

UNIVERSITY OF KWAZULU-NATAL

Exploring the use of mobile banking services: Case study of Wizzit Bank, South Africa

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‘What matters most about a new technology is not how it works, but how people use it and the changes it brings about in human lives...’
Frances Cairncross 2001 pg vii

For my father, Freddy Bhedhu Makore, for all I am and all I will be.....
Murambwi, Zororai Murugare.

ACKNOWLEDGEMENTS

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I would like to thank my supervisor, Kathleen Diga, for her patience and enthusiasm for my study. Also, for her encouragement and inspiration to continue despite all the odds and for keeping me on my toes to finally submit this dissertation. *Finally....* to my supervisor, Dr Shauna Mottiar, for not even hesitating to help when you were asked.....thank you!!!

Thank you Susan Buwu for being the true friend that you are; the friend that I truly needed over all these years and the voice of reason always!! Do not ever change!! I would like to thank Babamukuru Dhakwa for his encouragement and his frequent requests for updates to ensure completion. Thank you! To my brother, Tsungai Makore, whose idea this all was...and for the financial support. Thank you!!! To Ethel, my niece, my friend, my shoulder to cry on. Thank you for always being there for me. To C.S Tengwana, thank you for all the support over the years. Ndinotenda!!

And finally, to God Almighty, who gave me strength when times were hard. He is faithful always.

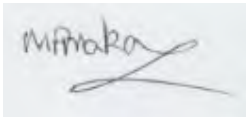
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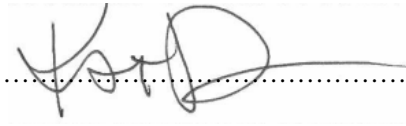
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S. Mottiar

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ABSTRACT

The rate of penetration of the mobile phone has exceeded all other communication technology, particularly in the developing world. This has seen the introduction of mobile-based financial services to address financial exclusion. However, there is limited research on the usage of these mobile banking services by the poor. This study therefore seeks to explore how mobile banking services are being used by the urban poor in four townships in Johannesburg, South Africa (SA). It seeks to explore the social, technological and economic factors that have enhanced or inhibited use of mobile banking initiatives. In-depth interviews with 10 users of a mobile banking initiative and a focus group were conducted.

The study applied the Capabilities Approach by Amartya Sen to analyse the contexts that can affect use of mobile banking services. Analysis of the data shows that mobile phone ownership and uptake does not directly translate to mobile banking uptake and usage. The study finds that there are contextual influences of uptake and usage - specifically the social, technological, personal and factors related to the banking environment that the usage decision is made in. However, social factors seem to impact the usage decisions most, as decisions whether to use or not to use the Wizzit Bank services were highly dependent on trust. The study also finds that mobile banking has the potential to contribute to development through expansion of freedoms. Mobile banking gives low income users the freedom to participate socially and economically in ways that can improve their livelihoods.

LIST OF ACRONYMS AND ABBREVIATIONS

AFI	Alliance for Financial Inclusion
ATM	Automatic Teller Machines
B2P	Business to Person
CCD	Capable and Conviviality Design
CEO	Chief Executive Officer
CFI	Centre for Financial Inclusion
CGAP	Consultative Group to Assist the Poor
DoC	Department of Communication
EC	European Commission
FICA	Financial Intelligence Centre Act
G2P	Government to Person
GSMA	Groupe Speciale Mobile Association
GDP	Gross Domestic Product
ICASA	Independent Communications Authority of South Africa
ICT	Information Communication Technologies
ICT4D	Information Communication Technologies for Development
IFC	International Finance Corporation
IMTFI	Institute of Money, Technology and Financial Inclusion
ITU	International Telecommunications Union

JSE	Johannesburg Stock Exchange
MNO	Mobile Network Operator
NPS	National Payment Systems
NGO	Non-Governmental Organisation
OECD	Organisation for Economic Corporation and Development
PASA	Payment Association of South Africa
P2B	Person to Business
P2P	Person to Person
POS	Point of Sale
RICA	Regulation of Interception of Communications Act
ROSCA	Rotating Savings and Credit Association
SA	South Africa
SARB	South Africa Reserve Bank
SASSA	South Africa Social Security Agency
SLF	Sustainable Livelihoods Framework
SMS	Short Message Service
SOE	State Owned Enterprises
TAM	Technology Acceptance Model
TRE	Telecom Regulatory Environment
USAASA	Universal Service and Access Agency of South Africa

UNCTAD United Nations Conference on Trade and Development

USSD Unstructured Supplementary Service Data

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CHAPTER 1: Introduction

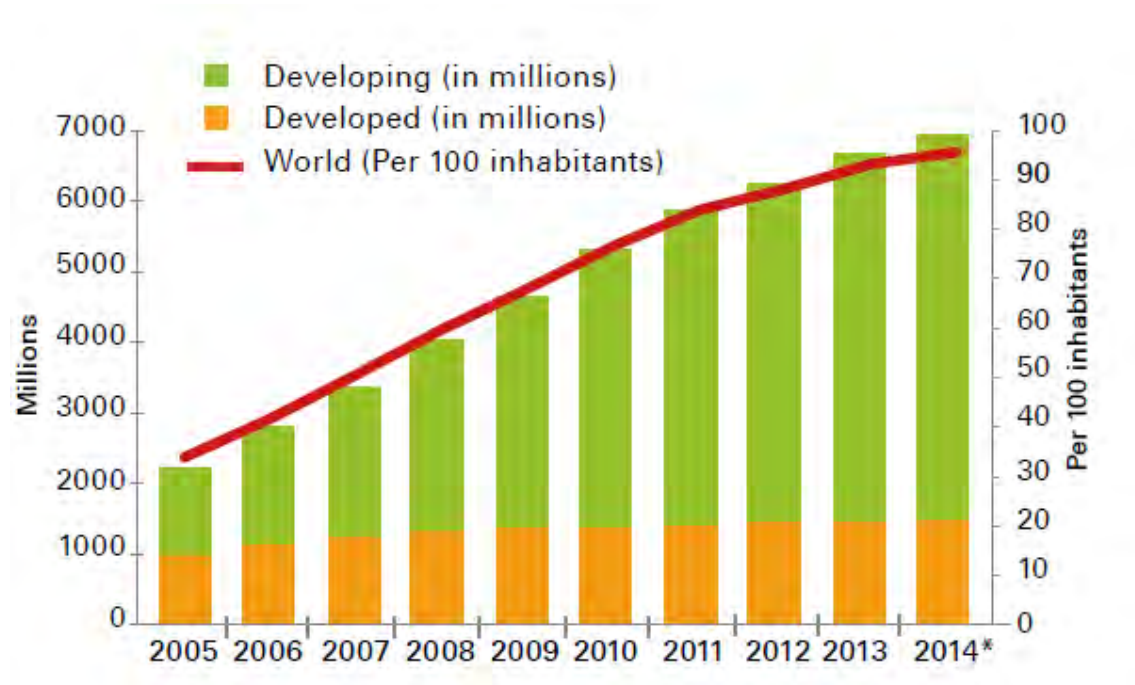
1.1 Background and research problem

Information and Communication Technology (ICT) uptake has seen unprecedented levels of growth with mobile telephony in particular taking centre stage. Recently, ICT diffusion has increased rapidly in developing countries, reaching even low income populations (ITU 2013). In the same breadth, an estimated 50% of the world's adult population, mostly in developing countries, is unbanked and does not have a basic bank account with formal financial institutions (Demirguc-Kunt and Klapper 2012).

Against this backdrop, a number of strategies have been identified that have the potential to improve the economic participation of the poor and contribute to the improvement of their livelihoods. Of particular note are the twin objectives of improving access to Information and Communication Technologies (ICTs), and enhancing access to formal financial services by the poor. The convergence of the telecommunications sector and the financial sector can lead to the effective extension of financial services to the unbanked poor and to economic growth (Kpodar and Andrianaivo 2011). The definition of the poor and poverty is highly debatable. The World Bank defines the poor as anyone below the \$1, 25 a day poverty line. However, most of the unbanked live on less than 5 dollars a day (World Bank 2010). For the purposes of this study, the unbanked poor are considered to be individuals that earn below 5 dollars a day and do not have access to formal financial services.

Modern Information and Communication Technologies that range from mobile phones to tablet computers have connected individuals across countries and regions, facilitating communication and the exchange of information. In developing countries, the mobile phone has improved access to remote areas. Although the annual growth has declined over the years, the International Telecommunication Union (ITU 2013) reports that since 2003 double digit growth has been recorded in mobile phone subscriptions until 2013 in developing countries. It is estimated that by the end of the year 2014, penetration of the mobile phone will have reached 90% in developing countries (ITU 2014). Figure 1 shows the growth in mobile subscriptions of developing and developed countries over the past nine years.

Figure 1: Mobile subscriptions (total and per 100 inhabitants) (2005-2014)



**estimates*

Source: ITU (2014)

The rates of penetration of the mobile phone have been deemed the fastest ever for any technology, and mobile phones are currently the most widespread ICT in the world (ITU 2009). Mobile subscription growth rates in developing countries have consistently been higher than developed countries, as shown above in Figure 1 (ITU 2014). With increased competition in the telecommunications industry, prepaid services are more affordable. This has resulted in increased mobile subscriptions in developing countries and has also given low income earners access to the services.

It is estimated that the compound annual growth rate of internet users in Africa for the period 2003 - 2008 was 30.6%, in comparison to the annual growth rate of 47.0% of mobile cellular subscriptions for the same period (ITU 2009). However, in recent years there has been a noted increase in demand for data services over voice services, as users use their phones to access the internet and mobile broadband subscriptions on an increasing level (ITU 2014). ITU (2014) shows that mobile growth rates have slowed down with an all-time low of 2.6%

annual growth rate globally; signalling saturation levels (ITU 2014). However, there is still a need to explore the use of mobile telephony with regards to enhancing access for the underserved in developing countries.

An econometric study by the World Bank reveals a 0.8% point growth of Gross Domestic Product (GDP) per capita for every 10% point increase in mobile phone penetration (Qiang and Rossotto with Kimura 2009). This has resulted in the mobile phone being recognised as ‘the single most transformative tool of economic development’ (Jeffrey Sachs, cited in Etzo and Collender 2010:661). This triggered a debate on whether the focus on economic growth associated with ICTs, particularly the mobile phone, is not sidelining more important welfare issues in the developing world, including health and food security. The World Bank argues that ICTs are not meant to derail developmental efforts in health care, infrastructure and political stability. They argue that ICTs can play a role in achieving these vital developmental goals (World Bank 2003).

‘Financial inclusion encompasses improving the range, quality and availability of financial services to the underserved and the financially excluded’ (Stein 2010:6). In the quest to provide development in the form of financial services to underserved communities, a technology such as the mobile phone can be used to enable one’s capabilities and, more specifically, allow the poor to access financial services which can improve their lives. Given the poor’s desire to have access to formal financial services (Collins et al 2009), the improvement of capabilities by using ICTs can only help them meet their needs of financial inclusion within society. Access to sustainable and secure financial services also has the potential to contribute to poverty alleviation (Alliance for Financial Inclusion (AFI) 2010). The rapid adoption of mobile phones and associated mobile applications has the potential to extend financial services via mobile phone to underserved communities in a cost-effective manner. To understand the financial behaviour of low income earners, this dissertation takes Amartya Sen’s conceptualisation of entitlements which he terms ‘capabilities and functionings’. Capabilities are a set of life opportunities that are availed to an individual. Functionings are the things that a person may ‘value doing or being’ (Sen 1999:75). ICTs have been recognised as tools that can expand capabilities (opportunities) to realise individual functionings (be and do what they value in life) (Clark 2006, Sen 2010). However, even given the capabilities some functionings may be ‘unrealised’ based on social, personal and environmental factors.

Donner (2008) defines mobile banking as a set of applications that allows for the provision of financial services such as savings, payments, transfers and credit facilities through mobile phones. Porteous (2006) categorises mobile banking into the additive model and the transformational model. The additive model is when mobile banking is just an additional channel for the already banked to facilitate transactions. On the other hand, the transformational model is when mobile banking is used as a channel to provide the previously unbanked with financial services. The transformational model is the focus of this study. Mobile financial services leverage off the unprecedented levels of mobile phone penetration. These mobile financial services for the underserved can provide a critical bridge for the poor to economic development through low cost savings and payment services (AFI 2010).

There have been several attempts to capitalise on the transformative model of mobile phone banking in South Africa in the last decade. One of the pioneering innovations was Wizzit Bank. Having identified an underserved market that deserved financial services, Wizzit Bank, a subsidiary of SA Bank of Athens, was established in 2005. The bank's mandate was to offer mobile banking facilities to the unbanked and the underbanked in the low income market. It launched its first mobile phone based product to the South African population in 2005. Within its first two years of operation, the bank had an estimated 400 000 users. Wizzit Bank made its mark in the financial inclusion arena (International Finance Corporation 2011).

In South Africa, research on mobile phone technology - and Wizzit Bank in particular - has focused on profiling the product user using quantitative research methods (Ivatury and Pickens 2006 and Porteous 2007). Such studies have indicated that most Wizzit Bank users are essentially not the poorest of the South African population but were the more educated financially advantaged and technologically advanced income earners. This study will seek to focus on the small proportion of low income earners of the urban poor and to fully understand the factors that influence use by individuals who are effectively presented with a Wizzit Bank solution for their banking needs.

Mobile banking deserves to be focused on as a tool that can facilitate financial inclusion for low income individuals, and effectively link mobile technology usage to poverty alleviation and socioeconomic development. There is a need to investigate further issues surrounding the

use of mobile phone technology to access financial services. Although statistics on access and usage are important, there is a need for more explorative studies into the motivations for use and non-use of mobile technology, as well as the social and economic factors which can affect an individual's freedom to use ICTs. In doing so, this study differentiates between the *intention to use* and the *actual use* of the ICT tool and focuses on the latter. The study focuses on the unbanked and underbanked in urban and peri-urban areas of Johannesburg.

1.2 Present study -Purpose of study

Governments in the developing world are now seeking to extend financial services to the poor as a tool for economic development, and thus financial inclusion remains on government policy agendas (AFI 2010 and Consultative Group to Assist the Poor (CGAP)

2010). Moreover, technology such as the mobile phone has reached unprecedented penetration rates even in marginalised communities (Donner and Tellez 2008). Therefore this study examines how ICTs, particularly mobile technology and financial services, can potentially converge as a tool in the fight against poverty.

The principal objective of this study is to explore the factors that determine use or non-use of a mobile banking service in certain deprived communities in Johannesburg, South Africa. The intended outcomes of this study are to contribute to the ICT and poverty alleviation debate. It additionally seeks to encourage further exploration of user perspectives of Information and Communication Technologies for Development (ICT4D) initiatives.

1.3 Research problem

Many low income earners in developing countries have limited access to financial services, and ICTs present possible cost effective solutions to banking by the unbanked. How ICT based innovations and in particular mobile banking solutions can change lives and consequently contribute to poverty alleviation are still unclear. The factors influencing sustained usage behaviour or non-usage of mobile banking applications and the respective contexts of usage clearly warrant further exploration. The study will help to feed into the understanding of the potential of mobile banking to changing lives in the most underserved communities.

1.4 Research objectives

The focus of this study is the exploration of the use of mobile banking services and its associated impacts on urban low income earners. The objective of this study is therefore to explore factors that have enhanced the use or inhibited use of mobile banking initiatives in the selected study area of Johannesburg. In addition, the study will explore how participants use the technologies in transferring, managing and storing their wealth, and in facilitating payments. The study will also seek to identify the contexts of usage which provides an understanding of the impact of this usage on wealth management and poverty alleviation.

It therefore seeks to:

- i. Assess patterns and context of usage of the WIZZIT mobile banking facility by low income earners; and
- ii. Explore reasons for usage or non-usage of the mobile banking facility.

1.5 Research questions

This study will explore mobile banking usage and contribute to literature on the link between ICTs and development, particularly amongst low income users. This research builds on studies which highlight the importance of financial inclusion. The following research questions will be answered:

- i. What is the actual usage of the mobile banking services by low income earners?
- ii. For what purposes and in what situations is the mobile banking facility being used?
- iii. What are the factors that have enhanced or inhibited use of the mobile banking facility?
- iv. What are the benefits, opportunities and/or challenges that mobile banking has presented for low income users?

1.6 Amartya Sen's Capabilities Approach

Donner and Tellez (2008) argue that analysis of the social, technological, and economic contexts of use will assist in understanding the impact of mobile banking. Amartya Sen refers to the social, environmental and personal issues that affect freedom of choice and use of any

goods and services (Sen 1999). Alampay (2003) emphasises that in relation to ICT's some functionings are termed 'unrealised' if ICTs are not used and are only 'realised' functionings when the ICT is used. Amartya Sen's Capability Approach (also known as the Capabilities Approach) presents a concrete platform on which to build a comprehensive analysis of factors affecting conversion of ICT enabled capabilities to realised functionings.

1.7 Location of study - South Africa, Johannesburg

The chosen area of study is Johannesburg, the most populous city in South Africa. It is located in the Gauteng province and the region is recognised as the economic epicentre of the country, contributing a third of South Africa's GDP (Johannesburg Stock Exchange (JSE) 2013).

The urban setting was chosen for accessibility for the researcher purposes and to reveal the extent of financial exclusion within areas where bank branch penetration is high. Data was collected from 10 Wizzit Bank users and groups of users and non users in a selection of urban and peri-urban areas. The originally proposed areas of study included Orange Farm, Alexandra and Kathlekong. However, as the study progressed, the need for a diverse sample resulted in the inclusion of Orange Farm in addition to the areas of Mayfair, Soweto and Roodepoort. These areas were specifically targeted for their accessibility for the researcher. Kathlekong and Alexandra were excluded due to accessibility issues.

1.8 Structure of the study

The report is organised into seven chapters. The first chapter will be the introductory chapter to the study. This chapter will specifically outline the background of the study and detail the motivations of the study. The chapter will explore the role of ICT in development and the potential role of the mobile phone and mobile banking in the developing world. Chapter two will explore the literature relevant for the study. In relating to the wider body of knowledge in the ICT for development research arena, the chapter seeks to cite relevant literature to ICT4D, and more specifically, mobile technology access and usage in the realm of financial inclusion. Other interesting case studies from Africa (and Kenya in particular) will be referenced. In addition, the chapter will discuss the theoretical framework chosen for the study and present a thorough analysis of its relevance to the study and limitations of the chosen framework. The third chapter will discuss ICTs and transformational mobile banking

in the context of South Africa and will summarise the research setting. More specifically, the chapter will give a relevant analysis of the financial inclusion research in the South African context, and reveal the role of mobile technology in banking the unbanked in South Africa. The relevance of the South African case study will be defended in this section.

Chapter four will then outline the research methodology used in the study. The chapter will highlight its relevance and its suitability to the study at hand but will also highlight the limitations of the chosen research methods, data collection and analysis methods. Chapter five will present a summary of the research findings. Chapter six will provide an analysis and interpretation of the respective findings and present common themes of factors which influence usage of mobile banking services. Finally, chapter seven will conclude and outline an interpretation of the findings cited in the report in line with the research questions of the study. Additionally, this concluding section will provide policy implications, identify research gaps and propose angles for future research.

1.9 Chapter conclusion

The chapter has provided a background of the study and has shown the necessity of work around financial inclusion and low income individuals that encompasses an understanding of factors and context influencing usage of mobile banking facilities. This, in essence, will present a picture of the potential impact on livelihoods. This study, therefore seeks to draw upon the experiences of individuals in four poor urban communities of Johannesburg to determine the patterns of usage and non-usage of the service and the factors influencing such patterns. In addition it will seek to establish the general impact of the mobile banking service on livelihoods. This will allow for an understanding of the behaviour of the unbanked urban low income earners in the ICT for development debate.

CHAPTER 2: Literature review

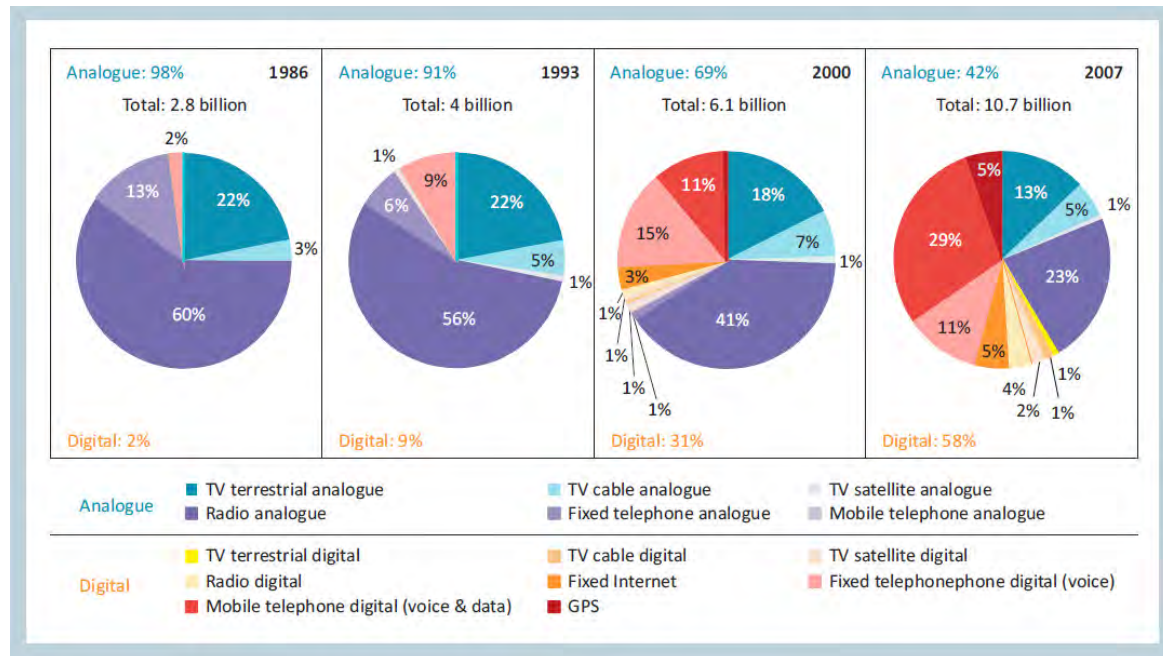
Significant literature already exists on ICTs and development (Marker et al 2002, Best and Kenny 2009). However, there is limited literature available on the use of technology-based financial services such as mobile banking for the unbanked. In particular, there are limited academic articles that explore the impact of mobile banking on storing, saving and transferring wealth of the low income earners. This chapter will examine the literature and scholarly research in the area of ICTs and development. Emphasis will be placed on mobile phone based applications in the provision of financial services for the low income population in Africa. Theoretical frameworks used to analyse use of ICT initiatives in a development context will be reviewed in this section, with an emphasis on the chosen approach for this study.

