondents were from a rural community.

5.15 Discussion pertaining to Hypothesis 4

When comparing the means of the different groups (users and non-users of MPP), the results show no significant difference between the groups. The p-value is greater than the significance level of $p<0.05$ thus the hypothesis is rejected and shows that there is no positive relationship between perceived support from the service provider and the actual adoption of MPP by informal entrepreneurs in Zimbabwe.

The correlations demonstrate that perceived support from the service provider has an extremely weak and negative correlation with the actual adoption.

Jones et al (2010) showed that the support of management does have a very strong impact on the subjective norms that impact the use of a technology.

This research demonstrates that perceived support of service provider does not have a relationship nor has a negligible relationship with the actual adoption, which is consistent with the findings of Mbogo (2010) who found that there is a low degree of correlation between perceived support and actual adoption.

This means that for informal entrepreneurs in Zimbabwe, though both users and non-users perceive that the service providers are supportive and have expert knowledge of what they do, this perception may not lead to increase personal or business usage of the mobile platform.

As with Mbogo (2010) these results may imply that informal entrepreneurs who are users of MPP expect more support from the service provider and the government in terms of increase the daily and monthly transactions amounts and reduction the congestion in the network lines during peak periods.

5.16 Discussion pertaining to Hypothesis 5

Although Malhotra et al (1999) stated that a technology acceptance model that does not consider social influence is limited. It is interesting to note that Mbogo (2010) found that social influence had no significant effect on the adoption of mobile platforms at the Bottom of the Pyramid. In contrast Chitungo et al (2013) found that social norms had a strong positive correlation to the adoption of mobile banking. The most likely explanation for the difference in these findings is that rural communities tend to have strong communal communities and individuals respond to social normative influence in order to have a favourable image in their reference group (Chitungo et al 2013).

When comparing the means of the different groups (users and non-users of MPP), the results show no significant difference between the groups. The p-value is greater than the significance level of $p<0.05$ thus the hypothesis is rejected and shows that there is no positive relationship between perceived social influence from the service provider and the actual adoption of MPP by informal entrepreneurs in Zimbabwe.

This research demonstrates that perceived social influence does not have a relationship nor has a negligible relationship with the actual adoption. This result is in line with the research above. Meaning that for informal entrepreneurs in Zimbabwe, though the perception of the mobile platform cannot be influenced by both users and non-users social circle, this perception may not lead to increase personal or business usage of the mobile platform.

5.17 Discussion pertaining to Hypothesis 6

Negative perceptions of security and privacy of a technology are major barriers of the adoption of the technology, particularly those that use online environments (Masinge 2010). It was found that security and privacy have a significant impact on the actual adoption of a mobile platform by studies conducted by Masinge (2010) and Mbogo (2010).

When comparing the means of the different groups (users and non-users of MPP), the results show no significant difference between the groups. The p-value is greater than the significance level of $p<0.05$ thus the hypothesis is rejected and shows that there is no positive relationship between perceived security and privacy from the service provider and the actual adoption of MPP by informal entrepreneurs in Zimbabwe.

This research demonstrates that perceived security and privacy does not have a relationship nor has a negligible relationship with the actual adoption. This result is in contrast with the research above. Meaning that for informal entrepreneurs in Zimbabwe, even if the users and non-users perceived the mobile platform to be non-secure, this perception may not lead to increase or decrease personal or business usage of the mobile platform.

The reason for the contrast in findings is that the respondents do not perceive the MPP to be useful to their business and therefore their perceptions of the security and privacy of the MPP would be negligible.

5.18 Discussion pertaining to Hypothesis 7

When comparing the means of the different groups (users and non-users of MPP), the results show no significant difference between the groups. The p-value is greater than the significance level of $p<0.05$ thus the hypothesis is rejected and shows that there is no positive relationship between overall trust and satisfaction from the service provider and the actual adoption of MPP by informal entrepreneurs in Zimbabwe.

The correlations found that overall trust and satisfaction has a positive relationship with perceived low cost and perceived social influence. However this positive relationship has not led to an increase in the actual adoption of the MPP by informal entrepreneurs in Zimbabwe.

These results show that the respondents are satisfied with the improvement in business relations as well as the increase in customers subsequent to becoming agents of the MPP.

Since the MPP is a product of Green Mobile, the overall trust stems from the social capital gained by Green Mobile since its inception. It is an organization that has done a lot to alleviate the plight of many in Zimbabwe (Forbes 2012).