2.1 Information Communication Technologies (ICT's)

Information and Communication Technologies (ICTs) consist of hardware, software, networks, and media for collection, storage, processing, transmission, and presentation of information (voice, data, text, images) (World Bank 2002:3). These can include radio, TV, fixed telephones, mobile telephones, computers and the internet.

Over the years, the face of communication technologies has evolved. From the radio holding 60% of the total communication subscriptions in 1986 to mobile telephone dominating 29% of the total communication subscriptions in 2007, the changes in technology subscription are shown in Figure 2 below:

Figure 2: Global subscriptions to communication technology (1986, 1993, 2000 and 2007)



Source: ITU (2012)

Since 2007, the mobile telephone has grown at unprecedented rates. More recently, however, the ITU reports that mobile penetration is flattening but mobile broadband subscriptions are increasingly replacing fixed broadband (ITU 2013). Governments in developing countries are increasingly spending more money on ICTs initiatives (Gillwald and Stork 2008). Despite this investment drive, there are still differences in ICT access based on location, education, age, gender and income within countries (Heeks 2010).

2.2 ICT, inequality and development

The gap between different individuals or households or nations which have access to ICTs and use of ICTs and those who do not is referred to as the digital divide (Barrantes 2005). The digital divide between Africa and the rest of the world has been shrinking significantly over the years (ITU 2010). This has been due to a notable uptake of ICTs by poor communities and families, mostly in the rural areas and due to the affordability of ICTs (ITU 2010). Additionally, governments like the South African government have developed policies that support bridging the digital divide (World Bank 2013).

With ICTs such as the mobile phone reaching unprecedented levels of diffusion, a debate on the participation of the developing world in the global information society has ensued. Odedra-Straub and Straub (1995) argued that failure by developing countries to invest in their information technology can widen the gap between the 'haves' in the North and the 'have nots' in the South. This is because the South's economic participation in the global arena is limited or almost impossible without information technology (Odedra-Straub and Straub 1995). Some scholars contend that ICTs will allow developing countries to 'leapfrog' in development (Goldstein and O'Connor 2000, Kauffman and Techatassanasoontorn 2005). 'Leapfrogging' is when developing countries lagging behind in technology development skip out-dated technologies, and begin using more advanced new technologies, resulting in accelerating development (Kauffman and Techatassanasoontorn 2005). However, the notion of leapfrogging has also been the subject of debate. Davison et al (2000) are sceptical about the concept of leapfrogging leading to development, and emphasise that leapfrogging is dependent on the social context of a country. The promise that leapfrogging may accelerate development in the developing world may not actually materialise. This is due to the distinct socioeconomic and regulatory differences between the developed countries where the ICTs are introduced and the developing countries' late adopters (Davison et al 2000). Davison et al (2000) argue that leapfrogging is an opportunity for developing countries; however, it does not guarantee development. Contextual factors for each country need to be considered in implementation and a conducive regulatory and policy environment should be encouraged. Therefore the debate on the impact of leapfrogging on development is still inconclusive. There is, however, consensus that the participation of developing nations on the ICT landscape has led to increases in global competitiveness and development.

2.3 ICTs and Economic growth

There has been a rapid diffusion rate of ICTs, such as mobile phone technology which has inspired the practice and notion of Information and Communication Technology for Development (ICT4D). This is based on the assertion that ICTs can be useful tools in socioeconomic development and can form part of overall strategies to fight poverty and inequality. However, there is still a debate on whether ICTs lead to economic growth and poverty alleviation. On the link between ICTs and economic growth, a number of schools of thought have since emerged. Some empirical evidence has shown a positive impact of ICTs on economic growth (Roller and Waverman 2001; Djiofack-Zebaze and Keck 2009;

Ssewanyana 2007). In a micro study of evidence from 21 Organisation for Economic Corporation and Development (OECD) countries over a 20-year period, Roller and Waverman (2001) found a positive correlation between telecommunications infrastructure and economic performance. Djiofack-Zebaze and Keck (2009), in their study of the impact of telecommunications liberalisation in Africa, reveal that enhanced competition in the telecommunication sector improved performance in the sector, and has translated into increased real GDP per capita. Increased competition contributed to lower prices and greater access for the African population, and an increase in access to mobile networks by 1%, resulting in a 0.5% increase in real GDP per capita (Djiofack-Zebaze and Keck 2009). In his study in Uganda, Ssewanyana (2007) notes the positive contribution of radio, TV and mobile phones to poverty alleviation through enhanced access to market information and advice.

A second school of thought has established that this positive relationship exists only in the developed world, and not in the developing world (EIU 2004, Indjikian and Siegel 2005). A study of 26 developed countries and 34 less-developed countries was conducted by the Economist Intelligence Unit (2004) and the report suggested a strong positive relationship between ICTs and economic growth, particularly for developed countries, but not for developing countries. Indjikian and Siegel (2005) find limited systemic evidence linking ICT investment to economic growth in developing countries. However the study sees potential in developing countries catching up to the developed world through focused and specific ICT investment. Other scholars are more sceptical about concluding the debate. Arunachalam (2002) claims that ICTs can be an instrument of socioeconomic development. However, it is too early to conclude on the ICT and development debate. He emphasised that the focus should be on the use of ICTs and not the supply of technology as ICTs are not ends in themselves. Carmody (2012) argues that mobile phones are a gateway to information and technology but may not necessarily result in development. If anything, Carmody (2012) argues that mobile phones can have a negative impact on poverty, if incorporated into certain poor communities. Therefore, evidence linking ICTs and economic development is not yet empirically sound.

2.4 ICTs and poverty reduction

The link between ICTs and poverty alleviation is similarly inconclusive. The argument for ICTs' contribution to poverty alleviation is taken up by May (2012) who argues that ICTs

can contribute to poverty alleviation but that further research with more developed and analytical tools are required. In a study of the relationship between poverty and ICTs in Kenya, Rwanda, Tanzania and Uganda under the 'Poverty and ICTs in Urban and Rural East Africa' (PICTURE Africa) project, May (2012) finds a correlation between poverty dimensions and ICT access. The sample revealed that human and financial capital, as defined in the Sustainable Livelihoods Framework, impact ICT access and consequently digital poverty (May 2012). The widespread access to ICTs can be a tool for providing information to marginalised communities for social and economic interactions and is an essential component of the fight against poverty (Marker et al 2002). Brown (2001) agrees with the potential role that ICTs have in poverty alleviation; however, he further argues that ICTs are merely instruments, and cannot single-handedly solve the complex global challenge of poverty. That said, evidence suggests that the capability to communicate with others and have access to information and knowledge gives the poor choices and empowers them to take control of their lives. This, in turn, impacts their livelihoods and consequently results in poverty reduction. This sentiment is echoed by Hamel (2010), who finds that, in an assessment of ICT4D literature, ICTs have the potential to contribute to human development but can only do so in conjunction with other development strategies.

Arunachalam (2002) supports Brown's (2001) argument emphasising that access to ICTs is merely a means to development. Development priorities should be clear and the development community should focus on the goal of poverty alleviation, and not on narrowing the digital divide from a supply of technology perspective (Arunachalam 2002). This effectively means not falling into the 'technology for technology's sake' trap, which pushes for the supply of technology. Research efforts have formerly concentrated on the supply side of ICTs, but there is need for research on the demand side. This would enhance the focus on the use and the users of ICTs, and cast more light on whether this behaviour has led to asset accumulation and poverty alleviation (Duncombe 2012).

Distinction therefore needs to be made between *access* and *use of* ICTs. Whilst *access* refers to the supply of ICTs, *use* refers to actual consumption and patterns of use. The latter is the focus of this study. The users of ICTs are a subgroup of those that accessed it. Some scholars have argued that it is not only about how ICT access and penetration drives the impact on economic growth and development but it is *how* ICTs are used. Mann (2003) argues that countries should not just invest in ICTs to achieve universal access but consider the way and

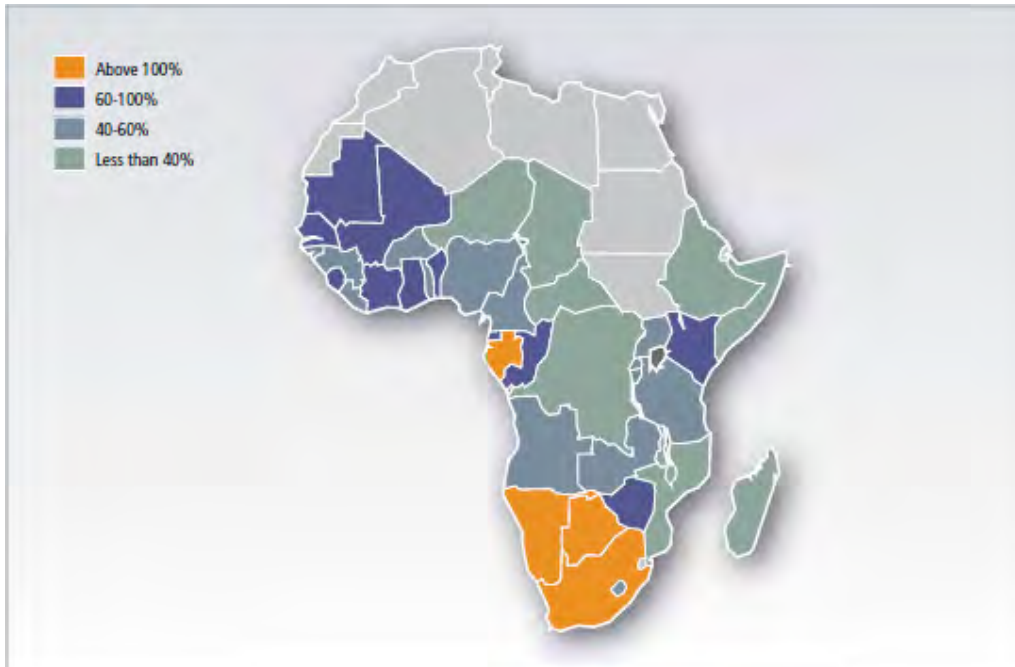
reasons ICTs will be used in their countries, and the different contexts particular to each country. With increased diffusion of ICTs, ITU (2010) recommends that issues of usage of ICTs be explored further to allow for analysis of the socioeconomic impacts of ICTs. Therefore, development priorities can expand to include a re-focus on how the technology is used particularly within certain social, and cultural contexts as well as how it meets the needs of the low income segments of the population (Soeftestad and Sein 2003).

The literature reveals that the debate on the relationship between ICTs and economic growth, development and poverty alleviation is still inconclusive. However, the debate refocuses on the efforts of the development community to reflect back to the demands of local people and the use of technology. In addition, the rapid diffusion rates of ICTs like the mobile phone have inspired the newly evolving practice of ICT4D. More recently, Gomez (2013) recognises the current drive by some scholars to recognise the ICTD 2.0, which focuses on the penetration of mobile phones. ICTs have been shown to have some effect on the achievement of social and economic development goals, and further research will help to clarify ICTs - and particularly mobile phones' - instrumental role in poverty alleviation.

2.5 Mobile phone technology, development and poverty alleviation

Since their introduction, mobile phones have evolved over the years. Now mobile phone technology ranges from low cost basic phones with basic functions, like the Short Message Service (SMS), to more expensive smart phones with more sophisticated capabilities and features. These can include operating systems, internet access, and applications and touch screen capabilities. In Africa, mobile phone technology has seen rapid penetration. In South Africa, the mobile phone penetration is estimated to be over 123% (Deloitte and Groupe Speciale Mobile Association GSMA 2012). Smart phones are more popular with the younger generations and the more basic phones are commonly used by the older, less well educated population groups. African mobile penetration has increased rapidly over the years with South Africa leading, as shown below (Deloitte and GSMA 2012):

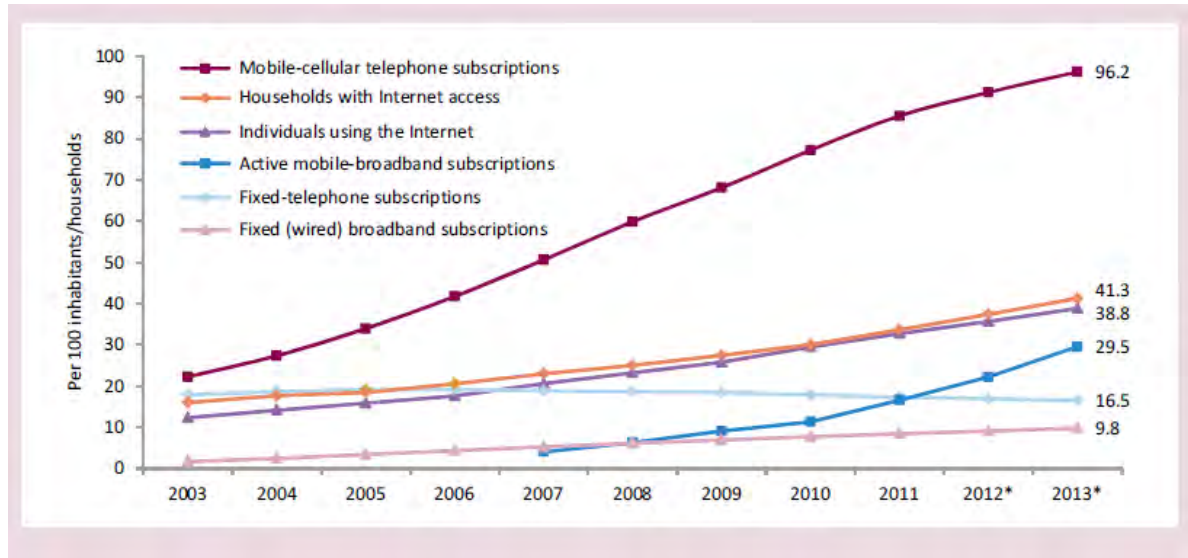
Figure 3: Africa penetration 2012



Source: Deloitte and GSMA (2012)

Between 2000 and 2008, mobile cellular penetration in Africa increased rapidly from instances of less than two in 100 inhabitants, to instances of about 33 users in every 100 (ITU 2009). This trend has continued over the years, with annual growth rates of 18% and 13% recorded for the periods 2009 to 2010, and 2010 to 2011, respectively in developing countries, (ITU 2012). In 2010, Africa was the second largest market for mobile technology in the world (GSMA 2011). This trend is in stark contrast to other ICTs like the internet and fixed telephone, which have not enjoyed the same penetration levels as mobile phones. As shown below in Figure 4, although general ICT uptake and usage has increased dramatically over the years, fixed telephone subscriptions have decreased over the years, with mobile broadband subscriptions growing as people access the internet via their mobile phone.

Figure 4: Global ICT development (2003-2013)



Source: ITU 2013

The Economist (2008) remarked that no technology has ever spread around the world as fast as mobile technology. These unprecedented penetration rates reveal both the desire by people to both be informed and to be able to communicate and the power of ICTs can be harnessed for social and economic development (Best and Kenny 2009). Muhammad Yunus, the founder and director of the Grameen Bank in Bangladesh, reflects on the relationship between mobile technology and poverty alleviation, stating that: ‘The quickest way to get out of poverty right now is to have one mobile telephone.’ (Muhammad Yunus, Nobel Peace Prize winner, founder and director of the Grameen Bank, Bangladesh quoted in E-agriculture, 2009).

Various studies have shown the use and diffusion of mobile technology in poor communities in the developing countries (McKemey et al. 2003; Best and Kenny 2009; Donner & Tellez 2008). McKemey et al. (2003) highlight that mobile phones are now not only used by the rich, but also by the poor. Donner and Tellez (2008) note that the remoteness and poverty of the areas where the poor reside have not barred them from accessing mobile phone and mobile communication. Households in these poor communities have increasingly substituted other basic necessities for mobile phone maintenance related expenses (Diga 2007). In studying the spending behaviour in households that own mobile phones in Uganda, Diga

(2007) found that some households are willing to sacrifice grocery food products and sanitation to accommodate mobile phone related expenses. They hope that owning mobile phones will present social and economic opportunities. Similar findings were also established by Infodev (2012) in their study of the use of the mobile phone in 6 districts in Kenya. The study revealed that just to have credit in their phones some people forwent a day's meal or bus fare to remain connected.

2.6 Mobile phones and economic growth

Mobile phone technology has been shown in various studies to contribute to nations' GDP, although more significantly in developing countries (United Nations Conference on Trade and Development (UNCTAD) 2010; Qiang and Rossotto with Kimura 2009). Following a macroeconomic study in 2008, the World Bank noted that a ten percentage point increase of mobile phone usage resulted in a GDP growth per person of 0.8 percentage points in developing countries (Qiang and Rossotto with Kimura 2009). Services offered through the mobile phone can contribute to economic growth. Kpodar and Andrianaivo (2011) studied the impact of mobile phone penetration on economic growth rates in Africa. Using panel data from 1988 to 2007 of 44 African countries, the study shows that financial services extended through mobile phone technology enhances the positive relationships between mobile phone technology, financial inclusion and economic growth.

An emerging body of research has shown a link between use of mobile phones and more efficient markets, enhanced productivity, and improved earnings for the poor. Of those that use the mobile phone for business purposes, positive contributions of mobile phones have been noted in various studies. Mobile phones enhance communication with suppliers and consumers, reducing costs and resulting in increased productivity and efficiency (Jensen 2007; Abraham 2007; Overa 2006; Esselaar, Stork, Ndiwalana and Deen-Swararay 2007; Donner 2006; and Duncombe and Heeks 2005). Studies on the impact of mobile technology on entrepreneurs have shown it to be an enhancer of productivity and a business enabler (Donner 2006 ; Overa 2006). In this sense, it contributed to changing business and social relationships and networks by introducing new contacts in Kigali, Rwanda (Donner 2006). Additionally, it has revolutionised business processes, with improved communication between businesses in developing countries (Donner and Escobari 2010) and enhanced

competitiveness (Heeks and Jagun 2007). Jensen (2007) further establishes a positive link to the enhancement of market efficiency improving profits of fishermen in India.

However, some studies have also shown that most individuals use the mobile phone to phone friends and relatives for social reasons and not for business reasons (Samuel et al 2005). Samuel et al (2005), in a study commissioned by Vodafone, also discovered the use of mobile phones in searching for employment and education opportunities and the time savings it provides users.

Effectively what these studies suggest is that with the mobile footprint spreading rapidly to the rural areas in developing nations, there is possible room for the use of innovative mobile solutions which could contribute to market efficiency, increased productivity and significant reductions in transaction costs.

Aker and Mbiti (2010) summarise the various ways in which mobile phones can be catalysts for economic development in Sub-Saharan Africa:

- i. The mobile phone provides access to information that translates into reduced costs for users and enhances market efficiency;
- ii. Productivity can be improved because of improved access to information;
- iii. The demand for mobile phone related services presents income generating opportunities for the rural and urban poor;
- iv. Mobile phones can reduce household exposures to risk by providing a communication tool; and
- v. The mobile phone can be used as a platform for applications and development projects (m-development) to facilitate provision of financial, health and educational services.

The fifth benefit will be the focus of the subsequent sections, with particular focus on mobile phone applications for the provision of financial services.

2.7 Financial exclusion and profile of the excluded

Despite astounding levels of poverty in developing countries, various studies have indicated that the poor actively save and plan for key activities in their lives (Collins et al 2009). Using

Financial Diaries in their study of patterns of borrowing and savings in India, South Africa, and Bangladesh, Collins et al (2009) established that the poor need to save to manage cash flow risks, therefore low income earners desire facilities that can help them save. However, they have no access to formal financial services that can assist in managing and transferring wealth.

Financial inclusion is defined as:

a state in which all people who can use them have access to a suite of quality financial services, provided at affordable prices, in a convenient manner, and with dignity for the clients. Financial services are delivered by a range of providers, most of them private, and reach everyone who can use them, including disabled, poor and rural populations. (Centre for Financial Inclusion CFI 2011:6).

Financial exclusion on the other hand is defined by the European Commission as:

a process whereby people encounter difficulties accessing and/or using financial services or products in the mainstream market that are appropriate to their needs and enable them to lead a normal life in the society in which they belong. (European Commission (EC) 2008:9).

Financial exclusion can occur due to a variety of barriers. Sinclair (2001) identifies a number of factors. Firstly, lack of access to services, including branch networks, cash dispensers, and Automated Teller Machines (ATMs). Prohibitive bank account opening requirements that include proof of residence for informal settlement dwellers can also result in exclusion. Sinclair (2001) also states that high charges and penalties hinder potential users, and some marketing strategies of financial services products exclude potential users. Finally, self-exclusion is based on bad experiences and negative experiences that discourage potential customers from attempting to access financial services.

Due to the multi-dimensional nature of financial exclusion, this study focuses on access to payments, transfers and savings by the unbanked and underbanked. Diebold's White Paper (2006) defines the unbanked as individuals that have no relationship with any bank and therefore utilise cash and other non-traditional alternatives to facilitate transactions. The unbanked are identified as uneducated low income earners, mostly young individuals or

minorities. The White Paper further describes the underbanked as individuals that utilise basic financial services periodically and usually do not use advanced financial services. This group is dominated by educated middle income earners and can include immigrants. The underserved is the broad umbrella term for both the unbanked and underbanked. The underserved are those individuals who have limited or no access to financial services. The fully banked are therefore: ‘...people who have access to a wide range of transaction banking services that are appropriate to their needs and socioeconomic status’ (EC 2008:11).

The unbanked are generally excluded from formal banking services because of unaffordable minimum balances and transaction fees (Williams and Torma 2008). Therefore, as low income earners, they believe that the costs do not justify having an account and prefer cash based transactions. Williams and Torma (2008) noted the common expression, ‘banks eat your money’ (2008:4). This phrase captures why the unbanked believe a formal banking account is not a wise savings option. Therefore low income earners, families, and small businesses shy away from inclusion in the established banking sector and use informal means of savings. Such informal means of savings include ‘under the mattress’ banking, borrowing from friends and family, and savings groups. ‘Under the mattress’ banking is a phenomenon where families would rather store the money in its cash form in their houses for easy access and use. Moreover, to send money, individuals travel long distances or use networks of friends and relatives to take money physically to their relatives. A World Bank survey of 193 banks in 58 countries revealed a number of barriers to financial access and use around the world. To open a bank account, banking institutions usually require identity documents and salary slips. The rural poor and informal sector workers do not necessarily possess these documents. Another issue identified by the World Bank as a factor affecting financial inclusion (despite its perceived benefits) is the high fees involved in opening and maintaining a bank account (Beck, Demirgüç-Kunt and Levine’s 2007). Cultural and religious issues can result in individuals being financially excluded (World Bank 2014).

The World Bank (2014) summarises the reasons for financial exclusion as shown below:

Figure 5: Access and use of formal financial services



Source: World Bank 2014

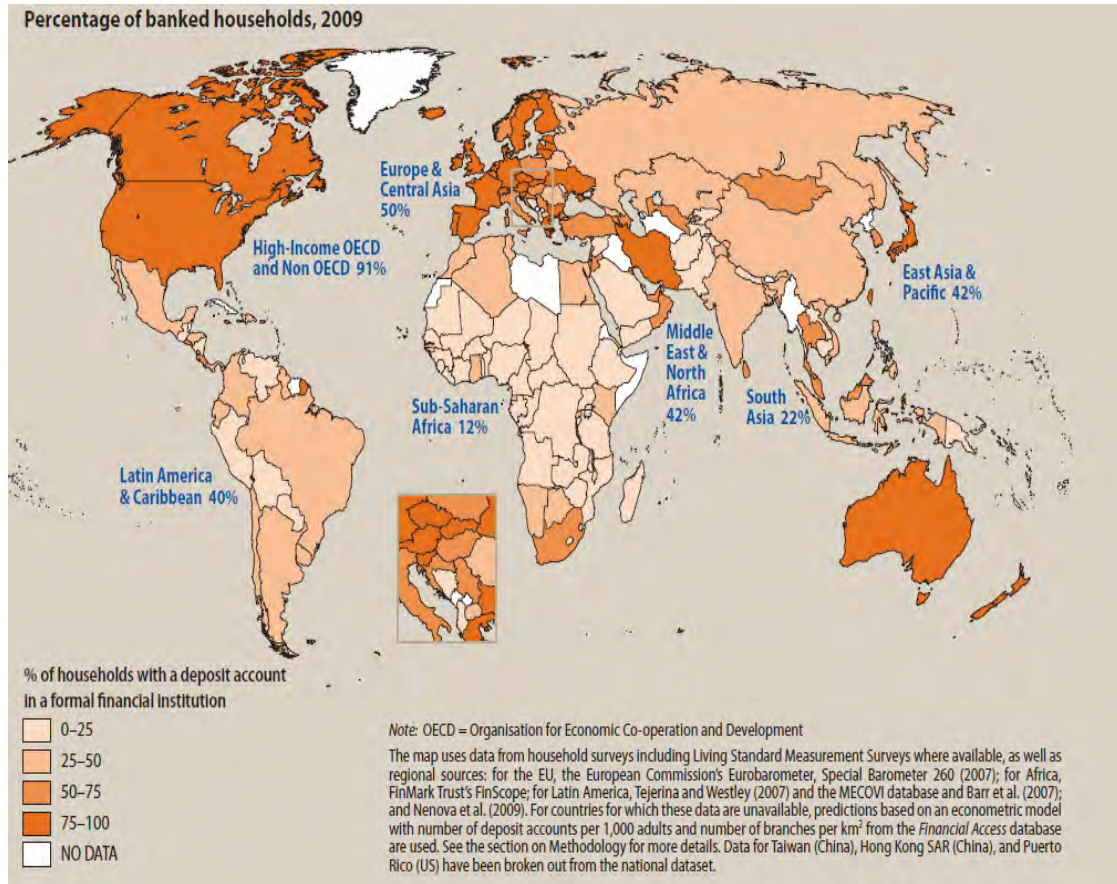
The World Bank argues that financial exclusion can be voluntary or involuntary (World Bank 2014). Voluntary exclusion is when individuals do not demand the formal financial services due to cultural and social reasons or merely because of the lack of appeal of the services. Involuntary exclusion, on the other hand, is when factors that include government policies and low income restrict individuals from accessing services.

The benefits of financial inclusion have resulted in a debate in the development arena. A number of studies show that financial inclusion contributes positively to livelihoods of the poor (Dupas and Robinson 2009; CGAP 2010; Beck, Demirgüç-Kunt and Levine 2007; and Burgess and Pande 2005). Dupas and Robinson (2009) discover that access to formal financial services - particularly savings - increase the incomes of the poor. Their study of self-employed individuals in rural Kenya indicates that having access to bank accounts improves savings and reduces vulnerability of the poor to shocks such as illness. CGAP (2010), in their review of the surveys of 142 economies and their use of financial services in 2009, show the number of accounts increased in 2009, whilst deposits decreased despite the turbulent economic conditions. Their assessment shows that basic payments and savings facilities are a necessity because the study revealed that accounts did not respond negatively to the changing economic conditions. They also highlight that this emphasises the importance of access to basic financial services. The relationship between financial development and

economic growth is also explored in the CGAP study. Financial inclusion channels money into the formal financial system and can lead to aggregate economic growth and stability (AFI 2010). Beck, Demirgüç-Kunt and Levine's (2007) cross-country empirical study of the relationship between financial development and economic growth argues that financial development reduces inequality, has a positive impact on the poor, and that there is a strong relationship between financial development and poverty. Financial inclusion development is seen to be both pro-growth and pro-poor as financial development can contribute to poverty alleviation. Burgess and Pande (2005) also find a positive relationship between financial development and poverty reduction. They studied the impact of the Indian rural branch expansion program on rural poverty using a panel data-set for the sixteen major Indian states between 1961-2000. They found that rural branch expansion contributed to the reduction in poverty in the area. Through the state-led branch expansions the rural population increased their saving and accessed credit, thus contributing to poverty reduction.

Despite the various studies indicating the impact of financial inclusion on the poor, the majority of the poor are still excluded from the formal financial system. Recent studies have found that over half of the world's population, including 2.5 billion adults, have no access to formal financial services such as savings and credit and most of these are in Asia, Africa, Latin America and the Middle East (Demirguc-Kunt and Klapper 2012). The CGAP (2010) survey finds that in 2009, only 12% of households in sub-Saharan Africa are financially included in the formal banking sector. Most of the unbanked live on less than 5 dollars a day (World Bank 2010). Figure 6 below shows the low levels of financial inclusion in the world:

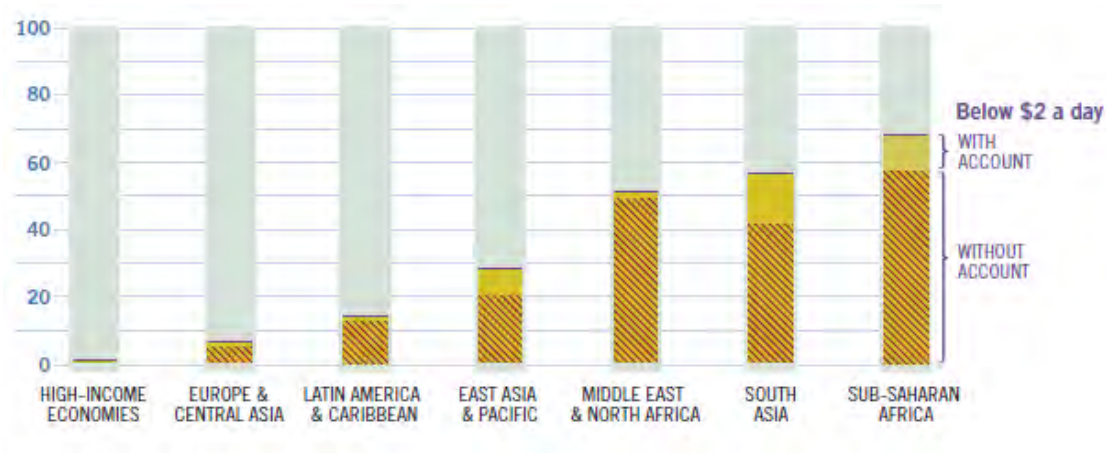
Figure 6: Global Map of the Financially Included



Source: CGAP and World Bank 2010, *Financial Access 2010*, Washington D.C World Bank group

The bank account penetrations per region are shown below:

Figure 7: Account penetration among the poor



Source: Demircuc-Kunt and Klapper (2012)

Figure 6 and 7 show differences in financial inclusion around the world. Figure 6 shows that more than 50% of adults among the poor in sub-Saharan Africa do not have banking accounts with formal financial institutions. The provision of cost-effective solutions to the unbanked could have the possibility of contributing to a growth in savings and increasing the long term storage of wealth. This need for a solution has increased attention on branchless banking innovations that are not dependent on physical branches for delivering financial services.

2.8 Branchless banking

Noteworthy technology-based efforts have been made to address financial exclusion. Technology is increasingly being recognised by policymakers as a tool that can improve access of the poor to financial services (AFI 2010). Various initiatives have been introduced to cater for the financial needs of the poor by replacing the traditional ‘brick and mortar’ physical bank branches with branchless banking technology. Branchless banking is defined as the use of non-traditional technological means to provide banking services to citizens. This includes the use of technology such as mobile phones and use of third party outlets like retail shops (Ivatury and Mas 2008). This is rapidly becoming topical, particularly in the private sector as a solution to banking the unbanked sector of low-income earners. Nokia and Vodacom are making significant investments in mobile banking platforms (McKay and

Pickens 2010). McKay and Pickens (2010) also find that branchless banking is boosting financial inclusion as it is reaching large numbers of the unbanked. They conducted surveys of 16 708 branchless banking clients of eight pioneers of branchless banking that include: Banco Postal (Brazil), Wing (Cambodia), FINO (India), M-pesa (Kenya), GCash (Philippines), Smart Money (Philippines), Wizzit Bank (South Africa) and M-pesa (Tanzania). Of the 37% of active clients in the survey areas, an estimated 1.39 million clients were previously unbanked. Additionally, branchless banking has proven to be significantly cheaper than traditional banking as the branchless banking service was 19% cheaper than traditional brick and mortar banking services and is half the price of transferring money using informal means.

2.9 Mobile phone technology and financial services

In Africa the mobile sector has grown significantly over the years, and this growth has been largely attributed to mobile services and applications that the African market requires. These include prepaid services, text messaging and mobile financial services (ITU 2010).

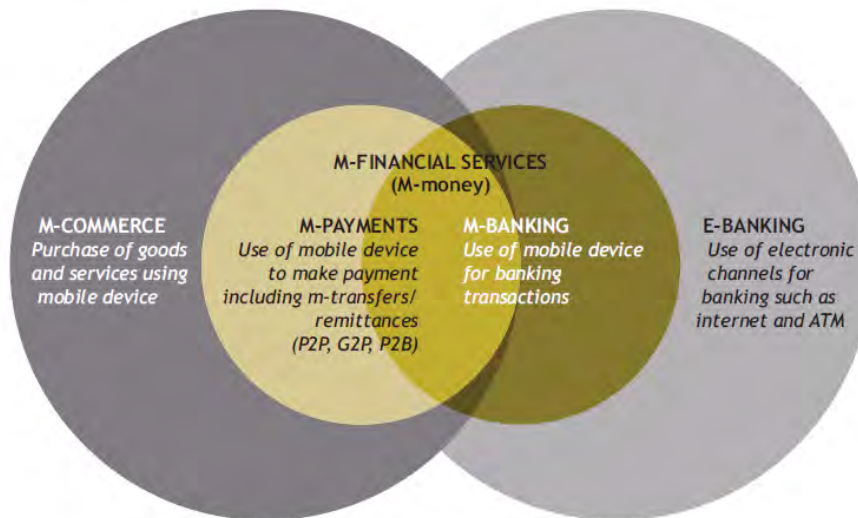
With more than half of the world's adult population unbanked (Demirguc-Kunt and Klapper 2012) high mobile phone penetration in underserved communities has heightened the potential for mobile phones to extend financial services to the financially excluded. The partnership of banking systems, technology and telecommunications can impact on access and service provision. The financial services sector has therefore sought to utilise the reach of mobile phones in the provision of financial services through mobile phones.

There is no consensus on the definitions on the terms 'mobile payments' and 'mobile banking'. For the purposes of this study, mobile financial services is the broad term used to refer to financial services that can be accessed through a mobile phone and the transactions that can be conducted through the mobile phone (AFI 2010a). This is also usually regarded as m-money. There are four categories of mobile payments. Firstly, Person-to-person (P2P), which entails sending funds from one individual to another, essentially mobile transfers. Secondly, Person-to-business (P2B), which is where an individual pays a business, including bill payments and airtime purchases. Thirdly, Government-to-person (G2P), which is where the government uses the mobile phone as an instrument to pay individuals, for example in

welfare payments. And finally, Business-to-Person (B2P), which is when businesses pay individuals for goods or services using the mobile phone (AFI 2010a).

Gencer (2011) considers mobile banking as a category of mobile financial services, together with mobile payments and mobile finance. AFI (2010a) defines mobile banking as the subset of electronic banking (e-banking) where funds are accessed and financial transactions such as balance enquiries, transfers and payments and transactions are conducted through a mobile phone. AFI (2010a) specifies that mobile payments (m-payments) are usually considered payments conducted via the mobile phone without the interaction with a store of value such as a bank account. However, sometimes mobile payments are conducted using a store of value. According to AFI (2010a) there is, therefore, an overlap of mobile banking and mobile payments within mobile financial services, as shown below:

Figure 8: Definitional framework for mobile financial services



Source: AFI 2010a: 4

Therefore, mobile banking is defined as financial transactions that can be conducted via a mobile phone that include mobile payments (G2P, P2B, P2P, B2P), and for conducting basic banking transactions. For the purposes of this study this definition of mobile banking by the Alliance for Financial Inclusion will be adopted. Porteous (2007) distinguishes between additive and transformational mobile banking. Mobile banking is additive when it is a simple

addition of a service option to existing services for a banked individual. Mobile banking is identified as transformational, if it extends formal banking services to individuals that were not previously served by traditional brick and mortar financial institutions. This study will use the term *mobile banking* or *m-banking* to refer to the extension of financial services through a mobile phone (transactional and non-transaction, including bill payments, transfers and balance checks). This will include mobile payments and transfers conducted via the phone with a link to a formal bank account. The limitations associated with the use of this term are acknowledged.

Mobile money systems allow a user to store value (in other words, store funds for future use), transfer funds, and facilitate electronic payments through the use of a mobile phone. The transformational potential of the mobile phone has been heralded due to its low cost, compared with the traditional brick and mortar bank services (Ivatury and Pickens 2006). Mobile financial transaction platforms emerge as a low cost solution that uses mobile technology.

2.10 Mobile banking in the developing world

The greatest innovations of mobile financial transaction platforms are emerging from the developing world, particularly in Africa where financial exclusion is rife. Significant mobile financial services include M-pesa in Kenya, Globe in the Philippines, Zap in Tanzania, Ecocash in Zimbabwe and Wizzit Bank in South Africa. The most recognised application is the M-pesa ('M' for mobile, 'Pesa' for money in Swahili); a mobile payment platform introduced in Kenya in March 2007, by the leading cell phone company in Kenya, Safaricom. M-pesa allows users to transfer funds, withdraw money, and pay bills using their mobile phones. This is facilitated through a virtual account that is created when 'electronic money' (e-money) is purchased from an M-pesa agent. In an analysis of M-pesa, Mas and Ng'weno (2010) attributes M-pesa's success to effective brand management, distribution channels and a good pricing strategy. Safaricom invested in a marketing campaign that built a strong corporate brand based on building trust. Safaricom's distribution strategy resulted in the development of a network of trusted, well-trained agents, and they additionally developed a pricing strategy that encourages the agent and the customer to use the service. Additionally, the regulatory environment that M-pesa developed contributed to its success. The Kenyan regulator allowed Safaricom to operate before establishing a regulatory

framework in which the mobile service provider was to operate. The regulatory framework was then shaped in response to M-pesa's operations. In an approach that was dubbed the 'experiment first, then regulate' approach, the Kenya regulators allowed Safaricom to launch, and then began putting in place a regulatory framework. This encouraging regulatory environment resulted in the flourishing of M-pesa services in Kenya.

To access M-pesa, one registers with an M-pesa retail agent and receives an electronic money account from the service provider, Safaricom. The account holder then deposits money with the retail agent, and these funds are held in a pooled account in a registered financial institution. Account holders can then transfer and receive money and even withdraw money through these M-pesa agents (Mas and Morawczynski 2009). Other initiatives in Africa include Zap money, launched by the mobile operator Zain in February 2009. Zap is a mobile money platform that facilitates local transfers and cross border remittances.

Although most initiatives have been limited to payments, the unbanked desire more products (McKay and Pickens 2010). In their study, McKay and Pickens (2010) also identify a general need by low income unbanked clients for services beyond mere payments. These desired services include savings facilities.

The true value of m-banking is still to be established; however, some studies discuss the link between mobile banking and economic growth and poverty alleviation. In their ethnographic study on the use and impact of M-pesa in two communities, Kibera and Bukura, Morawczynski and Pickens (2009) revealed that mobile banking can inject money flows in the rural areas where it is difficult to access and thus trigger economic activity. Plyler et al. (2010) studied the economic effects of M-pesa on communities in Kenya. Using surveys, interviews and focus groups to gather data in the districts of Kibera, Murang'a and Kitui, they find that economic effects on communities can be detected. Specifically, M-pesa has increased the money circulation, financial capital accumulation for users, improved food security and increased employment opportunities. In addition, M-pesa has been instrumental in improving the business environment and expanding businesses for users (Plyler et al. 2010).

Various ex-ante impact assessments calling for the introduction of mobile payments have noted its potential to positively impact small business operations through a reduction in costs

and enhancement of distribution services (Ndiwalana and Popov 2008 and Porteous 2006). Mbogo (2010) undertook a study on the effect that mobile payments have on micro businesses in Kenya through a survey of clusters of 409 micro businesses within the Nairobi Central Business District. She found an increased use of mobile payments by micro businesses due to ease of access and ease of use. The study does not, however, differentiate between informal and formal businesses (Mbogo 2010). Small businesses have been observed to benefit greatly as they take less trips to the bank and thereby increase their presence in their businesses (Omwansa 2009).

On the household and individual levels, the mobile banking service M-pesa has been argued to have increased household incomes by between 5 to 30 per cent as households have made savings on transport costs (Morawczynski and Pickens 2009). Evidence from South Africa has shown that the Wizzit payment facility has reduced costs, saved users valuable time spent travelling to bank branches, and this has resulted in Wizzit Bank users being better off than their counterparts (Ivatury and Pickens 2006). However, the specific economic impact of mobile money cannot be fully quantified (Jack and Suri 2011). In their study of the potential economic impact of M-pesa in Kenya, Jack and Suri (2011) find that M-pesa merely has potential economic impact at the household level through savings and, at the macroeconomic level, through changes in money supply.

On the gender dimension, mobile transfers have given women a level of financial independence from their husbands, as the mobile technology makes receiving money from their husbands and other relatives easier (Morawczynski and Pickens 2009). This particularly applied to women who receive funds from their husbands who work in the urban areas. Urban migrants have also saved money because they travel less frequently to rural areas to deliver money. However, this has also resulted in husbands engaging in extramarital affairs in the urban areas because of the low frequency of journeys home (Morawczynski and Pickens 2009).

In his study of the impact of mobile banking on the Access Frontier, Porteous (2007) notes that there is limited impact of the mobile banking services on the access frontier, and the mobile phone has not been trusted as a device to facilitate banking transactions. The Access Frontier approach assesses use and access by separating the market into different zones for a particular product or service. The access frontier is the line that separates the market

accessing the services and those that could potentially access them (Porteous 2005). The review shows that there are diverse mobile financial services products developed to increase financial inclusion. Mobile financial services can have significant socioeconomic impacts on enterprises and individual users. However, there is need for further studies that explore the impact of mobile financial services on livelihoods.

2.11 Mobile banking use and adoption

A study on actual usage of mobile financial services can be a true reflection of the value and usefulness of the services to underserved communities. Whilst there are limited studies that focus on use and adoption of mobile banking facilities by low income segments of the population, some researchers have opened up the research field with interesting results.

Demirguc-Kunt and Klapper (2012) in a study of the Global Financial Inclusion (Global Findex), a database that has indicators on the financial activities of adults in 148 countries, discovered interesting results. They found that in sub-Saharan Africa, mobile money is catching on, as 16% of adults were found to have facilitated financial transactions using their mobile phones in the last 12 months at the time of the study. Medhi, Ratan and Toyama (2009) explored variations of use and adoption across four countries: India, Kenya, the Philippines and South Africa. The study found that use is highly dependent on household characteristics. Frequent use was established in families where rural and urban migration had separated breadwinners from their families. Mobile banking is used as a low cost effective facility for breadwinners to send money back to their families. Moreover, it was discovered that families who send their children to schools far from home have used mobile banking services to transfer money to their children for their day-to-day use. However, if the family was living together in the same area, none or limited use of the mobile banking facility was observed (Medhi, Ratan and Toyama 2009). Morawczynski and Pickens (2009) findings reflected the same results, as most of the rural respondents of M-pesa emphasised that the use was encouraged by urban-based relatives who regularly used the facility to send them money.

In addition, the proximity of service agents (shops, ATMs, branches) also determines use of services (Medhi, Ratan and Toyama 2009). In Kenya, Medhi, Ratan and Toyama (2009) noted that M-pesa agents are closer than post offices and other brick and mortar banks, resulting in increased use of the mobile banking service. In the same realm, CGAP (2009)

identifies super mobile banking users who do more than 12 transactions a month. These users were identified as those who stay close to an agent who converts their electronic value to cash. Furthermore, mobile banking is more efficient, safer and saves time, as opposed to waiting in long queues in the traditional banks and this encourages use of the service (Medhi, Ratan and Toyama 2009, Morawczynski and Pickens 2009, and Ivatury and Pickens 2006). Moreover, Medhi, Ratan and Toyama (2009) identify that in Kenya, the extended operating hours of M-pesa agents contributed to enhanced use of the service as opposed to traditional banks that have limited operating hours during the day. The convenience of being able to transact at any time is an additional reason for increased use of the mobile banking service. In their ethnographic study on the use and impact of M-pesa in two communities, Kibera and Bukura, Morawczynski and Pickens (2009) found an interesting factor that affects usage. They note that in the rural areas one factor that, led to non-usage of the system was the issue of cash shortages, as sometimes the M-pesa agents had no cash to perform transactions. In particular, the M-pesa agents had to travel distances to urban-based banks to replenish their cash, and sometimes the cash would run out and affect the usage of M-pesa. The ease of conversion of the electronic value to cash is a factor that determines use. This trend was more evident in urban areas for M-pesa users (Morawczynski and Pickens 2009).