While research by Masinge (2010) found that overall trust and satisfaction had a significant impact on the adoption of the mobile platform at the Bottom of the Pyramid in South Africa, this research shows that overall trust and satisfaction does not have a relationship nor has a negligible relationship with the actual adoption. This means actual adoption of MPP, for personal or business use, by informal entrepreneurs in Zimbabwe may not increase even though current non-users believe that the service providers are overall trustworthy because the trust and satisfaction has more to do with the organization itself and less to do with the MPP.

5.19 Discussion pertaining to Hypothesis 8

Masinge (2010) found that when respondents perceived mobile banking service providers to be trustworthy, the perceptions of the risk were low. This means

that trust had a negative significant correlation with perceived risk and that it played a crucial role in the mitigation of that risk. Chitungo et al (2013) found that there is a strong negative correlation between perceived risks and the adoption of mobile banking in rural Zimbabwe. The findings from previous research show that when individuals perceive higher risks and uncertainty such as the loss of theft of financial information this adoption of MPP is discouraged (Chitungo et al 2013).

When comparing the means of the different groups (users and non-users of MPP), the results show no significant difference between the groups. The p-value is greater than the significance level of $p<0.05$ thus the hypothesis is rejected and shows that there is no positive relationship between perceived overall risk and the actual adoption of MPP by informal entrepreneurs in Zimbabwe.

This research demonstrates that perceived overall risk does not have a relationship nor has a negligible relationship with the actual adoption. This result is in contrast with the research above. This means that for informal entrepreneurs in Zimbabwe, even if the users and non-users perceived the mobile platform to bear risk, this perception may not lead to increase or decrease personal or business usage of the mobile platform.

The reason for the contrast in findings is that the respondents do not perceive the MPP to be useful to their business and therefore their perceptions of the risk of the MPP would be negligible.

5.20 Conclusion

This chapter deals with the findings of the research study. The demographic data analysis was performed and captured. During data collection the response rate or 33.3% was achieved and the analysis was based on it.

Descriptive analysis was used to describe the data by comparing and discussing the means of the constructs. Factor analysis was used to determine whether the number of factors and factor loadings of the measured variables

conformed to what would be expected on the basis of informal entrepreneurship and mobile technology theory.

The research concluded that informal entrepreneurs in Zimbabwe, both users and non-users, are positively disposed to the MPP. However, this disposition does not result in the actual adoption, of the MPP, whether the usage is for personal or business purposes. This is evident when the results of relating the various constructs to the actual adoption are analysed.

This research found that the constructs perceived usefulness, perceived cost, perceived support from service provider, perceived social influence, overall trust, perceived financial risk and perceived performance risk measured had no significant effect or bearing on the actual adoption of MPP by informal entrepreneurs in Zimbabwe, while perceived ease of use did have a bearing on the actual adoption of MPP in Zimbabwe.

Since the perceived ease of use construct has a bearing on the actual adoption of the MPP, it implies that that the easier the platform is to use, the more useful the platform will become. The results show the importance of the service provider developing the mobile platform with more valuable functionality (Masinge 2010).

The results of this research also show that that there is no relationship between the perceived social influence, perceived overall risk, perceived security and privacy and perceived cost with actual adoption of the MPP. This demonstrates that cost and the influence from one's social circle are not barriers to entry for users of the MPP.

6 CHAPTER 6: CONCLUSIONS, IMPLICATIONS AND RECOMMENDATIONS

6.1 Introduction

This chapter summarises the main points that came out of this research study, which investigated the relationship between perceptions of MPP and the actual adoption of MPP by entrepreneurs in Zimbabwe's informal economy.

6.2 Conclusions of the study

This study has investigated the perceptions and the extent of the adoption of MPP by informal entrepreneurs in Zimbabwe and actual adoption of the platform.

Similar studies have been done in Kenya and these studies have shown that the factors used in this study are attributable to the success of micro business operators using MPP (Mbogo 2010).

This study used descriptive statistics and inferential statistics to test the relationship between the perceptions of MPP and the actual adoption of the MPP. The findings have shown that while perceived ease of use has a bearing on the actual adoption of the MPP, perceived social influence, perceived overall risk, perceived security and privacy and perceived cost are not barriers to entry for the use of the MPP.

With respect to the usage of MPP, this research has found that just over half (57%) of the informal entrepreneurs make daily use of the MPP in their personal and work environments. This finding is in line with the outcomes of the 2011 consumer survey conducted in Zimbabwe that showed that almost half (46%) of the respondents would make use of their cell phone Internet facility to transfer money or to make payments (Makunike 2013).