Human interaction is essential for the adoption and use of mobile banking services. In their survey of mobile banking users and non-users (Ivatury and Pickens 2006). Ivatury and Pickens (2006) reveal that human interaction is still valued in the banking society despite the efficiency provided by technology. Moreover, the user manuals that came with the services were not in the local languages and therefore difficult to understand. This observation further highlights the importance of human interaction in the provision of services to provide additional assistance where needed. Morawczynski and Pickens (2009) identified that a barrier to usage of M-pesa were instances of failed transactions caused by congestion during peak periods. This is compounded by the failure to get through to Safaricom on the mobile phone and failure to get assistance from the Safaricom help desk which is supposed to rectify the problem. This observation was more particular to urban users.

Technological challenges include the inaccessibility of mobile banking applications on low cost mobile phones and a user's lack of understanding of technology functions which discourage adopters from using services (Medhi, Ratan and Toyama 2009, Ivatury and Pickens 2006). Challenges in navigating through the mobile phone features to facilitate a

transaction prevent the use of services. This is usually because of a lack of understanding of the new technology and the lack of skills to use the technology (Medhi, Ratan and Toyama 2009). Complexity of the process discourages usage (Ivatury and Pickens 2006).

In their 13 surveys of 16 708 branchless banking clients, McKay and Pickens (2010) identified that the use of branchless banking is strongly influenced by the price structure. The way that prices are structured is as important as the total price of using the service. If the cost of branchless banking is cheaper than traditional banking services, this motivates usage.

Support for the use of mobile phone and mobile financial services is common in low income communities. Some users seek assistance from friends, neighbours or an agent to transfer money for them when they have technical difficulties. They effectively hand over the hard cash or their phones to their assisting peers (Medhi, Ratan and Toyama 2009). Some users do not have their own personal phones, but still use mobile financial services through friends and family (CGAP 2009). The communal use of mobile financial services shows that human mediation is important for effecting successful transactions and sustained use (Medhi, Ratan and Toyama 2009).

Perceptions play a significant role in determining adoption (Medhi, Ratan and Toyama 2009). Some non-users that do not understand mobile banking services do not attempt to use the service because they assume that it would be difficult and expensive to use. Ivatury and Pickens (2006) argue that potential users can have negative perceptions of the services before using the facility. CGAP (2009) study of mobile banking in the Philippines finds that of 48% of low income unbanked Filipinos are sceptical about using mobile banking facilities as only 13% are willing to try it. However, once one uses the facility, the convenience and efficiency of mobile banking convinces the user to continue using the service (Ivatury and Pickens 2006 and CGAP 2009).

Using an ICT is influenced largely by their perceptions of how useful and complex the services are (Alampay 2006, Brown, Cajee, Davies and Stroebel 2003). Brown, Cajee, Davies and Stroebel (2003), in a study of factors influencing adoption of mobile banking in South Africa, found that most respondents were not willing to try mobile banking as it is considered difficult to use. Moreover, they find that perceived compatibility to one's lifestyle is an important motivating factor. This finding was echoed by Mbogo (2010), who reveals

that the use and choice of mobile banking by small businesses is highly dependent on its potential to contribute to business growth and its fit to the small business operations (Mbogo 2010).

Although usage is high for person-to-person electronic transfer services, urban-based customers have a tendency to use mobile banking for its feature of storing money (Morawczynski and Pickens 2009). The study of M-pesa customers in Kibera shows that a third of users save money in M-pesa either for daily consumption or for making weekly savings of small amounts. These savings will be transferred to rural-based relatives or saved for future use or for 'rainy days'. However, the fact that all savings do not earn interest -that is, M-pesa is not identified as a savings platform - discourages a habit of saving (Morawczynski and Pickens 2009). CGAP (2009)'s study on Philippine users of Smart Money and GCash also found that users do not actively save in their mobile wallets as they find that only 1 in 10 users store an average of USD \$31 in mobile wallets, an estimated 25% of household savings.

The mobile phone based savings facility is preferred over the normal saving methods because savings are safer as electronic money than 'under the mattress'. Trust in the technology and the service provider determines usage. Users of M-pesa prefer to save money in their M-pesa accounts than in the traditional savings banks because they trust Safaricom. (Morawczynski and Pickens 2009). However, in areas where cash shortages can result in users failing to withdraw their money when they need it, especially the rural areas, some users prefer not to save their money in the mobile account (Morawczynski and Pickens 2009).

Oluwatayo (2012) finds that social and economic contexts impact usage of mobile phones in accessing financial services. In his survey of 360 farming households in Ekiti and Osun States in Nigeria, he found that usage of mobile banking is correlated to the factors that include age, years of formal education, membership of cooperative society/social groups, gender, poverty status, household size, location and access to electricity. His Tobit analysis revealed that as age and formal education increases, so does usage of mobile banking, however when household size increases, usage decreases. Additionally, he found that membership to social groups presented platforms for training of mobile banking and therefore impacted usage positively.

Users of mobile banking have increased their savings, as it is now an additional channel to save money in conjunction with their informal savings mechanism (Morawczynski and Pickens 2009). Mobile banking has been included in the risk diversification portfolio by the poor; as more savings facilities become options, the less the poor are exposed to losing their savings.

Ismail and Masinge (2011) conducted a quantitative study in townships in Johannesburg, South Africa, to determine the adoption of mobile banking by the poor. In their survey of 30 participants they found that factors that influence the adoption of mobile banking by the poor included perceived ease of use and usefulness as well as affordability of the services.

The Morawczynski and Pickens (2009) study employed the use of financial diaries complemented by a survey, revealed the volume and value of mobile banking activity,. Most studies of mobile banking in South Africa used more quantitative approaches through surveys to understand the use of mobile banking by the poor (Ivatury and Pickens 2006, and Porteous 2007). Ivatury and Pickens (2006) employed a telephone survey whilst Porteous (2007) used a questionnaire survey of both users and non-users of mobile banking services. The studies, therefore lacked an in-depth understanding of the underlying factors that determine the non-use and use decisions.

The literature reveals that the mobile phone can improve accessibility of the underserved poor, and presents an opportunity for mobile banking expansion. Literature shows that usage is determined by a number of factors that include technological challenges, ease of use, proximity of agents and usefulness levels. It shows that mobile banking has rapidly developed in Africa, but the factors that influence usage or non-usage of the mobile banking facilities need to be explored further from a more qualitative perspective. Together with the context and patterns of use, this area deserves further exploration in a development context without focusing on the supply of technology, but rather focusing on its potential impact on the livelihoods of the poor. There is clearly a need, therefore, for an explorative study using a qualitative approach to provide a richer understanding of the factors considered in the usage decision and the context of use.

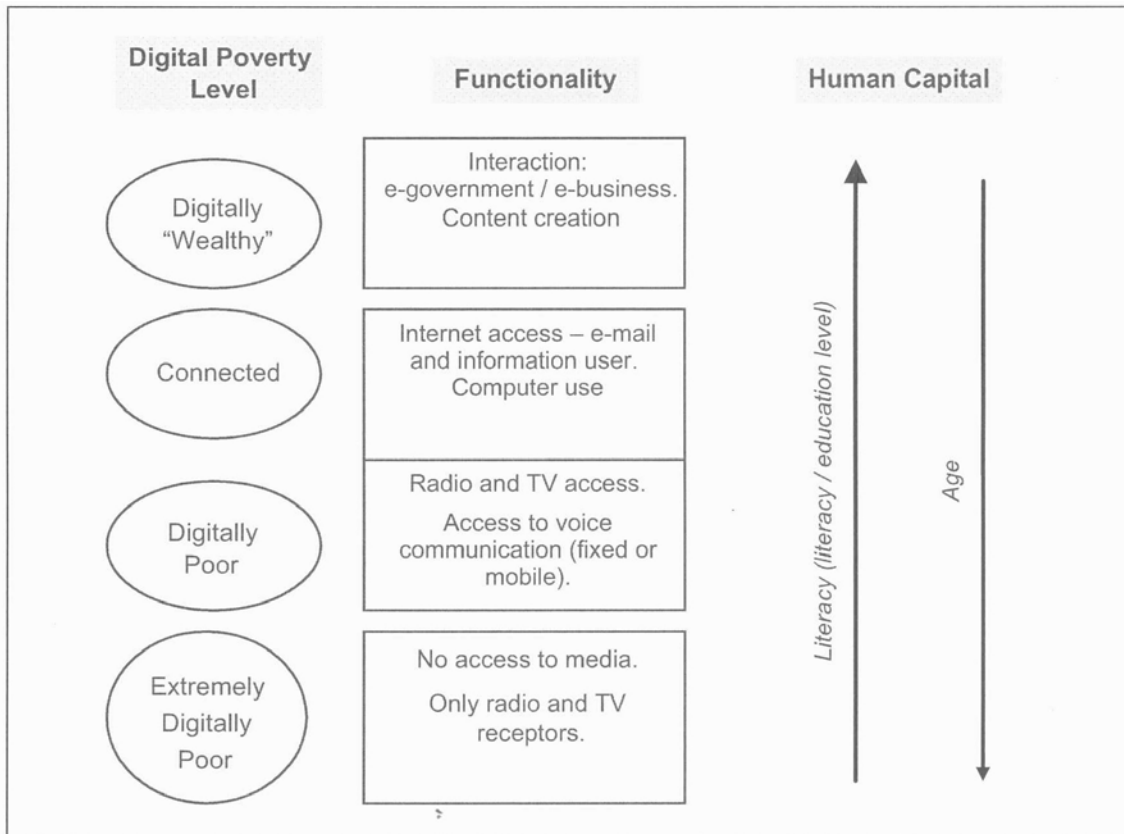
2.12 Theoretical framework

In their assessment of mobile financial services literature, Duncombe and Boateng (2009) found that most studies are not based on conceptual frameworks or theories. In their survey of Wizzit Bank users and non-users, Ivatury and Pickens (2006) did not utilise a theoretical framework. Morawczynski and Pickens (2009) also conducted an ethnographic research on the users of M-pesa in Kenya. However, some theoretical frameworks have been used in studies. The Technology Acceptance Model (TAM) has been used to analyse the impact of mobile payments on micro businesses (Mbogo 2010). Usefulness, ease of use and social norms are suggested by the model as factors that influence the adoption of the mobile applications. Although the approach is mature and is considered robust, Lee and Jun (2007) argue that the TAM does not capture the reasons of non-use of mobile applications by mobile phone users. The Sustainable Livelihoods Framework (SLF) has also been used in ICT studies. May (2012) uses the SLF to incorporate the multi-dimensional poverty indicators in ICT access analysis in East Africa. Duncombe (2006) also uses the SLF to explore the impact of ICTs on micro enterprises.

The SLF has been combined with the Capabilities Approach in some ICT studies. In an analysis of the role of ICTs in empowering marginalised communities Gigler (2004) uses a framework that combines the Capabilities Approach with the SLF. Barrantes (2005) utilises the concept of digital poverty to explore the relationship between poverty and ICTs. Barrantes (2005) notes one can be digitally poor because of three factors. Their lack of supply of ICTs, their economic status and their lack of capacity and capabilities to use ICTs.

An individual is defined as extremely digitally poor when he/she lacks access to media and information and communication facilities. This is usually owing to low income and a lack of knowledge about available technologies. Barrantes (2005) identifies three categories of digital poverty as depicted below in Figure 9. The levels range from 'extremely digitally poor' that is, not digitally connected, to 'digitally wealthy', i.e., frequent users of technology who have access to various technological applications.

Figure 9: Digital Poverty



Source: Barrantes (2005)

She defines the category of the extremely digitally poor as individuals who have access only to radio and TV, and only use them for receiving information. The digitally poor are those who have access to mobile or fixed telephony and are capable of utilising digital media, but have limited use because of human capital limitations such as age, literacy levels and education levels. The connected category includes individuals that have access to digital media, but use the information services passively. This is in contrast to the digitally wealthy who have access to ICTs and have the knowledge to effectively use them and do so actively.

Barrantes' (2005) approach considers the importance of understanding the actual usage of ICTs to determine the levels of digital poverty to be able to direct policy formulation and interventions on the demand side of ICTs. She uses the approach in analysing the 2003 Peruvian National Survey of Living Standards (ENAH0) to classify the Peruvian households according to the digital poverty classifications. Barrantes' (2005) approach to measuring

digital poverty is useful to this study as it places emphasis on capabilities and exploring actual usage of ICTs in determining policy.

In this study, the Capabilities Approach will be used in understanding the use of mobile banking services by the urban low income earners in South Africa.

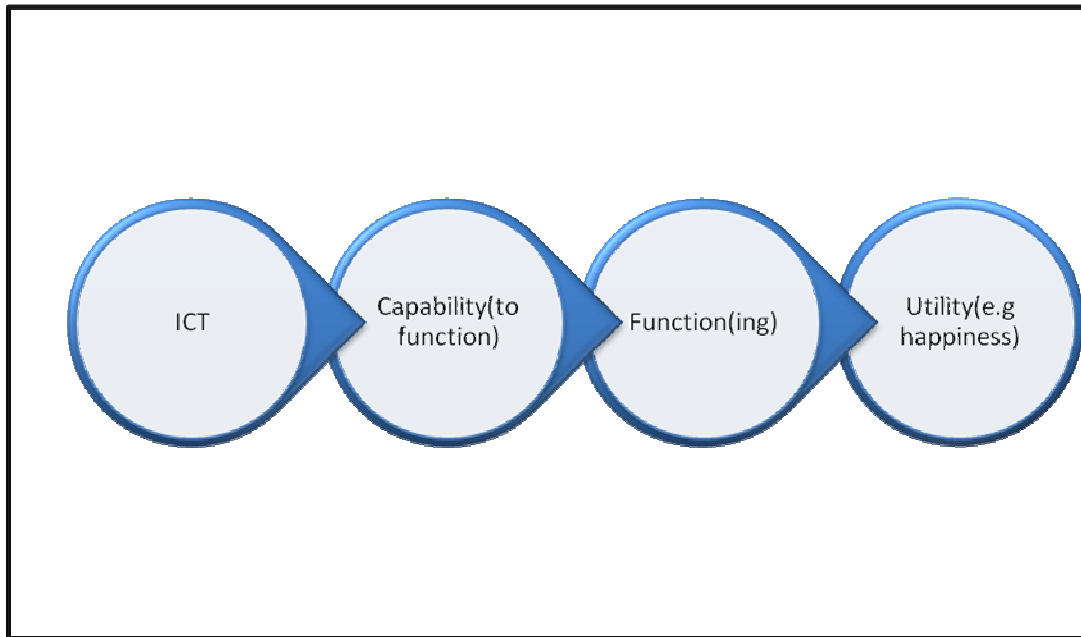
2.13 Amartya Sen's Capabilities Approach

The Capabilities Approach views development as a '...process of expanding the real freedoms that people enjoy' (Sen 1999:3), emphasising development as an end and not only a means through the removal of 'unfreedoms.' In other words, freedom, in Sen's view, is essentially: 'both the processes that allow freedom of actions and decisions, and the actual opportunities that people have, given their personal and social circumstances' (Sen 1999: 17).

2.13.1 Capabilities and functionings

In his Capabilities Approach, Sen claims that in development, what is important is what a person can do and can become, given access to a set of goods and services (Gigler 2004). He discusses this in terms of capabilities and functionings and their relationship to development. A capability is an individual's ability to realise what they value in life (Clark 2006). Capabilities are the set of opportunities that are made available for an individual to be and do what they wish in life. Given access, the chosen use of the commodity is what Sen refers to as functionings (Clark 2006). Functionings are, therefore 'that which a person may value doing or being' (Sen 1999:75). These can be as simple as nourishment or as intricate as happiness, community acceptance and participation (Garnham 1997). Capabilities therefore are 'the alternative combinations of the functionings that are feasible for her to achieve' (Sen 1999:75). Therefore, realising what an individual values (functionings) and achieving them depends on capabilities (Clark 2006), as shown in Figure 10 below:

Figure 10: Amartya Sen's Capabilities Approach



Source: Clark (2006) adapted by author

The Capabilities Approach states this conversion to functionings depends on an individual's choices based on personal characteristics, economic and social circumstances. These conversion factors can restrict or enable developmental outcomes. The approach highlights that, 'While access to a basic good is a prerequisite to use... Differences, capabilities and choice play a role as to whether people make use of these goods, how they apply them, and how they are valued' (Alampay 2006:12). When capabilities are not translated into actual functionings they are termed 'unrealised functionings'. This is linked to the concept of freedom as some social, personal and environmental factors would have restricted the freedom of an individual to be what they value in life. 'Realised functionings' are therefore successful conversions of capabilities into actual functionings.

2.13.2 Conversion factors

Sen emphasises the conversion of goods and services into actual capabilities and the conversion of capabilities into functioning is dependent on social, environmental and personal factors (Sen 1999). Social factors include social norms, social institutions and power structures within communities. Environmental factors include infrastructure, resources and

public goods. Personal factors gender, literacy, mental and physical conditions of the individual.

ICTs can expand capabilities and facilitate conversion of capabilities to functionings (Clark 2006). However, social, environmental and personal factors can determine access and use of mobile banking and the achievement of financial inclusion. 'Hence, knowing the goods a person owns or can use is not enough to know which functionings she can achieve; therefore we need to know much more about the person and the circumstances in which she is living' (Robeyns 2003: 13). This is the focus of this study, to fully understand that conversion factors that determine use of mobile banking by low income earners.

2.13.3 Freedoms

According to Sen (1999), freedom is a set of opportunities that allow individuals to do what they value in life or what gives an individual the chance to choose and make a decision and act. 'Unfreedom can arise either through the inadequate processes or through inadequate opportunities that some people have for achieving what they minimally would like to achieve' (Sen 1999:17). According to Sen, unrealised functionings have a negative impact on one's well-being and development.

Sen (1999) introduces five instrumental freedoms, firstly, political freedom around determine governance structures and the underlying principles. Secondly, economic facilities refer to the freedom to use economic resources. Thirdly, social opportunities highlighting the societal arrangements around access health, education and others that improve one's opportunities to live a better life, Fourthly, he promotes transparency guarantees encouraging transparency and trust. And lastly, protective security in relation to safety nets for providing for vulnerable members of society. The instrumental freedoms are what Sen claims can be enhanced by ICTs (Sen 2010).

With a given set of opportunities matched with the appropriate capabilities, an individual should also have the freedom to choose from available options in line with what they value in life. This freedom allows them to change their lives for the better, contributing to development (Sen 1999). Sen's Capabilities Approach, is therefore, a useful analytical tool for deconstructing the choices made by individuals given access to mobile banking, and for

understanding the reasons for demand of such services and value placed on using the services (Alampay 2006).

2.13.4 Limitations of the Capabilities approach

Given the versatility and flexibility of the approach, the Capabilities Approach has been utilised in the analysis of a wide variety of developmental challenges. The approach is used as a framework in understanding poverty, inequality and human development, and has secured a place in development discourse (Alampay 2003). Some studies have recommended that the Capabilities Approach be used in examining ICTs and their impact on development (Comim 2001, Gigler 2004, and Alampay 2006). These studies concluded that the approach was effective in its placement of technological aspects in a developmental context. Gigler (2004) recognises that the Capabilities Approach is holistic and allows for the distinction of access and use of ICTs in the ICTs for development debate. Given that this study focuses on the factors or opportunities which influence use of mobile banking services and the contexts of use by urban low income earners, the Capabilities Approach by Amartya Sen is most appropriate for the study.

Although the approach is useful, the approach has been met with some criticism. Robeyns (2003) emphasizes CA should be used as a broad framework and supports the self selection of capabilities, but some scholars have criticised this. Nussbaum (2003) insists that leaving the selection of capabilities to individual users of the framework questions the moral foundations of the selection.

Gigler (2004) and a number of scholars note that some capabilities are difficult to measure. This presents difficulties in data gathering. Other scholars go on to point out that, although it is a comprehensive approach, there is a challenge in the practical implementation of it (Kleine, Light and Montero 2012). The approach has therefore been criticised for its incompleteness and vagueness (Nussbaum 2003) however, Robeyns (2005) defends the incomplete nature or inapplicability of the approach, stating that it was meant to be applicable in a variety of areas and not to be too prescriptive.

UNCTAD (2010) notes the following limitations of the Capabilities Approach:

- i. The approach requires an academic interpretation for relevant application, as the outline of the framework does not present a readily applicable framework.
- ii. Additional clarification is required with respect to freedoms and capabilities.
- iii. The approach has proven to be complex in that capabilities are both inputs and outputs of an ICT-based developmental project.

Therefore, one major debate has been on the challenges of operationalisation of the Capabilities Approach.

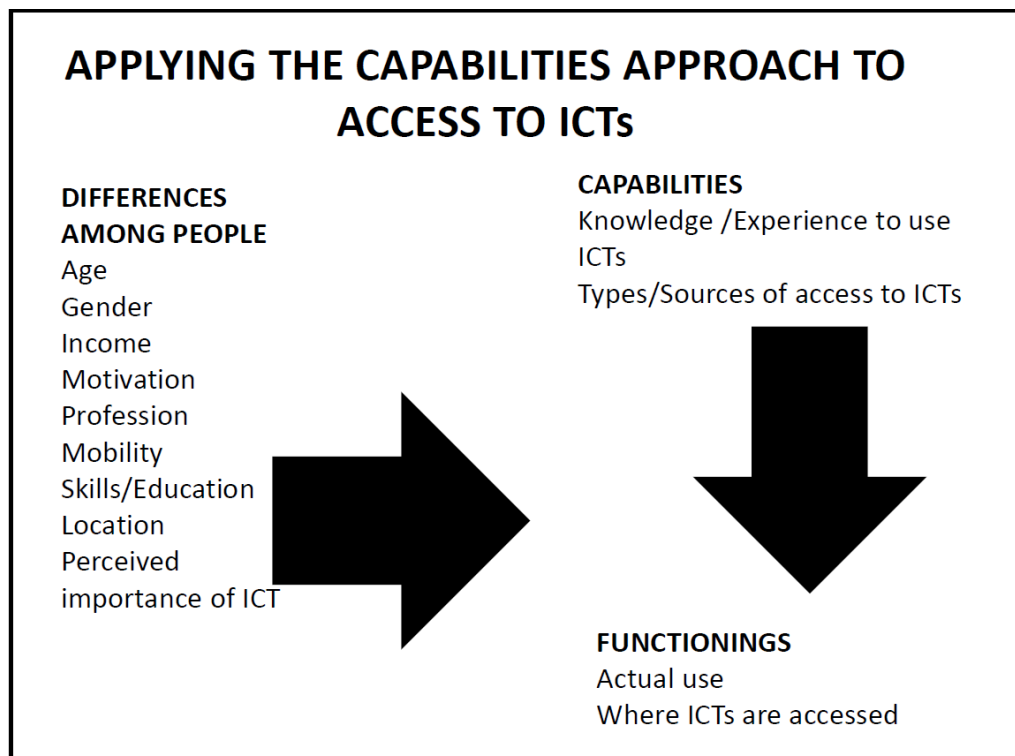
2.13.5 Operationalising the Capabilities Approach

A number of scholars have attempted to operationalise the Capabilities Approach. Gigler (2004) refers to the solution proposed by Bebbington (1999). Bebbington chooses to operationalise the Capabilities Approach by combining it with the SLF and creating new capitals. By linking capabilities with capitals, the framework recognises that capitals are essential in enhancing capabilities that can improve livelihoods.

Kleine (2010) proposes the Choice Framework as a way of operationalising the Capabilities Approach. The Choice Framework is a simplified approach that expands the Alsop and Heinsohn framework, and draws on the SLF. The framework places emphasis on the existence of individual choices, the capacities to realise them (empowerment) and the use of the choices. Although the framework needs to be developed further, it highlights the importance of choices, and how they impact developmental outcomes directly (Kleine 2010). It is a useful framework for use in developmental projects (Kleine, Light and Montero 2012). Another design framework - termed the Capable and Conviviality Design (CCD) - was also recently proposed by Johri and Pal (2012). Built on the Capabilities Approach, the design framework focuses on four aspects of ICT4D: Accessibility, Creativity/Intensification, Accomplishment of Self/Others and Participation/Collectivity. The framework advocates for more user-centred designs in ICT (Johri and Pal 2012).

Alampay (2003) proposes an approach to operationalise the Capabilities Approach, particularly in regard to ICT access and use. Alampay (2003) proposes the framework taking into account the distinction that Sen makes between the capabilities (opportunities) and the realised functionings (what a person values and actually does). Its applicability is depicted in Figure 11 below:

Figure 11: Applying the Capabilities Approach to ICTs



Source: Alampay 2003

According to Alampay (2003), the realised functionings with regards to ICTs are actual uses of ICTs. The opportunities that ICTs present are essentially the capabilities. However, capabilities are not always converted into actual functionings. Although ICT access and knowledge of use present opportunities, this does not necessarily translate to actual ICT use. Figure 11 summarises Alampay's (2003) illustration of how the Capabilities Approach can be used in the ICTs for development debate. He claims individual and household differences affect this conversion of capabilities to functionings. To operationalise the approach, he proposes understanding individual characteristics that include gender, income, motivation and location, and how characteristics help people determine individual freedom and use an ICT. These factors should be explored to understand how actual opportunities are translated into realised functionings. This builds on Sen's argument that the same bundle of opportunities can be converted differently, depending on what the individual values and other

socioeconomic factors. Alampay (2003) uses the approach to conduct a survey of 269 respondents in Puerto Princesa City. The study sought to understand how demographic factors influence use and value placed on an ICT therefore to operationalise the CA this study analyses the differences among individuals that determine conversion of capabilities into functionings. The study will specifically consider age, income, gender, motivation of use, profession/mobility (employment and the mobility associated with it), location (distance between users and their family/dependents) and skills with regards to technology. These conversion factors will guide the presentation of the findings.

2.14 Rationale for choice of framework and suitability

The Capabilities Approach will be used in this study and operationalised through Alampay's (2003) framework. Some studies have successfully utilised the Capabilities Approach in the ICT for development debate (Alampay 2003). In his study of the use of ICTs by the poor in rural and urban Puerto Princesa City in Palawan, Alampay (2003) conducted 269 household surveys using the Capabilities Approach to understand how people can transform ICTs as a capability into functionings by understanding why and how the poor use ICTs.

Alampay (2006) argues that mere access to ICTs does not mean development; however the important aspect is the action that follows access. Using the Capabilities Approach in the ICT4D debate ensures that the focus of ICT development is human development and user focused. The Capabilities Approach views ICTs as tools that enable capabilities which will allow for achievement of greater functioning and improvement of the lives of individuals. The Capabilities Approach emphasises the importance of functioning, and is therefore rightfully placed in this study. This is the basis for this study, which is to understand the reasons of usage of mobile banking by the unbanked and underbanked, and explore the context of usage in a developmental context. This will feed into Sen's greater objective of development being recognised as a means and not an end in itself.

An individual has the choice to use or not to use his or her capabilities and translate them into functionings. This study seeks to understand the factors that influence this decision for those given the opportunity to use mobile banking services. Moreover, the study will further explore the socioeconomic contexts within which these decisions are made. Gigler (2004) accepts that there is no automatic causal relationship between access to resources like ICTs

and improvement of livelihoods and empowerment. Realisation of a function is dependent on various factors that include age, income and profession. The factors that influence use can be multi-dimensional, including social, economic and technological spheres. It is these factors that can contribute to or inhibit the realisation of functionings that this study seeks to explore. Sen's Capabilities Approach has been hailed as a holistic approach to development and presents critical tools to assess ICT4D initiatives. Therefore, the framework is suitable for this study as it will incorporate multiple aspects that can influence use of mobile banking services.

2.15 Chapter conclusion

The review has summarised the studies pertaining to ICTs and development, and has specifically presented critical literature in the debate of ICT and development, with particular emphasis on mobile phones. Mobile technology literature, particularly on financial services provision, was outlined and indicated the need for studies that can feed into impact studies. The review has shown that there significant qualitative studies, particularly on adoption and use by low-income earners but there is limited empirical evidence on the impact of mobile banking. This study, therefore seeks to redress the difference by exploring the use, contexts of use and use patterns of mobile banking services among urban low-income earners to contribute to literature on impact of mobile banking. This perspective solidifies the relevance of this study.

In addition, the chapter has outlined the proposed theoretical frameworks and the rationale of using the Capabilities Approach framework for understanding the factors that influence the choice of using or not using an ICT platform to facilitate financial transactions. In relation to mobile banking, it is expected that the essential capabilities are the knowledge of the existence of mobile banking solutions and the knowledge of how to use the eservices. Realised/actual functionings will be the actual use of the services however inability to use the services due to conversion factors may result in them not having the freedom to decide if they want to be financial included or not, an 'unfreedom'.

CHAPTER 3: Context of Study- ICTs and banking the unbanked in South Africa

This chapter will outline the country of study, South Africa, and where this sub-Saharan African country is situated within the mobile banking industry. The chapter will further outline the ICT and financial sector developments in South Africa, particularly within the telecommunications sector, as well as the growing mobile phone industry. This section will additionally describe financial inclusion, mobile phone technology and mobile banking in the context of South Africa.

3.1 The unbanked and the financial sector in South Africa

In 1994, South Africa ushered in a new era with a democratically elected government taking office. Due to the unequal distribution of wealth amongst the South African population, the government inherited a country with one of the most unequal income distributions in the world. The apartheid system discriminated against the black majority population, which resulted in unequal access to economic opportunities and the favouring of the white minority. According to the racial classifications of the apartheid era, 'black' was a collective term for Africans, Coloureds and Indians. The post-apartheid government's mandate focused on inclusion of these previously disadvantaged groups into the pro-poor development process in all sectors of the economy. This included a drive to ensure equal and improved access to services to address the race-based inequalities. The financial sector was no exception. The new government committed to ensuring improved access to the formal banking system by the black majority.

Despite noted improvements in financial inclusion, the poorest of the South African population remains largely unbanked (World Bank 2013). With high unemployment among the previously disadvantaged population groups, many poor South Africans do not have the requirements to access formal banking service (Paulson and Andrews 1999). The South African financial system has been deemed the most developed and sophisticated system in Africa, yet formal financial services are still inaccessible to previously disadvantaged populations (Collins et al 2009). The South African financial sector has four major banks: ABSA, Nedbank, Standard Bank and First National Bank (FNB), and these banks command 84% of the formal banking market share, along with a few smaller financial institutions,

including Capitec Bank and Ubank (World Bank 2013). The country has a wide distribution of cash dispensers and ATMs. It is, however, estimated that despite this well-developed financial sector, over 12 million South Africans are unbanked (World Bank 2013).

A FinMark survey in 2006 reveals that people consider banking services, to be important, and only about 7% of respondents were unbanked out of their own choice (FinMark Trust 2006). The rest of the respondents cited supply side and demand side factors that resulted in their exclusion from the formal banking sector. Supply side factors included lack of identity documents, high unaffordable service fees, and minimum balances, whilst demand side factors were identified as low incomes and high unemployment (FinMark Trust 2006). The financial institutions, on the other hand, specified that they do not extend financial services to low income groups because a) they often lack proper documentation, b) most do not receive a regular income, and c) they are inaccessible. It is therefore risky, costly and unprofitable to provide financial services to them (Gibson 2006).

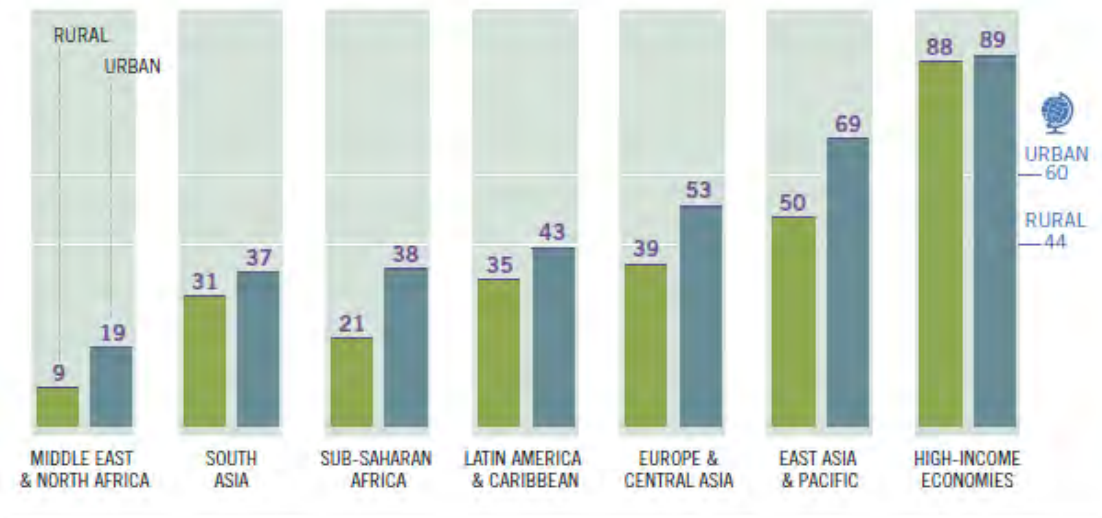
The unbanked - according to Barr (2004) - exhibit the following characteristics: they are generally low income earning families, large families with many children, with limited education, unemployed or do not own their own homes. In South Africa, the unbanked are not formally employed and are dominated by young black members of the population (FinMark Trust 2009).

Nigrini (2001) notes that, in post-apartheid South Africa, approximately 16.71 million South Africans are living in rural areas, constituting 38% of the population. However, formal financial institutions shy away from providing financial services such as essential savings, credit and insurance services to rural areas, for various reasons. Firstly, the rural areas were too remote and the cost of providing these much-needed services could not be justified, given the low income earned by rural citizens. Secondly, low population density and low business activity did not warrant the investment in rural locations. This left the rural poor with high transport costs to access banking services at the nearest banking institution. Nigrini (2001) cites (Schoeman, undated) that a trip to the nearest bank costs between R10 and R50 and travelling time of a day or two. Due to their exclusion from the formal financial sector, the rural poor then resorted to informal cooperatives, rotating savings, credit groups and burial societies (Ardington and Leibbrandt 2004). Most recently, township moneylenders called loans sharks who lend money to low income earners at exorbitant interest rates have become

a common resort for the excluded (FinMark 2013b). The rural population remains underserved due to the cost of banking penetration and the physical barriers to access to rural areas.

With rapid increases in urban populations, the UN-HABITAT estimates that at least 65% of the world population will be urban dwellers by 2030 (UN-HABITAT 2005). The World Bank also estimates that in the next thirty years, the urban population will become the majority in African countries (Kessides 2005). Africa's urban residents are expected to increase by over 300 million between 2000 and 2030 due to rural-urban migration and natural population increases (Kessides 2005). African governments are struggling to provide essential services, water, sanitation and housing to all and to ensure good standards of living. There is therefore a proliferation of urban poverty in Africa due to urban population growth (Kessides 2005). The urban poor rely on cash-based transactions and mostly live in overcrowded slums, with inadequate water supply and poor sanitation (Kessides 2005). In their review of 142 countries CGAP (2010) found that most commercial banks in both developing and developed countries were located in urban areas, with only 26% of branches located in rural areas. Despite this advantage of having banks in their backyard, some urban dwellers in Sub-Saharan Africa are underserved. Urban dwellers are conveniently located within reach of services and service providers. However, this does not necessarily assure them of access to services (Kessides 2005). Although there are more adults with bank accounts in the urban areas in comparison to the rural areas, as shown below, the percentage of the banked is still low. As shown below in Figure 12, of the banked population in Sub Saharan Africa, 38% are urban dwellers, with only 21% in rural areas. (Demirguc-Kunt and Klapper 2012).

Figure 12: Account penetration in urban and rural areas

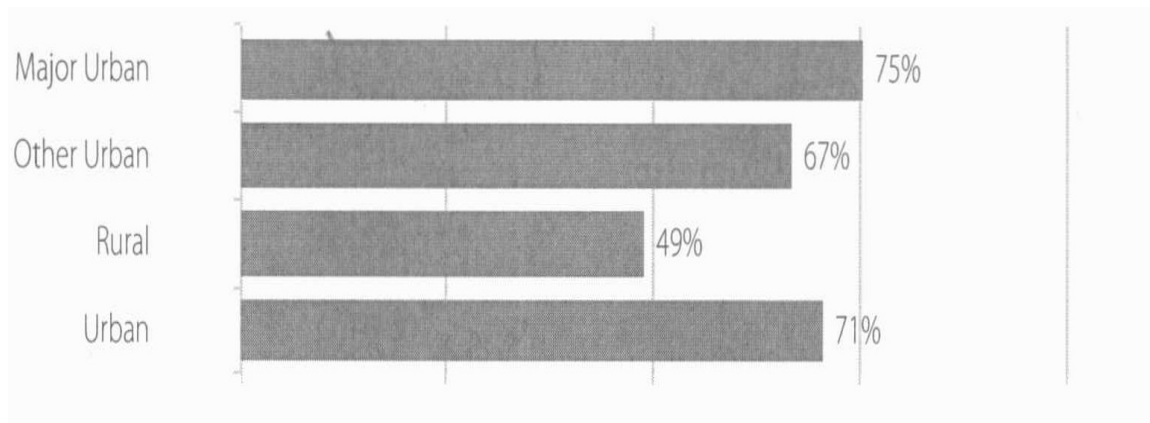


Source: Demircuc-Kunt and Klapper (2012)

In South Africa, the rapid urbanisation and poverty in urban areas increased significantly, whilst rural poverty rates have been decreasing since the end of the apartheid era (Leibbrandt et al 2010). The rapid increases in the urban population can be attributed to both rural and urban migration and natural increases. The 2013 FinMark Trust study identified that in South Africa, 84% of the urban dwellers are banked, whereas only 67% of adults in the rural areas are banked (FinMark Trust 2013). Despite the growing poverty levels and low usage of banks in urban areas, the penetration of ICTs has been faster in urban areas in Africa.

In 2009, South Africa had 71% of urban dwellers owning mobile phones and only 49% of rural dweller owning mobile phones, as illustrated below. Figure 13 below shows the mobile phone ownership by geographical areas in South Africa.

Figure 13: Ownership of phones of urban vs. rural in SA -2009



Source: Esselaar et al (2010)

There have been significant improvements in mobile ownership among the rural poor in developing countries, but use of mobile-based solutions is still higher in urban settings due to better network coverage (ITU 2013). Interestingly, in the ICT4D debate the mobile phone and the internet have been noted to be the low cost technologies that have the greatest potential to contribute to poverty reduction in urban low income settlements (Raha and Cohn-Sfetcu 2009). The urban setting, therefore presents an interesting background to study the potential of the mobile phone in impacting on poverty.

3.2 Banking services for the unbanked poor in South Africa

In the post-apartheid fight against poverty, the South African state and the financial sector identified the need for basic financial services for the rural and urban poor as a key to achieving economic growth (Ardington and Leibbrandt 2004). In October 2003, out of various roundtable discussions in the financial sector, the Financial Sector Charter was established. The charter was a volunteer commitment by the financial sector and other stakeholders (including government) to increase access to financial services to the unbanked poor by the year 2008 (Ardington and Leibbrandt 2004). Its objective was to ensure that the development of a financial sector was racially inclusive, in line with the black economic empowerment efforts for the whole economy (Bankable Frontier Associates 2009). The commitment was to be involved in *‘actively promoting a transformed, vibrant, and globally competitive financial sector that reflects the demographics of South Africa, and contributes to the establishment of an equitable society by effectively providing accessible financial*

services to black (i.e. previously disadvantaged) people and by directing investment into targeted sectors of the economy'. (Financial Services Charter: 1, 2004)

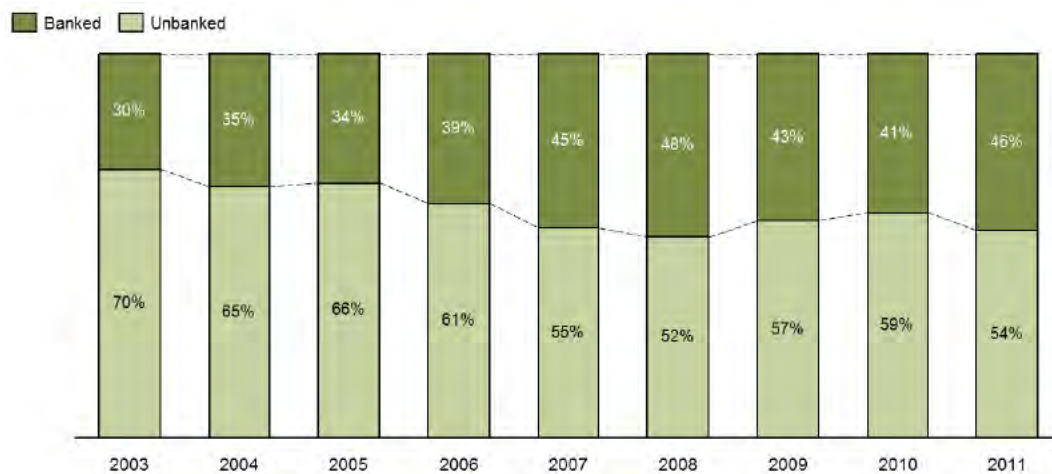
The Mzansi account was the first initiative by financial institutions in response to the Financial Sector Charter. The account was initiated by the big four banks, in collaboration with Post Office, who shared the costs and the risk of the project. The Mzansi account was an entry-level basic bank account which provided the low income client with a magnetic strip debit card and had low transaction costs with no minimum balance. The initiative received an encouraging response, and resulted in an increase in the percentage of the banked in South Africa by 17% from 46% in 2004 to 63% in 2008. Six million new accounts were opened, resulting in one in six banked people in South Africa owning an Mzansi account (Bankable Frontier Associates 2009).

Unfortunately, when the Financial Sector Charter period of commitment came to an end in 2008, so did the attention paid to the Mzansi account. Although the account was not pulled out of the market, the initiative had lost its momentum (Bankable Frontier Associates 2009). With the banking sector not willing to continue maintaining low cost accounts, most of which were not active, promotion of the product steadily declined (Bankable Frontier Associates 2009). The unbanked poor generally do not make frequent transactions and maintain low or no balances in their accounts. Most Mzansi account holders would withdraw all their deposited money and conducted no other transactions (FinMark Trust 2013a). Additionally, the Mzansi account proved costly for the banks involved, and after 2008, the banks increased fees associated with the account (Fisher-French 2012). It also proved too complex for low income users despite addressing the cost of the services, but failed to take into account the low branch network and other barriers for the bottom of the pyramid (FinMark Trust 2013). The Mzansi account lost its momentum, and financial inclusion still remains an issue of concern, although the Postbank, housed by the Post Office, continues to offer it and other services to low income groups. The Bankable Frontier Associates (2009) report on the Mzansi account highlights that some financial institutions like Capitec Bank have begun to offer banking services to the low income segments of the population. Following the failure of a standardised product, some banks have also introduced their own innovative solutions to the need for low cost banking services, which some low income earners have opted for. These include, among others, the Standard Bank Access Account and Nedbank Ke Yona Account. These services offered by the different banks to their own

clients are easier to manage, prove less costly and offer more services than the Mzansi Account (Fisher-French 2012).

The retail sector has also been targeting low income earners. For example, Shoprite, through its partnership with Capitec, offers transfer services through its nationwide network of retail outlets (Deloitte 2010). The service is widely used in South Africa. However, despite the efforts enforced by the Financial Sector Charter and these recent financial products over the years, there is still a portion of the South African population that cannot access formal banking services, and there is an urgent need for initiatives which will allow for the provision of cost-effective and needs-based banking products. The impact on financial inclusion efforts over the years is shown below:

Figure 14: South Africa Banking landscape- 2003- 2011



Source: Adapted from FinMark Trust (2013a)

Of particular interest is the significant increase in the banked from 2006 to 2008 due to the introduction of the Mzansi account. The National Treasury department of South Africa published a policy document on financial inclusion in February 2011. The document emphasised the commitment of the department to financial inclusion, placing it as one of the top four policy priorities for the financial sector at large. It acknowledges the need for financial inclusion in order to attain inclusive economic growth. Its specified intentions are to increase access of the poor to financial services by supporting the Post Office and other dedicated institutions, create an enabling environment and implementing reforms for micro

insurance (National Treasury 2011). The telecommunication sector of the economy has also been undergoing developments that may present opportunities for the 'banking the unbanked' challenge.