6.3 Implications and Recommendations

The results of this research study contribute to existing literature in a few ways. The relation of the factors that cause informal entrepreneurial ventures in Zimbabwe to adopt MPP, are seen in the factor analysis.

The study shows that while there is a positive relationship of MPP and actual adoption is positive for only perceived ease of use, there seems to be no relationship between perceived, cost, perceived social influence, perceived security and privacy and perceived overall risk and the adoption of MPP.

The findings of this research, with the exception of the perceived ease of use and perceived risk constructs, are inconsistent with previous studies. Masinge (2010) found that there were significant positive relationships between perceived usefulness, perceived cost and trust with the actual adoption of the platform. Mbogo (2010) found that micro business operators in Kenya perceive that the use of the mobile payment service in Kenya is advantageous with respect to support, cost and safety.

Based on the research framework and the findings, similar to the finding of Mbogo (2010) in Kenya, the network operator can enhance the informal entrepreneurs' use of the MPP by:

- Increasing the daily transaction amounts, allowing the businesses to transact in larger amounts, even though the large volumes of small cash transfers are extremely profitable for the service provider (Maake 2012).
- Increase the number of services to cater for business needs, for example allowing for the booking of travel tickets and increasing the transaction limits;
- Decrease the congestion periods within the mobile network;
- Compensate for loss of airtime due to transaction errors;
- Allow for transactions to be done with other business and individuals outside Zimbabwe;

- Improve on their customer care.

With the MPP as the tool, there is a great opportunity for the service provider to reach those who are financially excluded from formal banking structures and services in Zimbabwe; however the service provider needs to take the time in order to understand the behaviour patterns of business and customers in this group.

Since the perceived ease of use construct is the one that related more positively with the actual adoption of MPP, the service provider needs to focus on demonstrating the simplicity of the MPP to informal entrepreneurs in Zimbabwe.

Taking steps in line with the above could result in the increased use of the platform as the respondents are already positively disposed to the MPP.

It is of further interest that while the respondents do not use the MPP for businesses purposes, they have seen as improvement their business relationships as well as an increase in their customer base since becoming agents of the MPP.

In Zimbabwe, more organizations have began to offer MPP services, however the people who require the service are not as well informed about the service and its related benefits as they should be. This research found that most informal entrepreneurs have positive perceptions about the service provider of this MPP; however, the service provider needs to direct more effort and time in educating the entrepreneurs about the functionality, and added benefits of using the platform.

The findings of this research study are instructive to the service providers in Zimbabwe who would like to provide more support and improve their customer's experience of their MPP.

6.4 Suggestions for further research

This research study, although statistically significant, has several limitations, and it is these limitations that should be considered as the basis for further research.

The evidence collected from this research was collected from a small sample of informal entrepreneurs across Zimbabwe and therefore the results of this research study cannot be generalised to other countries, more specifically developing countries. Therefore, in order to produce more generalizable research outcomes, future research may want to conduct research on the perceptions and adoption of MPP across a wide array of countries.

A longitudinal research study would be necessary, as this research study is a cross-sectional study and represents a snap shot of the perceptions of the respondents with respect to the MPP at a particular point in time. The longitudinal study maybe beneficial as these perceptions may change over time.

With reference to the cost predictor in this research study, it was found that demographics and income plays a role in the perception of the cost of the MPP and its relationship with the actual adoption of the MPP. Thus, future researchers should consider including demographics, in order to understand if they do play a crucial role in the actual adoption of MPP.

A study into the entrepreneurial impact of this adoption and usage on the success and growth of the entrepreneurial venture is necessary. However this can only be done once the factors that are necessary to ensure the informal entrepreneurial ventures embrace mobile technology in their daily business operations and enhance their performance, have been identified (Mbogo 2010).

This research study only examined the perceptions and adoption of MPP among informal entrepreneurs in Zimbabwe, therefore future researchers should consider examining the perceptions and adoption of MPP among formal entrepreneurs in Zimbabwe and the entrepreneurial impact of these perceptions and adoption on the success and growth of the entrepreneurial venture.

The importance of more substantive research into the impact of MPP on the success and growth of informal enterprises in developing countries cannot not be stressed enough. Although research has been done into the impact of MPP or mobile solutions in businesses in the developed world, more information is required for developing nations like Zimbabwe to understand the role of MPP in the development of the enterprises, both formal and informal.