Recently the government introduced the South Africa Social Security Agency (SASSA) grant system that ensured that all grant recipients own a MasterCard branded card for receiving government grants. With 27% of the SA population receiving government grants, this has significantly contributed to financial inclusion and savings, particularly among women (FinMark Trust 2013). The proportion of unbanked adults in South Africa was reduced to 25% in 2013 from 33% in 2012 (FinMark Trust 2013).

3.3 Trends in the South African telecommunications sector

Until the 1990s, Telkom enjoyed a fixed line monopoly in the telecommunications sector under the managed liberalisation policy. With regards to access to telecommunications, in 1994, the ANC reiterated in its Reconstruction and Development Programme that it intended to 'provide universal affordable access for all as rapidly as possible' (ANC 1994: 2.8.4). The government acknowledged the role it had to play in increasing access, awareness and encouraging usage of ICTs for achievement of socioeconomic goals. Through a policy of the managed regime, the South African telecommunications sector went through a liberalisation and privatisation process, driven by the World Trade Organisation, to privatise state owned entities. The White Paper on Telecommunications and promulgation of the Telecommunications Act of 1996 paved the way for the partial privatisation of Telkom.

After numerous setbacks and a tedious monopoly battle, Neotel was finally licensed as South Africa's second national fixed line operator in 2005, began operations in 2006 and challenged Telkom's fixed line monopoly. During the reform of fixed line operations, the mobile phone industry emerged in the 1990s. The first mobile network provider to be issued a licence in South Africa was Vodacom (Voice Data Communication) in 1993, followed by Mobile Telephone Networks (MTN) in the same year, and in 2001, Cell C launched its services to the South African population. Vodacom, MTN and Cell C are now the three major players. Recently, Telkom launched its own mobile phone service, coined Telkom Mobile.

South Africa's mobile phone services have grown significantly over the years in comparison to its African counterparts. ITU (2009) estimates that in 1989 there were less than 4,000

mobile subscriptions in South Africa. South Africa was the only country in Africa with mobile cellular network at that time. However, by the end of 2012, it is estimated that the mobile penetration in South Africa was at 123%, the highest mobile penetration in Africa (Deloitte and GSMA 2012).

In 2008 the communications sector was responsible for an estimated 2.8% of gross domestic product in South Africa (Esselaar et al 2010). Although South Africa's telecommunications network is considered the biggest and most developed in Africa, Research ICT Africa's study reveals that the mobile phone penetration in South Africa is still low when compared to other countries with similar contributions to GDP, such as Brazil and Mexico (Esselaar et al 2010).

3.3.1 Policy and regulatory environment

The Department of Communication (DoC) is responsible for telecommunications policy in South Africa. The Department has the following mandate:

'To create a vibrant ICT sector that ensures all South Africans have access to affordable and accessible ICT services in order to advance socioeconomic development goals, and support the Africa Agenda and contribute to building a better world' (DoC Annual Report 2010:10).

The DoC is therefore responsible for ensuring the development of a robust communication environment for the South Africa population. This is done through developing ICT policies and legislation, developing and supporting reliable infrastructure for ICT services, and strengthening the ICT regulator, whilst also providing oversight of State Owned Enterprises (SOEs).

The Independent Communications Authority of South Africa (ICASA) is the regulatory arm of the DoC, and is empowered by the ICASA Act. According to the ICASA Act of 2000, ICASA is the regulator of telecommunications and broadcasting industries, and is the licensing authority for telecommunications and broadcasting service providers. Therefore, ICASA is responsible for regulating the telecommunications and broadcasting industries of the South African population. In addition, it is responsible for ensuring that services offered are affordable, are of high quality and protect the population from unfair business practices. Other ICT support organisations include the Universal Service and Access Agency of South Africa (USAASA), which reports to the DoC. In terms of section 80 of the Electronic

Communications Act No. 36 of 2005, USAASA has the mandate to promote Universal Service and Access to communications technologies and services to every South African. Additionally, USAASA provides evaluation and monitoring services to new developments that seek to improve universal access and service. USAASA manages the Universal Service Fund that facilitates infrastructure development and support to telecentres and school cyber labs (DoC 2010).

However, ICASA, the regulator has been viewed as a deterrent to progress in the telecommunication sector as the managed liberalisation programme has high barriers to entry (Esselaar and Gillwald 2007). Pricing of mobile services have been stable, but are comparatively high in Africa. This ineffective regulation of pricing for mobile services has impacted access and usage (Comninou et al 2010). The Telecom Regulatory Environment (TRE) assessment has rated the South African telecommunications regulation ineffective in all categories (Comninou et al 2010). TRE is basically a tool used to assess the effectiveness of laws in the telecommunications sector. Using a scoring system, the tool can identify the state of regulatory performance for a communications sector in a country. It is therefore a useful tool in directing efforts for regulatory reform for the communications industry.

Some telecommunication regulations have revealed a negative impact on the strides towards banking the unbanked through mobile phones. In 2009, the South African government introduced the Regulation of Interception of Communications Act (RICA). The Act requires mobile operators, service providers and sellers to register the identities, physical addresses and cellular phone numbers of new and existing customers who purchase or have purchased SIM cards. The request for identification will essentially affect not only undocumented foreigners, but South Africans that do not have identity documents or are merely geographically inaccessible to obtain SIM cards (de Koker 2011). The regulation can have an impact on the uptake and use of other innovative applications, such as mobile banking for the poor.

The telecommunications sector has gone through a number of policy reforms, and this has resulted in a more competitive environment in South Africa. With the fall of the monopoly Telkom, and increased use of mobile phones, services are now relatively cheaper and accessible to most. The privatisation of telecommunication services has resulted in increased usage by all South Africans. The 2011/2012 annual DoC report states that two of the

departments strategic outcome-orientated goals is to ‘Accelerate the socioeconomic development of South Africans by increasing access to, as well as the uptake and usage of, ICTs through partnerships with business and civil society and 3 spheres of government’ and to ‘Facilitate the building of an Inclusive Information Society to improve the quality of life development’ (DoC 2012:17).

Regulations and policy development have to be monitored to ensure they support the development of the sector.

3.4 Mobile banking in South Africa

The inequality in access to financial services has kept financial inclusion on the South African agenda (National Treasury 2011, World Bank 2013). The following is a current summary of some services offered by the banking sector to bank the unbanked:

Table 1: Services to the unbanked in South Africa

BANK NAME	SERVICE OFFERED	ABOUT THE OFFER	PRICES FOR BASIC SERVICES
Nedbank	Ke Yona	Consists of the Pay-As-You-Use (PAYU) transactional account, funeral cover, a personal loan, the Just Save account and the money transfer solution Vodacom M-pesa that enables clients to transact, borrow, save and insure.	Clients pay a monthly maintenance fee of R5.00 for PAYU, R1.00 for debit card swipes, R2.00 for cash-back at point-of-sale and R5.50 for Nedbank ATM cash withdrawals.
Capitec Bank	Global One Solution	Offers clients transactions at lower fees, savings accounts with highly competitive interest, and access to personalized credit in real time.	Purchases at local or international card machines are free. R4.50 monthly fee for all accounts and access to internet and mobile banking, R1.00 withdrawal from supermarket till points, R1.50 for mobile and internet banking, R4.30 for Capitec ATM withdrawals.
Standard Bank	Access Accounts	7,000 Access Points around the country removes the need to travel far for ATMs. Access Agents open Access Accounts using an SAP	A choice of fee options, including pay as you bank, which has no monthly fees, and bundle fee options, which are R30 or R50 monthly. For the R30

		technology system. This is a mobile application via the SAP mobile platform that allows people to sign up, get a bank account in just a few minutes and conduct transactions all from a mobile handheld device.	bundle you get three cash withdrawals, one cash deposit, one electronic transaction, one debit order and four card swipes free each month. The R50 bundle includes unlimited free cash-ins and cash-outs at Access Points, debit orders, card swipes, beneficiary payments, airtime recharges, inter-account transfers, four ATM withdrawals, two ATM deposits and R2, 000 death benefit for the account holder.
First National Bank (FNB)	Smart Account, Smart Cheque Account, FNB Easy Account	FNB has a variety of different accounts with different price plans, designed to be the cheapest banking option for "mainstream" customers depending on the individual lifestyle and banking needs.	The Smart Account has no monthly cost and paying for goods with your card is free. For the Smart Cheque Account you pay R22 monthly and will only be charged when you withdraw cash and for every debit order. The Easy Account is available through the EasyPlan branch network and has a monthly fee of R4.20.
ABSA	Branchless Banking, Transactional Accounts, Savings Accounts	Branchless banking offers a variety of easy banking options to low-income earners. Transactional Accounts consists of three banking options and the Savings Accounts has two options.	No proof of income is required to open an account. No monthly banking fees. Important savings accounts like the club account cater for stokvels and burial societies.
WIZZIT BANK	Mobile banking, savings account, Funeral cover	Wizzit Bank offers low income earners a mobile banking facility where they can deposit, transfer, or purchase goods using a mobile phone and a maestro branded card.	There is no monthly fee for Wizzit Bank account holders. Wizzit Bank clients pay R100 account opening fee. Clients also pay R3. 99 and R4. 99 to transfer funds from to a Wizzit Bank account holder and non Wizzit Bank account holder respectively.

Source: Gontsana (2013), adapted by author

As seen above, there has been a spur of innovative solutions with banks offering financial services through the use of mobile phones. Various mobile banking initiatives have been

introduced by the private sector, and the financial sector to also provide financial services to the underserved market (de Koker 2011). Currently there are four major mobile banking products offered to low income earners in South Africa.

1. M-pesa;
2. MTN mobile money;
3. FNB Cellphone banking; and
4. Wizzit Bank.

The products are discussed in detail below:

3.4.1 M-pesa money transfer

M-pesa is a money transfer service offered by Vodacom in conjunction with Nedbank. M-pesa was launched in South Africa in August 2010 in conjunction with Nedbank. The facility is similar to the one launched in Kenya in 2007 offering deposit, withdrawal and transfer services through the use of a mobile phone and a network of agencies. In South Africa, users need to be registered, but do not require a bank account and are not charged any monthly fees.

3.4.2 Standard Bank cellphone banking – MTN mobile money

Standard Bank and MTN offer a mobile money service to their clients to be able to access their bank accounts and facilitate transactions through their mobile phones. The client is able to access their account through a secure location, at any time, and from any where in the world. The client is required to open a banking account with Standard Bank.

3.4.3 FNB cell phone banking

FNB account holders can facilitate transactions using their mobile phone, including transferring money to their unbanked friends and relatives. The transfers are conducted through the use of FNB eWallet that allows FNB account holders to send money to the unbanked. The recipients of the transfers do not need to be banked or to hold an account with FNB, and do not require an ATM card to access their funds. They can access their funds

through an FNB ATM, and can leave any amount in the eWallet, and purchase airtime with the funds in the eWallet. FNB currently leads the market in innovative banking solutions.

3.4.4 Wizzit Bank

Wizzit Bank is a subsidiary of the Bank of Athens, and offers mobile banking services to the unbanked. Launched in 2004, the service offers a low cost banking account, in conjunction with a Maestro branded Debit card, to facilitate banking transactions. Clients can deposit money into their accounts through partnering banks, ABSA and Postbank. Withdrawals can be conducted using the debit card at any Maestro branded ATMs or in the banking halls of partnering banks. Utility and bill payments, airtime top-ups and transfers can be conducted using any basic cellphone. Wizzit Bank now offers a micro lending facility to its clients. The service is now being offered in Rwanda and Zambia. These four mobile banking products are subject to emerging regulation in South Africa. This regulatory environment will be discussed in the next section.

3.5 Regulations and policy on mobile banking in South Africa

The South African regulatory guidelines are based on the Bank of International Settlements (BIS)'s Core Principles for Systemically Important Payments Systems and international best practices.

The Bank of International Settlements defines a payment system as follows: '*A payment system consists of a set of instruments, banking procedures and, typically, interbank funds transfer systems that ensure the circulation of money*' (BIS 2003, 32). Section 10(1)(c)(i) of the South African Reserve Bank (SARB) Act states that the bank is mandated to 'perform such functions, implement such rules and procedures and, in general, take such steps as may be necessary to establish, conduct, monitor, regulate and supervise the payment, clearing and/or settlement systems' (SARB Act 90:89). Additionally, the Banks Act, Act No 94 of 1990, states that the regulator role is 'to provide for the regulation and supervision of the business of public companies taking deposits from the public; and to provide for matters connected there with.' The regulator has the role of ensuring stability of the financial system through regulation and supervision of payment systems and financial institutions.

The National Payment Systems Act confers power to the South African Reserve Bank in regards to managing and controlling systemic risk. The Bank's National Payment System Department is responsible for regulating and supervising payment systems and ensuring the stability of payment systems. It does this through the issuance of directives and publishing of position papers periodically. In terms of the National Payment Systems (NPS) Act of 1998, the Payment Association of South Africa (PASA), is mandated to organise, manage and regulate the payment systems in South Africa by putting in place necessary operational regulations.

The prospect of the provision of financial services to the poor through the use of new technologies such as the mobile phone presents a challenge for regulatory bodies. Regulators have the task of ensuring effective consumer protection, and mitigating systemic risk in the financial sector through prudent regulation and effective supervision. The major concern of regulators – and in particular the central bank - is the issuance of electronic money or e-money in such initiatives. *'E-money is defined as monetary value represented by a claim on the issuer. This money is stored electronically and issued on receipt of funds, is generally accepted as a means of payment by persons other than the issuer and is redeemable for physical cash or a deposit into a bank account on demand'* (SARB 2009). E-money developments present opportunities for electronic substitutes for cash that can be solutions for the unbanked (SARB 2009). E-money can take various forms: internet banking, mobile banking and prepaid instruments. The regulation of mobile money is thus incorporated within the broader regulations of e-money.

The second issue of concern for the central bank is that of deposit taking and facilitation of financial transactions by non-financial institutions, particularly Mobile Network Operators (MNO) that want to offer mobile financial services. Regulators consider three business models of mobile banking to address this issue: the bank-led model, the MNO led model and the partnership model (ITU 2013). The bank-led model encompasses a licensed financial institution providing mobile banking services to its clients. The financial institution works with MNOs that has the infrastructure and platform for the exchange of information. In this model, the clients hold bank accounts, and the mobile phone is the interface. Sometimes a card can be issued to interact with the same account. There are, however, few examples of the bank-led model. The WING in Cambodia and Wizzit Bank are some of the few bank-led models in operation. The second type, the MNO-led model, is when an MNO owns and

operates a mobile financial services platform, and offers e-money in exchange for money, specifically to subscribers of the participating network. Generally, the telecommunications model has limited involvement by the financial institution which typically handles only the payment and settlement procedures. The telecommunications company secures approval from the regulator to own a mobile banking platform, and handles customer relationship through the use of independent agents for effective branchless banking (Merrit 2010). M-pesa and Ecocash are examples of telecommunications model initiatives owned by Safaricom and Econet respectively. M-pesa provides mobile banking services and services are open to Safaricom subscribers only. However, as Safaricom is not authorised to accept deposits, the Commercial Bank of Africa facilitates banking transactions on its behalf. M-pesa also has operations in South Africa. However, the regulator in South Africa recommends the bank-led model; therefore they were obliged to partner with Nedbank. The partnership model is when banks and MNOs, as well as a third party, partner up to offer a service. Usually the platform is inter-operable between financial institutions and operators, therefore any MNO and financial institution can utilise it. Examples include MobiKash in Kenya and Obopay/Nokia money. Comminos et al (2008) recommends a third-party model that is driven by Non Governmental Organisations (NGO) as the best solution in a developmental context, as it will ensure access to a greater population of the unbanked. They emphasise the fact that NGOs are more cognisant of the plight of the poor, and that an NGO can make greater strides in banking the unbanked poor. However, sustainability of the model might be threatened by the non-profit nature of NGOs.

Today, regulations in South Africa support bank-led models. The bank-led model prohibits non-bank institutions like mobile phone operators from accepting deposits. To enforce this model, the regulatory environment has been changing with various amendments including: Financial Intelligence Centre Act (FICA) Exemption 17, South African Reserve Bank Guidance Note 6 of 2008 on cellphone banking and the 2009 South African Reserve Bank E-Money position paper.

In recognition of financial inclusion goals, Section 52 of the Banks Act made a provision for private non-banking institutions to be able to offer payment related services and e-money. A non-banking institution is allowed to enter into an arrangement with a registered bank to offer payment related services jointly. The sponsoring bank is the banking institution that will accept deposits on behalf of the non-banking institution, the sponsored bank. The

sponsoring bank will therefore carry the settlement risk for the e-money transactions and facilitate settlement. The aspect of electronic money and the associated risks to the stability of the national payment systems led to a number of e-money position papers. These position papers are essentially submission guidelines for proposed e-money initiatives to use when they are submitting proposals to the South African Reserve Bank (SARB) and outline the central bank's position on e-money. This is in line with the SARB's mandate to maintain stability in the national payment system, and to protect consumers from financial losses associated with illegal and unfair practices and fraud. The first SARB E-Money position paper was issued in 1999, and the subsequent paper in 2006. These have evolved into the recently issued 2009 SARB E-Money position paper. Whilst the 1999 and 2006 E-money position papers limited issuing of e-money to banking institutions and settlement banks respectively, the 2009 paper extends the issuing and acquiring of e-money to non-banking institutions, including MNOs.

As a result of the E-Money position paper, a non-banking institution interested in offering mobile banking services is only permitted to offer such services if it enters into an arrangement with a registered banking institution that will facilitate settlement and accept deposits on its behalf (SARB 2009). This provision has led to the establishment of joint ventures by the private sector with a licensed financial institution. An AFI (2010) survey reveals that these partnerships with the private sector have encouraged the development of technology-driven initiatives that have enhanced financial services access. This has addressed the banking sector infrastructure costs that limited the provision of financial services. Wizzit Bank is one such entity that has entered into an agreement with a registered bank, the Bank of Athens, to offer mobile banking services. Non-banks are additionally not permitted to issue electronic money, while only licensed banking institutions can accept e-money from retail customers. These joint ventures have also ensured that protection of the customer is assured if the mobile banking provider encounters liquidity challenges.

Most of the poor, specifically the urban poor, reside in informal settlements where their shelters are not registered, and therefore they have no documentation on residential addresses necessary to open a bank account exists. The Exemption 17 of the Financial Intelligence Centre Act (FICA) states that all accounts with monthly transactions of less than R5, 000 or R25, 000 per month can be exempted from immediate identification for banking purposes. The FICA Exemption 17 gives the unbanked the opportunity to open bank accounts,

particularly those who were excluded from the formal financial system because they had no documentation on their residential address.

Additionally, the South African Reserve Bank Guidance Note 6 of 2008 on mobile phone banking exempts a mobile banking user from meeting the traditional banking identity requirements. The regulator allows non face-to-face registration as long as an identity number is supplied by the client. This only applies to low value accounts, and as long as transactions remain within set balance and transaction limits. Beyond set limits, the normal verification procedures will apply. This was all in recognition of the developments in mobile banking, but implemented by the regulator in the interests of limiting exposure to money laundering. This has identified South Africa with embracing the dual objectives of financial security and financial inclusion.

However, the RICA regulations previously mentioned now expect the same identity requirements to be met when purchasing a SIM card. Although it is in line with anti-money laundering due diligence procedures, it has a direct impact on mobile banking and financial inclusion and negates regulatory efforts already made.

In May 2010, the Financial Intelligence Centre (FIC) issued a directive to the banks not to accept asylum permits and refugee permits identification documents for opening a bank account. Following an uproar, this directive was reversed in November of the same year, and holders of asylum and refugee permits are now able to open bank accounts and conduct their banking transactions with these documents, as long as they have been verified by the Home Affairs department (AFI 2011).

Through the use of directives, position papers and amendment of relevant acts, the emerging regulations have been introduced in attempt to keep up with the new technology and innovations, and to maintain stability in the financial sector at large. Innovations that present alternatives to cash and opportunities to bank the unbanked have been encouraged by a responsive regulatory environment.

The on-going review of the regulatory regime has resulted in a number of initiatives in the financial sector. For example, regulations are strict in order to maintain the stability of the financial system and to protect consumers. These strict regulations may create a potential constraint on mobile banking development and may stifle initiatives (CGAP 2006). ITU

(2010) recommends supportive regulatory regimes and policies to foster universal access and to maintain growth in the mobile banking sector.

Mobile banking initiatives are therefore regulated as a banking service, and overseen by the South African Reserve Bank through the National Payment Systems Department. Initiatives in South Africa - that include Wizzit Bank, Mobile money, the FNB e-wallet and recently M-pesa - are therefore effectively regulated and supervised by the South African Reserve Bank.

Bångens and Söderberg (2008) highlight the impact the strict regulatory environment has had on mobile banking initiatives. They point out that Wizzit Bank can currently only facilitate cash out services through ATMs and designated banking offices because of the requirements of the regulator. This has impacted Wizzit Bank operations and growth.

This study focuses on Wizzit Bank and is further discussed in the next section.

3.6 Wizzit Bank

McKay and Pickens (2010) note that in the developing countries, only Brazil and Kenya can boast of widespread usage of branchless banking. However, in South Africa, Wizzit Bank is a pioneer and early innovator in the provision of branchless banking services, and is worth further exploration. Launched in 2004, Wizzit Bank is a mobile phone based banking facility that offers a banking facility across all wireless networks in South Africa, with a noted presence in urban areas. Wizzit Bank is a mobile banking service that operates as a division of the South African Bank of Athens Limited. Having established that there was an unbanked market of 16 million that required easily accessible and low cost banking services, the bank introduced services to the unbanked and underbanked and targeted low income communities (Bassiri 2007). The International Finance Corporation (IFC), in its efforts to bolster the financial sector's attempts to provide financial services to the poor in Africa, acquired a 10% share in Wizzit Bank in 2007. The directors include Charles Rawlinson (Executive Chairman), Rian Richardson (Managing Director) and Pieter Kruger (Managing Director and CIO). Other share holdings include Oikocredit and Africap.

Initially, Wizzit Bank offered mobile banking services that included facilitating financial transactions (withdrawals, deposits and transfers), and included receiving salaries and information services as well as balance enquiries. The bank also facilitated mobile payments

- specifically person to person transfers - and offered a payment service for paying for goods, settling utility bills and buying cellphone airtime only. The bank has evolved over the years and, since 2010, offers mobile finance through a funeral insurance facility, a micro-insurance product and extends credit to long term users. All transfers, bill payments and airtime purchases can be made via any basic cellphone. The mobile banking services menu is available in local languages. Wizzit Bank is an accredited issuer of MasterCard's Maestro debit card; therefore the bank offers the account holder a Maestro branded debit card. Most mobile money initiatives like M-pesa do not offer debit cards. The debit card holder can use the card to withdraw cash from their accounts at any Maestro-accepted ATM. They can also use the debit cards to deposit and withdraw money in banking halls of Post Office, ABSA and Bank of Athens and to pay for goods and services in retail stores. Wizzit Bank does not operate from brick and mortar branches, but rather facilitates account openings through the use of the Wizzkids sales model. Wizzkids are the bank's field agents who are employed by the bank to market its services, facilitate account openings and employ direct selling marketing techniques. Wizzit Bank hires previously unemployed people with matric in the local communities to market the service through door- to-door sales and to register customers. Wizzit Bank trains the Wizzkids to open accounts through know-your-customer (KYC) procedures. Wizzkids can then earn commission-based salaries through the sales of Wizzit Bank starter packs. The Wizzkids also provide help and support to the users in their respective communities, and receive an annual incentive for transactional activity by their clients. It is estimated that within two years of operations there was an estimated 2,000 Wizzkids in the field (Ivatury and Pickens 2006). Three million transactions with over 250 000 accounts were recorded by the year 2010 (Bassiri 2007).

To open a Wizzit Bank account, the Wizzkids require only a copy of the applicant's identity document. A photograph of the applicant is taken, it is emailed to the Wizzit Bank head office and confirmation is sent via SMS to the client when the account is opened. To deposit money into their accounts, Wizzit Bank account holders can visit and utilise ABSA, Postbank or Bank of Athens branch facilities. Wizzit mobile bank users can also access 3,500 deposit points through the branch network of these same affiliated banks.

Wizzit Bank uses Unstructured Supplementary Services Data (USSD) technology, and transactions can be facilitated across all mobile networks. This is different from the SMS services in facilitating transactions as the transaction is provided in real time. Through the

Bank of Athens, Wizzit Bank can access the South African Interbank Clearing House System and facilitate real time transfers. Wizzit Bank does not charge the Wizzit Bank user a monthly fee, but deducts a fee for each individual transaction. Additionally, there is no minimum balance required on the bank account. These charges vary, depending on the type of transaction the Wizzit Bank user has initiated. The following is a comparison of banking services charges of entry level accounts offered by different banks and Wizzit Bank charges:

Table 2: Comparison of banking services charges (2013)

		Absa Transact	Capitec Global One Account	Fnb Easy Account	Nedbank Ke Yona Account	Standard Bank Access Account	Ubank Transactional Account	Wizzit Bank
Monthly fee	Admin fee	Free	R4.50	R4.20	R5.00	Free	Free	Free
Balance enquiries	Same bank	Free	Free	Free	Free	Free	1.85	n/a
	Other banks	R3.35	R4.00	R3.25	R1.50	R4.00	R2.90	R4.99 ATM
	SMS notifications	Free	R0.40	Free	Free	Free	R0.50	R0.99
Debit card purchases		Free	Free	Free	Free	2.00	1.00	R3.99
Cash withdrawal	Same bank ATM	R3.95	R4.30	R3.25	R5.50	R4.00	R4.50	n/a
	Other bank ATM	R9.95	R7.00	R7.70	R7.50	R8.00	R9.50	R13.99 max (SASWITCH)
	At the branch	R30.00	n/a	n/a	R10.50	R25.00	R12.50	
	At a supermarket till	R1.00	R1.00	Free	R2.00	R4.00	R3.00	R3.99
Cash deposit	Own bank ATM	R5.75	R2.50	R3.25	R5.50	R4.00	n/a	n/a
	In branch	R12.20	n/a	R3.25	R5.50	R25.00	Free	1%(min R4.99)

Source: FinMark Trust (2013a), adapted by author

The analysis shows that, although there are no monthly fees, and the cash deposit for Wizzit Bank is relatively lower, some of the costs for the same services are the same as or higher than traditional bank account fees. With over 400,000 users of Wizzit Bank, the service is used because of its convenience and efficiency (Ivatury and Pickens 2006). By the end of 2006, an estimated eight out of every ten users had been unbanked and had never used an ATM. Wizzit Bank offers employers with low income earners the opportunity to bank their unbanked employees. The bank can send Wizzkids to a client's premises to facilitate the opening of accounts, and to provide basic banking and financial education.

South Africa is one of the most developed nations in Africa with a mature financial system, yet the country encounters challenges in comprehensively meeting the banking needs of the poor (Collins et al 2009). Wizzit Bank therefore, presents an interesting case of a private sector-led telco neutral initiative attempting to provide financial services to the poor in this sophisticated financial sector. This is opposed to the bank-led initiatives that financial institutions have introduced to the market, which are not solely targeted for the unbanked poor. Unique insight into the banking behaviour of the poor can be gained from the study of the Wizzit Bank initiative, which can better inform Wizzit Bank, as well as other mobile banking initiatives. Furthermore, Comninou et al (2010) reports that South Africa's unequal distribution of wealth is apparent in the mobile phone connectedness of the poor, as penetration rates are still low for the poor. The Wizzit Bank product, therefore, gives the researcher an opportunity to explore the banking / non-banking tendencies of the connected poor and to further understand the potential impact of the services.

3.7 Chapter conclusion

The discussion has provided an overview of current policies and initiatives for the unbanked and mobile banking in South Africa. Although South Africa is the largest economy in Africa, and has established a sophisticated financial system, the section has shown that there are still significant proportions of the population that demand access to financial services, but have no access to them. The chapter reveals that the telecommunications sector has a critical role to play in the provision of mobile banking services to the unbanked poor in South Africa. However, the effective provision of financial services through mobile phones is also dependent on a supportive regulatory environment from both the telecommunications and the financial sector perspectives. South Africa has, over the years, attempted to create an

enabling environment for financial inclusion. The discussion has shown that, in South Africa, the challenge of banking the unbanked population is a task that will need the cooperation of both the financial sector and the telecommunications sector, both in terms of policy formulation and implementation. The Wizzit Bank has attempted to bring together the two sectors and solve the financial exclusion challenge. The discussion reveals the need to explore the users of Wizzit Bank, and explore the use of mobile technology in the provision of financial services. Wizzit Bank presents an intriguing study, where a mobile service provider platform can provide financial services through the South African Bank of Athens and the behaviour as a result of active or non-active use of such an initiative.

CHAPTER 4: Methodology

This chapter will detail the methodological approach to the study and provide rationales for the chosen methodology. The relevance of the methodological approach within the theoretical frameworks used in the study will be outlined. In doing, so the choice of the location and the sample will be justified, and the research instruments are described. In addition, the data collection and analysis approach will be outlined, and the limitations of the study identified. Validity and reliability issues will also tackled in this section.

2.16 The research methodology

Qualitative research probes the experiences of people, and seeks to understand behaviour that a quantitative research may not capture (Devers 1999). ‘Qualitative method allows the researcher to study selected issues in-depth, openness, and detail as they identify and attempt to understand the categories of information that emerge from the data’ (Terre Blanche, Durrheim and Painter 2006:47). It gives the researcher an opportunity to gather rich and detailed data of cases and context in social life (Neuman 1999). Although data collection in qualitative research can be slow, as the researcher takes time to understand the respondents’ views, it presents the opportunity to better understand human behaviour (Neuman 1999). On the other hand, quantitative research seeks through structured questions to test theory or a hypothesis through statistical methods (Marshall 1996). Therefore, quantitative studies are more concerned with answering the ‘what’ question, whilst qualitative studies focus on the ‘how’ and the ‘why’ (Marshall 1996). As an explorative study into the user behaviour of mobile banking by urban low income earners in South Africa, the qualitative approach is appropriate for this study. An explorative study investigates unfamiliar areas and unknown phenomena using an open and flexible approach to data collection (Terre Blanche, Durrheim and Painter 2006). Moreover, Duncombe and Boateng (2009) identify a gap in the methodological approach to the study of mobile banking services to the poor. They note that there are limited in-depth qualitative studies that offer more insight in the area of study as most studies have been more quantitative or of a mixed approach. However, if an impact assessment wants to establish how ICTs benefit the community, this warrants the acknowledgement of the perspectives and view of a community or group of recipients of the ICT for development project. This is an essential source of the in-depth description of the impact through an assessment on a micro level. The methods used in this research are

therefore predominantly qualitative through the use of observations and in-depth interviews in informal settings.

Comim (2001) notes that the chosen theoretical framework - the Capabilities Approach by Sen - is useful in micro-level studies as the focus is on understanding non-income variables. The methodology utilised is therefore suitable for the suggested theoretical framework.

2.17 Research design

2.17.1 Case study

The case study refers to an intensive, comprehensive study of a specific entity or element (Wilkinson and McNeil 1996). Wizzit Bank is a theoretically significant case study as it is one of the innovators of mobile banking in South Africa. A case study is when the researcher seeks to understand a single case or phenomenon. This can be an institution, product or a group of individuals at a particular point in time (Creswell 1994). The case study approach allows for more focus as it concentrates on a single entity. This is different from other data collection methods that generalise findings because these methods study multiple subjects (Wilkinson and McNeil 1996). The approach additionally offers the researcher a level of flexibility in data collection and effectively in data analysis (Wilkinson and McNeil 1996), as it allows the researcher to use multiple research methods that enhance validity (Denscombe 2007). Although questions relating to the credibility of generalisations of case studies have been raised frequently, and criticisms have been made of the lack of rigour in the approach (Denscombe 2007), the case study approach is fitting for obtaining an in-depth understanding of the behaviour of respondents in the selected research sites. Additionally, the case study is well suited for studies that seek to understand contextual factors in a study (Baxter and Jack 2008), and therefore is well suited for this study that seeks to understand contextual influences on the use of mobile banking by low income earners. Wizzit Bank is the case study and the units of analysis are the users of Wizzit Bank.

2.18 Study participants

There was a deliberate attempt to identify a wide variety of users with different socioeconomic and geographical characteristics and settings. This allowed for different experiences and analysis of factors that determine use. A total of ten (10) respondents from the four areas - Orange Farm, Mayfair, Soweto and Roodepoort - were therefore studied.

Four (4) key informant interviews were conducted which included interviews with three (3) Wizzkids from the different urban locations and the Chief Executive Officer (CEO) of Wizzit Bank. A focus group discussion with a Rotating Credit and Savings Association (ROCSA) was conducted in Soweto with twenty users and non-users of Wizzit Bank. A ROCSA is an informal savings group or club where members contribute to a pool of funds regularly lend to others and share periodically (Demirguc-Kunt and Klapper 2012).

2.18.1 Sampling and sample characteristics

Samples can be selected through a number of approaches. Convenience sampling is essentially selection of a sample based on accessibility (Marshall 1996). Although considered the less costly approach to sampling, the convenience sampling approach can affect the credibility of results (Marshall 1996). Purposive sampling is the process of identifying a sample, considering the nature of the study focus and the suitability of the respondent to a predetermined criterion or variables, which are in line with the research questions (Terre Blanche, Durrheim and Painter 2006). Purposive sampling is frequently used to select cases for a particular purpose, and to gain an in-depth understanding of a particular social phenomenon (Neuman 1999). This can be done through the involvement and assistance of an expert (Neuman 1999). The selection criterion can be constructed on the basis of the knowledge of the researcher of the area of study and the existing literature (Marshall 1996). The sample was therefore identified through purposive sampling using the profiles identified with the assistance of Wizzit Bank. Snowball sampling is when an individual who meets the profile for the study is asked to put the researcher in contact with others who meet the same criteria (Atkinson and Flint 2001). The snowball sampling technique is particularly useful in instances where individuals meeting the profile are few and access is highly dependent on trust (Atkinson and Flint 2001). Although the approach can contribute to selection bias, as selection is based on social networks and the respondents' subjective choice, snowball sampling is cost-effective and efficient (Atkinson and Flint 2001). The snowball effect was used to complement the purposive sampling technique as it was proving difficult to find a sample of low income earners and penetrating the immigrant community warranted a trust-based approach. Individuals who the researcher came into contact with when using the purposive sampling technique were consulted to find other potential respondents.

Initially, we attempted to identify respondents with the assistance of the Wizzkids, after providing them with a detailed profile of possible respondents. Some profile details considered included: length of Wizzit Bank use, age, gender and income. The length of period of use of Wizzit Bank was considered to ensure that the respondent had sufficient time and exposure to the service to warrant a decision to use or not to use the facility. Therefore, users were defined as individuals that have used Wizzit Bank in the last three months. This would provide sufficient time for the user to adequately outline and describe user behaviour. These were of different age, gender and income levels. Non-users were defined as individuals that have never used Wizzit Bank or have tried to use Wizzit Bank and stopped for one reason or the other. Additionally, age was also considered of relative importance as it captured a sample that could make financial decisions individually and therefore effect financial transactions. Therefore, adults between the ages of 18 and 65 were considered. Gender was an essential component to be considered in the sample to allow for different gender perspectives in understanding the mobile banking usage behaviour by urban low income earners. An effort was made to achieve a sample with low income earners, and this work thus helped to understand the true impact of mobile banking on the poor and underserved. Wizzit Bank highlighted the difficulty from a head office perspective to determine who was considered poor as their registration does not request income data. Therefore, selection of low income earners was based on locations considered to be typical low income communities and occupations that typically fell into the low income bracket. EC (2008) finds that residents in certain low income communities are usually financially excluded; therefore there was a high probability of finding financially excluded individuals in these areas.

To facilitate the entry to the selected areas and Wizzit Bank users, the Wizzkids were contacted as the respective gatekeepers. As resource persons, the Wizzkids assisted in securing the study informants, given the profile of expected respondents and their knowledge of their clients (who are well informed about the Wizzit Bank and have considerable experience using Wizzit Bank). There were three characteristics of respondents that were vital for the research. Firstly, the respondent needed to reside in a low income settlement, secondly, the respondent needed to earn a low income (in this study, the respondent earns less than \$5 USD a day) and lastly the respondent needed to have been registered on Wizzit for at least three months. Identifying a sample was a difficult task. As Porteous (2008) points

out, most of the users of Wizzit Bank is generally high income earning individuals who have other accounts. Identifying a sample of the previously unbanked and the low income earners was specifically challenging. This deterred progress as a significant sample that fit the profile was sought. Therefore, this phase resulted in very limited success as. Initially a list of potential respondents was provided by Wizzit Bank based on users that had been using Wizzit for more than six months, however, contacting the respondents led mostly to individuals who were not necessarily low income earners, but rather middle income earners who are making use of the service for its convenience. The respondents had been chosen from the townships and informal settlements that are considered low income communities and that Wizzit Bank had recommended for exploration.

When the list provided by Wizzit Bank did not secure a sample which met the selection criterion, we tried to secure as many respondents that could fit the specified profile and are considered bottom of the pyramid from **any** low income settlements in Johannesburg. Therefore, the few respondents who were already contacted were used within the snowball technique in identifying respondents considered to be low income earners in Johannesburg. The choice was based on some key characteristics of the low income earners. Specifically, the characteristic criteria desired for the study included the location (either residential or working), their income (earning less than \$5 USD a day), their ethnic background and their occupation. For example, certain professions were considered, such as informal sector vendors and taxi drivers, and these respondents were then targeted at their places of work. Immigrants were also chosen as another interesting group of low income earners.

2.18.2 Choice of location

As previously discussed, the originally proposed areas of study included Orange Farm, Alexandra and Kathlekong. However, as the study progressed, the need for a diverse sample resulted in the inclusion of Orange Farm and the areas of Mayfair, Soweto and Roodepoort. Kathlekong and Alexandra were excluded due to accessibility issues. With the assistance of Wizzit Bank, four areas were chosen specifically to secure a reliable sample for effective understanding of the behaviour of the financially excluded in facilitating payments, transfers and saving money. The urban setting was chosen for accessibility purposes and to reveal the extent of financial exclusion within areas where banking institutions are present. South Africa's urban townships are characterised by high poverty levels (Sekhampu 2013),

therefore the location choice presented an opportunity to understand the behaviour of the often forgotten low income earners of the cities, and to determine to what extent they have been included in the formal banking sector. Roodepoort is an old residential suburb about 25km outside central Johannesburg. A number of informal settlements have surfaced in the neighbourhood. This study focused on the main taxi rank in Roodepoort's central business district where Wizzit Bank users were concentrated. Orange Farm is a peri-urban informal settlement about 45 kilometres outside Johannesburg Central. Dobsonville is a township in Soweto. Soweto is an urban area in Johannesburg consisting of 87 townships and dominated by low income earning black Africans. Mayfair is an area in central Johannesburg that has large number of immigrant communities.

The four sites presented diverse study areas and exhibited samples of individuals from various social group backgrounds with different motivations for using or not using a mobile banking facility. Therefore, there is a heterogeneous sample of mobile banking users in the Johannesburg. A heterogeneous sample reduces the generalisation possibilities. The study was also limited to the four areas due to time constraints.

2.18.3 Ethical considerations and confidentiality

All participants were introduced to the researcher by the respective Wizzkids in the areas of study. The study was explained to them and their participation was requested. Those who volunteered to participate were informed that the proceeding would be recorded, but would remain confidential and would be safely stored at the University of KwaZulu-Natal. The participants were also informed that they had the right to refuse to answer questions to which they were not comfortable responding or to withdraw from the interview if they so wished. An informed consent is when a subject is informed of the scope of the research and the potential risks and effects and to ensure that they make an informed decision on whether to participate or not (Terre Blanche, Durrheim and Painter 2006). In upholding the ethical principles of social science research, participation was therefore voluntary, and informed consent forms were read and signed after the briefing of the research. The study sought to respect participants and not infringe on their rights in the search for answers.

2.19 Data collection

The data collection was conducted in between May 2012 and February 2013. Training sessions for the research assistant were conducted prior to the commencement of the data collection. The period encompassed visiting the Johannesburg areas of Alexandra and Orange Farm. However, the areas Mayfair, Dobsonville and Roodepoort were then considered in the later stages. For each identified area, specific gatekeepers (Wizzkids) were utilised in the data collection period, and were also interviewed as key informants to acquire a general perspective of their experiences with urban low income earners. The trust built in the different areas by the Wizzkids made it easier to facilitate interviews. One focus group discussion was conducted with the groups of respondents, both users and non-users of the Wizzit Bank facility. Four key informant interviews were additionally conducted with the CEO of Wizzit Bank as the principal key informant and three Wizzkids working in the Orange Farm, Mayfair and Dobsonville areas. These interviews provided background of the chosen case study of Wizzit Bank and its role in providing banking services to the poor in South Africa.

2.19.1 The research instrument

Patton (2002) identifies three instruments for conducting interviews. The informal, conversational interview is a free discussion where questions are asked as the discussion progresses. Secondly, the general interview guide is where a set of questions are discussed in flexible discussion, and lastly the standardised open-ended interview is where carefully constructed questions are asked with limited flexibility for probing. In this study, the general interview guide and the standardised open-ended interview were utilised. This combined strategy enhances probing flexibility, and circumvents the limitations of both instruments by allowing for effective control of the discussion by the researcher within the limited time period (Patton 2002). Research was therefore conducted using an interview guide with semi-structured questions and themes that can be built on during the conversation. Semi-structured interviews have open ended questions that allow for the self-expression by the respondent, as the absence of an imposed structure facilitates openness (Bailey 1987). Although the open nature of the open ended questions may result in the collection of unnecessary and unimportant data, it can assist in the acquisition of responses that the researcher did not anticipate (Bailey 1987). This, in contrast to the informal conversational

interview that is time consuming, will allow for accumulation of rich and detailed data within reasonable timeframes.

2.19.2 The interview guide

The interview guide was formulated to capture the responses of the research objectives in a time-conscious way. These responses included the mobile phone usage patterns, the factors influencing usage or non-usage, the contexts of use and the possible impacts on respondents' livelihoods. The interview guide covered the three services provided by Wizzit Bank: transfers, payments and savings facilities. The guide also carried out questions on the general and early adoption phases. The more recent services in credit and insurance were referred to in the interview. The guide therefore identifies three different use cases, specifically: money transfers (receiving and sending), bill payments and saving facility. The interview guide is attached as Appendix 1. In the interview guide, there is use of the critical incident study, where the respondents were requested to cite examples of real situations that they have experienced, instead of providing general feelings and opinions.

The interview guide for the users varied from the interview guide for the non-users. The non-users were queried about the reasons for not using the services, alternative products that they use and the associated push factors. The interview guides were piloted first before the interviews commenced, and the guide was fine tuned to be more direct and allow for collection of relevant data in line with the focus of the research.

Despite the guide, the interviewer and the respondent had the freedom to explore further issues and interesting aspects that emerged from the discussion. Although the interview guide is suitable for the explorative study at hand, the provision of a guide in the interviewing process may unfortunately, result in the exclusion of important issues that are not specifically detailed in the guide and may not emerge from the flexible discussions (Patton 2002).

2.19.3 The in-depth interviews

Semi-structured, in-depth interviews allow for flexibility in the interview, as opposed to structured interviews that force respondents to respond in accordance to the interviewers selected categories (Patton 2002). The in-depth, semi-structured interviews allowed for the detailed exploration of issues and further probing into various interesting aspects of the

interview (Patton 2002). In-depth, semi-structured interviews were therefore conducted, and confidentiality was emphasised. The interviews averaged 25 to 30 minutes. Most of the respondents were interviewed at their place of work, and had very little time to answer questions. In-depth interviews are generally time consuming as opposed to other data collection methods, and the analysis requires more time and effort than more quantitative based approaches (Denscombe 2007). Despite the noted limitations and criticisms, in-depth interviews fit the research objectives of exploring the mobile banking use behaviour by urban low income earners. The interviews were recorded, transcribed and translated into English. Some participants were not willing to be recorded so notes were taken during the interview. All interviews were conducted at the Wizzit Bank stand or at participants' places of work, and these work places included taxi ranks, vending sites and residential homes.