This study excluded the role that the banks and the government play in the perceptions and adoption of MPP. Future researchers should examine the role of Zimbabwean banks and the government in the successful deployment of MPP and what they can do to make MPP more affordable and accessible to informal entrepreneurial businesses.

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APPENDIX A

Actual Research Instrument

The following questions pertain to your personal background Place a cross (X) in the block that best corresponds to your answer.

1. Your age in years:

Under 18 years old ❑

18-25 years old ❑

26 - 35 years old ❑

Over 35 years old ❑

1. Your gender: Female ❑ Male ❑

2. Please indicate your race:

Black African ❑ Coloured ❑ Indian ❑ Chinese ❑ White ❑ Other (indicate below) ❑ _____

3. Indicate your highest level of education:

Some primary school ❑

Primary school completed (grade 7) ❑

Some high school ❑

High school completed (o'level/a'level) ❑

Short programme completed ❑

Diploma/degree completed ❑

Post graduate qualification completed ❑

4. Are you the owner of this business?

Yes ❑ No ❑

5. How long have you been running this business?

Less than 1 year ❑ 1-2 years ❑ 3-5 years ❑

More than 6 years ❑

6. Is this your first business?

Yes ❑ No ❑

7. If no, how many businesses have you previously started?
1

2-3 ❑

4-5 ❑

6-9 ❑

More than 9

8. Indicate where your business mainly operates: (select only one option).

On the street ❑

In a metro mall ❑

At a taxi rank ❑

In a craft market ❑

At home or at a friend's home ❑

From a container or caravan ❑

In a formal building ❑

In a shopping centre ❑

Other (write here where your business operates from if you haven't ticked any of the above):

_____

9. What sector does your business operate in?? (You may tick the appropriate answer)

Trade ❑

Retail ❑

Manufacturing ❑

Other ❑
(Specify)_____

10. How did you finance the start-up of your enterprise? (You may tick more than one if applicable)

- Bank loan ❑
- Loan from family ❑
- Loan from friend ❑
- Loan from micro-financing organisation ❑
- Loan from a non-governmental organisation ❑
- Own money ❑

11. Do you have or use a cell phone?

Yes ❑ No ❑

12. Do you have a bank account?

Yes ❑ No ❑

13. Time to get to the nearest bank (branch):

Less than 20 minutes ❑	21-45 minutes Less than 45 minutes ❑	46-60 minutes ❑	More than an hour ❑

14. Do you use mobile banking?

Yes ❑ No ❑

15. If yes, what do you use mobile banking for?

Buy airtime ❑

Check account balances ❑

Transfer money ❑

Use in business ❑

Pay electricity ❑

Cash withdrawal ❑

Other (specify) ❑

_____

16. If yes, what do you use mobile banking for?

Buy airtime ❑

Check account balances ❑

Transfer money ❑

Use in business ❑

Pay electricity ❑

Cash withdrawal ❑

Other (specify) ❑

_____

17 If you do not use mobile banking, do you plan on using it in the future?

18 . Do you have any of the following at home? (You may tick more than one if applicable)

Hot running water at home ❑

Washing machine ❑

Motor vehicle in the household ❑

DSTV ❑

Home telephone ❑

Vacuum cleaner ❑

PC desktop or laptop ❑

19. If you do not use mobile banking, do you plan on using it in the future?

	Strongly Agree	**Agree**	**Neutral**	**Disagree**	**Strongly Disagree**
20. I think that using MPP would enable me to accomplish my tasks much quicker	❑	❑	❑	❑	❑
21. I think that using MPP would make it easier for me to carry out my tasks	❑	❑	❑	❑	❑
22. I think that MPP are useful	❑	❑	❑	❑	❑
23. Overall I think mobile technology is advantageous	❑	❑	❑	❑	❑
24. I think that learning to use MPP would be easy	❑	❑	❑	❑	❑
25. I think that interaction with MPP does not require a lot of mental effort	❑	❑	❑	❑	❑

26. I think that it is easy to use MPP to accomplish my tasks	❑	❑	❑	❑	❑
27. MPP may not perform well because of network problems	❑	❑	❑	❑	❑
28. MPP may not perform well and process payments correctly	❑	❑	❑	❑	❑
29. When transferring money through MPP I am afraid that I will lose money due to careless mistakes such as input the wrong details	❑	❑	❑	❑	❑
30. When transaction errors occur I worry that I cannot get compensation from the bank or network provider	❑	❑	❑	❑	❑
31. I'm sure that if I decided to use MPP and something went wrong with the transaction, my friends, family and colleagues would think less of me	❑	❑	❑	❑	❑
32. When my MPP account incurs fraud or hacking I will have a potential loss of status in my social group	❑	❑	❑	❑	❑
33. It would take lots of time to learn to use MPP	❑	❑	❑	❑	❑
34. I'm worried about using MPP because other people may be able to access my account	❑	❑	❑	❑	❑
35. I would not feel secure sending sensitive information across MPP	❑	❑	❑	❑	❑
36. MPP service providers are open and receptive to customer needs	❑	❑	❑	❑	❑

37. I think the access costs of MPP are expensive to use	❑	❑	❑	❑	❑
38. I think the transaction fee MPP is expensive to use	❑	❑	❑	❑	❑
39. MPP providers have the skills and expertise to perform transactions in an expected manner	❑	❑	❑	❑	❑
40. MPP service providers have access to the information needed to handle transactions appropriately	❑	❑	❑	❑	❑
41. MPP service providers are fair in their customer service policies following a transaction	❑	❑	❑	❑	❑
42. MPP service make good-faith efforts to address most customer concerns	❑	❑	❑	❑	❑
43. I believe banks are trustworthy	❑	❑	❑	❑	❑
44. I think that using MPP would make it easier for me to carry out my tasks	❑	❑	❑	❑	❑
45. I believe mobile network operators are trustworthy	❑	❑	❑	❑	❑
46. I believe wireless infrastructure can be trusted	❑	❑	❑	❑	❑
47. Has phone banking affected your customer base?	❑	❑	❑	❑	❑
48. MPP has improved your business relationships	❑	❑	❑	❑	❑

The following questions will help us determine the extent of your use of MPP and its impact on your venture. Indicate how much you agree or disagree with a statement by placing a cross (x) in the block corresponding to your answer. (Technology Acceptance Model questions, Source Masinge (2010))

****** Thank you for your time – your input is most appreciated ******

APPENDIX B

Consistency matrix

Main problem: Explain the usage of Mobile Payments Platforms by informal entrepreneurs in Zimbabwe in terms of the Venkatesh et al (2000) version of the Technology Acceptance (TAM2) model.					
Sub-problem	**Literature Review**	**Hypotheses or Propositions or Research questions**	**Source of data**	**Type of data**	**Analysis**
To examine the relations between the predictors of the TAM2 model adapted for this study and the actual adoption of the MPP by informal entrepreneurs in Zimbabwe by comparing the perceptions of the users and the non-users.	Janhangir et al (2007), Rogers (1962; 1983), Zeithaml et al (2002), Mathieson (1991), Consult (2002), Lallamanhmood (2007)	Hypothesis 1: There is a positive relationship between perceived usefulness of MPP and their perceptions and adoption in the case informal entrepreneurs in Zimbabwe.	Questions 20-22	Ordinal	Factor analysis, principal component analysis and t tests

Main problem: Explain the usage of Mobile Payments Platforms by informal entrepreneurs in Zimbabwe in terms of the Venkatesh et al (2000) version of the Technology Acceptance (TAM2) model.					
Sub-problem	**Literature Review**	**Hypotheses or Propositions or Research questions**	**Source of data**	**Type of data**	**Analysis**
To examine the relations between the predictors of the TAM2 model adapted for this study and the actual adoption of the MPP by informal entrepreneurs in Zimbabwe by comparing the perceptions of the users and the non-users.	Janhangir et al (2007), Rogers (1962; 1983), Zeithaml et al (2002), Mathieson (1991), Consult (2002), Lallamanhmood (2007)	Hypothesis 2: There is a positive relationship between perceived ease of use of MPP and their perceptions and adoption in the case informal entrepreneurs in Zimbabwe.	Questions 24-26	Ordinal	Factor analysis, principal component analysis and t tests

Main problem: Explain the usage of Mobile Payments Platforms by informal entrepreneurs in Zimbabwe in terms of the Venkatesh et al (2000) version of the Technology Acceptance (TAM2) model.					
Sub-problem	**Literature Review**	**Hypotheses or Propositions or Research questions**	**Source of data**	**Type of data**	**Analysis**
To examine the relations between the predictors of the TAM2 model adapted for this study and the actual adoption of the MPP by informal entrepreneurs in Zimbabwe by comparing the perceptions of the users and the non-users.	Gerald et al (2006), Kalakota et al (1997), Khan (2002), Machogu (2012), Masinge (2010), Mbogo (2010),	Hypothesis 3: There is a positive relationship between perceived cost of MPP and their perceptions and adoption in the case informal entrepreneurs in Zimbabwe.	Questions 37-38	Ordinal	Factor analysis, principal component analysis and t tests

Main problem: Explain the usage of Mobile Payments Platforms by informal entrepreneurs in Zimbabwe in terms of the Venkatesh et al (2000) version of the Technology Acceptance (TAM2) model.					
Sub-problem	**Literature Review**	**Hypotheses or Propositions or Research questions**	**Source of data**	**Type of data**	**Analysis**
To examine the relations between the predictors of the TAM2 model adapted for this study and the actual adoption of the MPP by informal entrepreneurs in Zimbabwe by comparing the perceptions of the users and the non-users.	Jones et al (2010), Mbogo (2010), Twati (2008)	Hypothesis 4: There is a positive relationship between perceived support from service provider of MPP and their perceptions and adoption in the case informal entrepreneurs in Zimbabwe.	Questions 39-42	Ordinal	Factor analysis, principal component analysis and t tests

Main problem: Explain the usage of Mobile Payments Platforms by informal entrepreneurs in Zimbabwe in terms of the Venkatesh et al (2000) version of the Technology Acceptance (TAM2) model.					
Sub-problem	**Literature Review**	**Hypotheses or Propositions or Research questions**	**Source of data**	**Type of data**	**Analysis**
To examine the relations between the predictors of the TAM2 model adapted for this study and the actual adoption of the MPP by informal entrepreneurs in Zimbabwe by comparing the perceptions of the users and the non-users.	Chen et al (2007), Goldstein (2009), Lee (2009), Malhotra et al (1999), Masinge (2010), Mazman et al (2009)	Hypothesis 5: There is a positive relationship between perceived social influence of MPP and their adoption and usage in the case informal entrepreneurs in Zimbabwe.	Questions 31-32	Ordinal	Factor analysis, principal component analysis and t tests

Main problem: Explain the usage of Mobile Payments Platforms by informal entrepreneurs in Zimbabwe in terms of the Venkatesh et al (2000) version of the Technology Acceptance (TAM2) model.					
Sub-problem	**Literature Review**	**Hypotheses or Propositions or Research questions**	**Source of data**	**Type of data**	**Analysis**
To examine the relations between the predictors of the TAM2 model adapted for this study and the actual adoption of the MPP by informal entrepreneurs in Zimbabwe by comparing the perceptions of the users and the non-users.	Agranoff (1991), Kalakota et al (1997), Lallamahmood (2007), Mbogo (2010), Masinge (2010), Wu et al (2000)	Hypothesis 6: There is a positive relationship between perceived security and privacy of MPP and their perceptions and adoption in the case informal entrepreneurs in Zimbabwe. .	Questions 34-35	Ordinal	Factor analysis, principal component analysis and t tests

Main problem: Explain the usage of Mobile Payments Platforms by informal entrepreneurs in Zimbabwe in terms of the Venkatesh et al (2000) version of the Technology Acceptance (TAM2) model.					
Sub-problem	**Literature Review**	**Hypotheses or Propositions or Research questions**	**Source of data**	**Type of data**	**Analysis**
To examine the relations between the predictors of the TAM2 model adapted for this study and the actual adoption of the MPP by informal entrepreneurs in Zimbabwe by comparing the perceptions of the users and the non-users.	Dass et al (2010), Kim et al (2009), Masinge (2010), Zhou (2011)	Hypothesis 7: There is a positive relationship between overall trust and satisfaction of MPP and their perceptions and adoption in the case informal entrepreneurs in Zimbabwe.	Questions 45-48	Ordinal	Factor analysis, principal component analysis and t tests

Main problem: Explain the usage of Mobile Payments Platforms by informal entrepreneurs in Zimbabwe in terms of the Venkatesh et al (2000) version of the Technology Acceptance (TAM2) model.					
Sub-problem	**Literature Review**	**Hypotheses or Propositions or Research questions**	**Source of data**	**Type of data**	**Analysis**
To examine the relations between the predictors of the TAM2 model adapted for this study and the actual adoption of the MPP by informal entrepreneurs in Zimbabwe by comparing the perceptions of the users and the non-users.	Lee (2009), Littler et al (2006), Masinge (2010), Wu et al (2005)	Hypothesis 8: There is a positive relationship between perceived overall risk of MPP and their perceptions and adoption in the case informal entrepreneurs in Zimbabwe.	Questions 29-30	Ordinal	Factor analysis, principal component analysis and t tests