There was, however, the risk of bias due to the involvement of Wizzkids in meeting the participants, and that they may have simply expressed views that they expect the researcher and Wizzit Bank to hear. Attempts were made to ensure that most interviews were conducted without the presence of Wizzkids and the researcher's involvement with Wizzit Bank as a case study was emphasised. This may affect the reliability of the data.

2.19.4 The focus groups

A focus group is an informal discussion with a group of people who share experiences or characteristics to collect information about a specific topic (Terre Blanche, Durrheim and Painter 2006). Focus group interviews emanate from the acknowledgment that decisions are made in social contexts through discussions with others (Patton 2002). Although dominant participants can affect the quality of the data, focus groups provide the researcher with an opportunity to gain inter-subjective experience, as opposed to the subjective experience that in-depth interviews provide (Terre Blanche, Durrheim and Painter 2006). This enhances data quality and provides a supplementary source of data (Patton 2002). Additionally, the focus groups give participants an opportunity to highlight what is important to them, and share experiences in the area of financial inclusion. The sample was purposively chosen to ensure participants fit the profile in line with the study. The focus group was unstructured and was flexible to allow for communication between participants and collection of rich data on the subject. One focus group was conducted with a ROCSA in Soweto with users and non-users of the Wizzit Bank services.

2.19.5 Observations

Atkinson and Coffey (2003) recommend the use of participant observations as a complementary data collection method to interviews. This enhances completeness and validity, as the methods will offset each other's limitations. Participant observations were therefore carried out during the period of data collection in the respective areas. Use of the mobile phone in facilitating payments, transfers and savings were measured in terms of frequency, and general behaviour of users and non-users when conducting financial transactions. The type of housing, living conditions, bank presence and the working area were observed. The observations presented a fresh angle of analyses based on actions, and not based on what participants say they do (Denscombe 2007). The observations, however, did not present an understanding of why and how users behave the way they did but provided an understanding of the socioeconomic contexts that encourage usage of Wizzit Bank. Denscombe (2007) states that the context may not be captured through the mere observation of participants and without interviewing the participants, but the observations presented a visual picture of the environment and the suitability of certain services to meet their financial services needs. Photographs were also taken during data collection of the visual context of the study participants, and some photographs of participants were only taken following verbal authorisation by the study participant. Observations were jotted down during the field visits as a record of the observations.

2.20 Validity and reliability

Although there is no foolproof method of ensuring validity and reliability, some measures were put in place. Triangulation can be in the form of multiple data collection methods, multiple independent investigators or different data sources to confirm interpretations and evidence (Devers 1999).

Triangulation is therefore utilised to ensure a level of validity of the findings (Patton 1999). In this case, multiple data source triangulation is used as three methods of data collection methods were used to collect the data. Triangulation of data collection methods is when data is collected through multiple methods, and compared to enhance understanding of research issues (Krefting 1991). In this study, observations were complemented by in-depth interviews. The in-depth interviews were the primary source of data to capture what contexts

and views that escaped casual observation and the focus group presented an opportunity to hear views of participants in a social setting with their peers. The three approaches were thus appropriate for understanding the factors influencing use or non-use of mobile banking facilities, setting in place the relevant contexts of use, and establishing a certain pattern of use by urban low income earners.

Additionally triangulation of data sources was also utilised. According to Krefting (1991), triangulation of data sources is when a number of sources - based on different time, settings or backgrounds - are used to understand the phenomenon in question. This enhances credibility of the study. In this, study different users of mobile banking services from different locations and different backgrounds were interviewed. This provided multiple perspectives of influencing factors for mobile banking usage, and allowed for comparison of the findings. This improved the quality of the research.

The interview guide was pilot tested and modified before being used in the field to achieve a higher level of validity and reliability. The observations were recorded during the interviews and thoughts were summarised immediately after the interviews to ensure documentation of reliable data for the study. The recorded data was transcribed and transcribed work was checked against the recordings to ensure accuracy of the data captured. This reduces the chances of errors and presents a more trustworthy research outcome. Checking unclear areas with the respondents, wherever possible, enhances credibility and accuracy of the study in capturing the truth (Denscombe 2007). Some respondents were therefore asked to check the summarised records of the interviews.

To guarantee reliability of the research, significant rich data was collected in the constrained time frame. Detailed description can assist in the understanding of the research findings and contribute to reliability of the data (Creswell and Miller 2000).

2.21 Data analysis

Process notes were taken during the whole period of data collection, and observations were also noted. After every in-depth interview and focus group study, the interviews were immediately summarised to record immediate impressions and analysis of the study. After the data was transcribed and coded, broad themes were identified which consider the broad ideas from the respondents and popular terminology. Codes were guided by the capabilities

theory, but other codes were developed from the responses as the analysis progressed. A thematic analysis encompasses analysing and identifying patterns and themes in collected data, and can provide categories for analysis of the data (Fereday and Muir-Cochrane 2006). It is a flexible approach that can be used to report rich data on meanings and experiences of individuals in a social context (Braun and Clark 2006). There are two ways in which themes can be identified in a data set. Firstly, there is the inductive thematic analysis where the researchers develop the themes from the data collected, without directly linking them with the questions asked or a predetermined theoretical background (Braun and Clark 2006). Secondly, a theoretical thematic analysis is essentially when the researchers' background knowledge and interest is used and the research questions together play a role in moulding the themes (Braun and Clark 2006). A theoretical thematic analysis was used in this study to identify relevant themes in the data.

As a very flexible method of analysing data, the thematic analysis can be used with an existing theoretical framework to bolster the interpretation of the data collected (Braun and Clark 2006). The study uses the Capabilities Approach as a framework and Alampay's (2003) approach to operationalising the CA to develop sub-categories of findings. As this study seeks to understand behaviour of individual mobile banking users, the thematic approach was the appropriate approach to determine themes and patterns of behaviour that can answer the research questions.

A number of themes and patterns around usage and contexts of usage then emanated from the theoretical thematic analysis. To effectively analyse the results of the thematic analysis, thematic maps were used. Thematic maps or networks are web-like illustrations that show the main themes emanating from qualitative data (Attride-Stirling 2001). 'The technique provides practical and effective procedures for conducting an analysis; it enables a methodical systematisation of textual data, facilitates the disclosure of each step in the analytic process, aids the organisation of an analysis and its presentation, and allows a sensitive, insightful and rich exploration of a text's overt structures and underlying patterns' (Attride-Stirling 2001:386). Themes within different social groups - especially the immigrant communities - were clearly apparent. Findings of users were compared and contrasted between the different social groupings, and the user findings were also compared with the findings of the non-users.

Thematic maps were generated, and the themes were grouped in line with Alampay's (2003) framework of operationalising the CA. Further analysis and clustering of themes resulted in establishment of first order and second order themes. This demanded intensive study and familiarisation with the data in order to accurately capture the relevant themes.

2.22 Limitation of the study

The study was highly dependent on the cooperation of Wizzit Bank officials, particularly in the identification of a sample, and gaining access to respondents. This over-reliance on Wizzit Bank cooperation may have impacted progress of the study, as identification of respondents was dependent on the Wizzkids' availability and free time.

The area of finances, money and savings is a sensitive area. Participants were not so forthcoming with information related to their finances, particularly savings and salaries, and some refused outright to answer the finance-related questions. There is a possibility that participants exaggerated figures to impress the researcher. As the researcher could not speak the local language, therefore a research assistant was engaged to translate, interview and transcribe the data. The lack of proficiency in the local language of the researcher was a significant limitation to the in-depth exploration of the research questions. Although the research assistant was adequately trained, full participation by the primary researcher in the data collection process would have presented a more holistic and solid understanding of the issues in question.

The language barrier with Somali immigrants made it difficult to understand some of the respondent's comments and interpret them accurately. Although they spoke in English, their English was not easily understood by the research team.

2.22.1 Limitations in sampling

Although this study focuses primarily on the urban population, limitations of sampling are acknowledged. The approach of in-depth interviews with users and non-users in Johannesburg does not necessarily present a holistic picture of usage of mobile banking solutions in South Africa by the urban poor. The choice of urban low income earners instead of the rural poor limits the focus away from the extremely poor users in South Africa, since the poorest segment of the South African population (who live in rural areas) were not

interviewed. The focus, however, brings to light issues of financial exclusion beyond distance, and focuses on how mobile banking models are impacting the lives of the unbanked and under-banked urban and peri-urban residents. A quantitative approach could better determine the national perspective of the usage of mobile banking in South Africa. A survey of the users in South Africa may be more indicative of the South African experience. The results of this study cannot be generalised across low income populations.

The use of one case study may have contributed to sampling bias, as only users of mobile banking from one institution were considered in the study. Additionally, the one unit of analysis is not representative of the country as a whole. These limitations are acknowledged.

2.22.2 Limitations of data collection method

The use of solely qualitative methods could have impacted the quality of the output, as a quantitative section in the study could have best analysed the impact of demographic factors that include gender, race and income on mobile banking use. Despite these noted limitations, the study is a robust foundation for usage studies in the ICT4D debate.

2.23 Chapter conclusion

The chapter has summarised the research methodology and the sample utilised in this study. To understand the usage patterns and the factors influencing use and non-use of mobile banking by individuals in an informal setting, a qualitative research methodology was utilised. The research methodology was clearly relevant to the study at hand, and links with the theoretical framework of Amartya Sen's Capabilities Approach. A purposive sampling strategy, complemented by the snowballing sampling technique, was used in the sample selection. The data was then analysed using theoretical thematic analysis. The findings of the study will be presented in the subsequent chapter.

CHAPTER 5: Presentation of findings

This chapter will summarise the key findings of research. The results of the focus group discussions, in-depth interviews and observations are presented in this section. The influencing factors of use and non-use will be described. The themes emanating from the thematic analysis guided by Alampay's (2003) framework for operationalising the Amartya Sen Capabilities Approach will be presented.

5.1 Description of the selected study locations

It was observed that Soweto and Orange Farm were dominated by low income housing and informal settlements. Each area, however, had a central shopping centre where banks were available within walking or public taxi distance. Most users in these areas were native South Africans with a few immigrants who were not anxious to participate. Roodepoort is a middle income residential area; however, this is the business place for a number of the hawkers and the taxi drivers who reside in low income neighbourhoods that have sprouted in and around Roodepoort. The business situations in which they were most likely to conduct transactions helped explain the contexts of use.

In Mayfair, users identified were mostly immigrants who are employed in the informal sector. Their small businesses, mostly tuck-shops, were in other low income areas, and not necessarily in Mayfair. Users ranged from the younger generation to an older cohort including older men. The younger generation tended to not have problems with being interviewed; however, women were not willing to be interviewed. Despite agreeing to be interviewed, some of the men were very secretive about a number of issues and were hesitant to comment on certain aspects of the discussion.

5.2 Description of study population

Below in Table 3 is a summary of the characteristics of the study population:

Table 3: Study population characteristics

	Age	Gender	Occupation		Nationality	Number of years with mobile phone	Period using Wizzit Bank	Distance from bank branch	Location
Immigrant 1	20's	Male	Driver	Informal sector	Somalian	Long time	6 months	3 minutes	Mayfair
Immigrant 2	23	Male	Student	Unemployed	Somalian	12 years	2 months	3 minutes	Mayfair
Immigrant 3	24	Male	Odd jobs- welding, plumbing building	Informal sector	Zimbabwean	12 years	5 months	5 minutes	Mayfair
Immigrant 4	20's	Male	Hawker	Informal sector(owner)	Zimbabwe	Long time	1 year	5 minutes	Orange Farm
Immigrant 5	26	Male	Tuckshop owner	Informal sector(owner)	Somalian	10-15 years	3 weeks	3 minutes	Mayfair
Hawker 1	40	Female	Hawker	Informal sector(owner)	South African	16 years	Less than a year	5 minutes	Rooderport
Hawker 2 and Hawker Association chairperson	51	Female	Hawker	Informal sector(owner)	South African	Long time	Less than a year	5 minutes	Rooderport
Taxi Driver 1	29	Male	Taxi Driver	Informal sector	South African	Long time	9 months(lost card after 4 months of use)	30minutes from home to work	Work-Rooderport (Home - Braamfischer)
Taxi Driver 2	36	Male	Taxi Driver	Informal sector	South African	Long time	About a year	3-4 minutes	Rooderport
Taxi Driver 3	52	Male	Taxi Driver	Informal sector	South African	Long time	2 years	10 minutes	Work -Rooderport (Home -Thokoza)
ROCSA focus group (20 users and non users)	35 - 60	Females	Unemployed and retired	Unemployed and retired	South African	Long time	Average 2 months	5-30 minutes	Soweto

Source: Author

The respondents were from diverse backgrounds and geographical areas in Johannesburg.

The user respondents' ages ranged from 23 to 60. The sample was dominated by young users in their twenties and thirties with a few users older than 40 years. With regards to the use of a mobile phone, all respondents had used a mobile phone for more than 5 years. Others did not remember when they started using a cellphone. The frequency and nature of use of the mobile phone varied depending on age. Most of the older generation mostly used the phone only for making and receiving calls before being introduced to mobile banking.

Most of the users had been using Wizzit Bank for at least a month, while the user with the longest history had been using the facilities for 2 years. Education levels varied across the sample, and most of the respondents are part of the informal economy. Most respondents reside or work within reach of banks, typically within less than 10 minutes walking distance.

Whilst the majority of the respondents had an existing bank account, or had opened a bank account before, two Wizzit Bank users had previously been unbanked. One Zimbabwean immigrant and one Somali immigrant failed to open a formal bank account due to the stringent requirements, and lack of the required documentation. One immigrant highlighted that in his community, they live communally in a house, and therefore he does not have the proof of residence that the banks require. Before using Wizzit Bank, one user was depending upon family members to save money for him. Interestingly, both are educated individuals, but they are excluded from the formal banking sector due to the stringent requirements for immigrants. They are, however, proficient users of the mobile phone.

Therefore two distinct categories of users were identified. The underbanked were the majority of the respondents, had existing formal bank accounts or had had one in the past, but were now using the Wizzit Bank. The previously unbanked, which were users using the mobile banking services as their first account. The underbanked despite their proximity to the bank branches they were mainly concerned with the convenience, affordability and personalised services offered by the mobile banking facilities. The previously unbanked were eager to be financially included.

5.2.1 Characteristics of groups

Three groups of respondents were identified. In identifying low income users of Wizzit Bank, it became clear that in each area, certain groups based on occupation or nationality were users of Wizzit Bank. In addition, it seems the Wizzkids targeted certain occupation based groups in their areas, depending on the uptake of the service. For example in Mayfair, the Wizzkid concentrates recruitment on the Somali immigrants due to the interest shown in the service. In Roodepoort, the taxi drivers are mostly targeted at the taxi rank as during the slow business period of the day, they had time to listen to the Wizzkids. Most respondents are underbanked as they had basic bank accounts, but they did not frequently use the facilities. The banks are very close to their residence or place of work, but they rarely use their bank accounts.

5.2.1.1 Immigrants

In this group, most of the users were immigrants from Zimbabwe and Somalia. Most of the respondents interviewed reside in the Mayfair area in central Johannesburg with one immigrant residing in Orange Farm. Most of the respondents own and run their small businesses in Johannesburg. These businesses ranged from running tuck shops, conducting odd jobs and selling cellphone accessories. All the respondents except two had existing bank accounts. One non-bank user was a 23 year old Somali immigrant residing in the Mayfair area and studying Human Resources at the University of Johannesburg Soweto campus. The second truly unbanked respondent was an undocumented Zimbabwean immigrant. The immigrant group had all the unbanked respondents in the sample. In the Mayfair area, the respondents were interviewed in the area where they reside as they were near the Wizzit Bank stand. The Wizzkid had a temporary branded umbrella with table and chairs set up where he was conducting his business. The immigrants were very sceptical about the interview, but the Wizzkid assisted in reassuring them regarding the objectives of the study.

5.2.1.2 Hawkers and ROCSAs

This group was mainly dominated by women who owned their small businesses which mainly consisted of vegetable stalls. Some of the focus group members in the Rotating Savings and Credit Association (ROSCA) were retired. Most members of this group used the Wizzit Bank service because of recommendations by their friends or family. Most

respondents used Wizzit because of the nature of their business or because they were expected to use it for group transactions. The group was dominated by respondents with unpredictable informal income, no income at all or social welfare grant recipients. While most of the users in this group were older and not technologically savvy, they were still eager to learn and use Wizzit Bank services.

5.2.1.3 Taxi drivers

Most of this group consisted of male native South Africans. Most respondents in this group were older males employed in this informal sector with family members who relied on their income. Their incomes were not fixed, but rather depended on the business generated in the month. Their jobs were not secure as they were not based on any work contract. This group was dominated by mobile literate individuals who could navigate through the mobile phone functionalities effectively.

5.3 Conversion factors - differences among people

The study reveals a number of conversion factors that motivate or inhibit Wizzit Bank clients from using the service. The following is a summary of the key factors identified by respondents, and they are aligned to Alampay's (2003) framework for operationalising the Capabilities Approach. The findings are organised in line with the theoretical framework capturing the age, gender, income, motivation, profession and mobility, skills/education, location and the perceived importance of mobile banking. Some respondent quotes are noted within their emerging themes.

5.3.1 Age, technical capabilities and mobile banking

Technical capabilities and age are key factors that impact use of the mobile banking service. Although most of the respondents revealed that conducting transactions via mobile phone was easy, some elderly women - particularly the ones in the ROCSA - were technologically challenged. The study finds that their interaction with the mobile phone was merely for answering phone calls. As for other services like sending text messages or buying electricity, these activities were usually assisted by their children or grandchildren. One respondent commented that, *'We are old, we don't understand the mobile things, we don't understand emails etc. we are just using the sms and make calls, that's how we use our phones, we don't*

understand the mobile thing...what is that' (Hawker 2). Most users had primary education with a few possessing secondary education, and one respondent pursuing a degree. The older women have basic reading skills, but they were not incapacitated in mobile phone services. The ROCSA is fortunate to have a Wizzkid as a member of the association, and they also depend on their extended family and the Wizzkid network for assistance. Some would then use alternatives like Shoprite to send money if they failed to use Wizzit and could find someone to assist them.

Operational modalities were identified as one of the factors that inhibit use of mobile banking. Some respondents highlighted that they had failed to deposit money into their accounts because they did not have the required client account number for depositing money on the deposit slip at ABSA bank. The form at ABSA requires the Wizzit Bank users' account number and the main Wizzit Bank account. If the user does not fill in their own account number, the deposited funds will sit in the Wizzit Bank account, and will not be able to be allocated to the user because of the lack of details. Wizzit Bank therefore can only allocate the funds if the user informs them of their query and furnishes them with the deposit slip. Without the required information, Wizzit Bank clients stop using the facility due to these operational challenges. One Wizzkid highlighted that some branches explain the deposit slip to users, but some do not go the extra mile to explain to the customer the correct way of filling in this form. Respondents confirmed that after requesting assistance from the Wizzkids, they were able to deposit their funds successfully.

Another issue that was raised by the Wizzkids was that non-South Africans took longer to complete registration because visa permits needed verification with the Department of Home Affairs. This experience is different from that of native South Africans, whose registration is completed and account activated immediately. Another issue that was highlighted by the Wizzkids concerning non-usage of accounts was that clients lose PIN numbers, and the same clients do not contact them to be issued new PIN numbers. Mostly the older users lost their PIN frequently. The Wizzkids highlighted that an individual could replace his or her card during the weekend through the Wizzkids. Some respondents also expressed frustration at the lengthy and costly process of getting an account statement.

5.3.2 Gender and mobile banking

It was clear that most of the women used the mobile banking service to facilitate transactions on their own, and sometimes without the knowledge of their husbands. Most transacted with their children and friends and never with their husbands.

Additionally, women did not hesitate to open the Wizzit Bank accounts as long as the value of opening the account was clearly explained. They also opened accounts for their children and grandchildren. In the Somali immigrant community, it was more difficult to find female users of the service; although the Wizzkids highlighted that they were some who have opened accounts. Although the Wizzkids working in the Somali community highlighted that there were some female users, because of aspects of the Islamic culture, they were very few registered, and none of them were willing to be interviewed.

5.3.3 Income and mobile banking

The types of utilised mobile banking services are also dependent on the economic status of the user. Some respondents merely used Wizzit Bank to save their money, and used it for their own personal needs because their low income limited use for further transactions with friends or family, for example. In other words, they had no disposable income to give to others, and therefore did not use Wizzit Bank to transfer money to others or for other value-added functionalities. When Wizzit clients make the decision to use or not to use Wizzit, their financial situation is a huge determining factor. One respondent highlighted that, *'No, It's not alright because I've got a child, my mother looks after my child and she is not working so I'm the one who needs to take care of them and support them financially; so now can you see what I meant when I said the money I'm getting is little? I try my best to balance things at home. It's better than just sitting at home doing nothing. No one will give me that R5 if I ask them. Even you can't give me R5 now even though you are working. Can you give me R5?'* (Taxi Driver 1)

'I don't make a lot of money but when I do have money I save it and only use a little. I prefer to save a lot of money and be left with just a little to use.' (Taxi Driver 1)

Incomes can be irregular and unpredictable, especially for hawkers and taxi drivers. This drives them to save frequently for unexpected eventualities. One responded summarised this

in this statement, *'You know anything can happen, if you don't save money you're in trouble. I save money for emergencies like funeral, hospitals etc.'* (Taxi Driver 2)

5.3.4 Motivations and mobile banking

5.3.4.1 Financial services for the family

Most of the respondents use Wizzit Bank to save money, and one major attribute for women in particular was the ability to open accounts for their children and grandchildren. They reiterated the ease of opening accounts without being asked for a lot of supporting documentation, and this minimum criterion encouraged them to open the accounts. The women in the social groups confirmed that being able to open accounts for their grandchildren helped them to deposit money and accumulate savings for their future. The grandmothers would then be able to guide their grandchildren to manage their own finances. They were motivated to open a Wizzit Bank account because of the possibilities of facilitating financial inclusion for their families. The immigrants were saving towards sending lump sums of income home, and the local South Africans were using savings for planning special events or holidays for the families. The transfers for the women in the ROSCA were mostly to their children and, interestingly, **not** to their husbands.

5.3.4.2 Wealth management

One of the other reasons that the Wizzit Bank account holders opened Wizzit Bank accounts and still kept other formal banking accounts was to be able to maintain separate accounts for different purposes. When asked why they still kept both the Wizzit Bank account and the traditional bank account operational, most respondents highlighted that one account was used specifically for savings for the children, and the users did not want to mix accounts used for long term savings with accounts for day-to-day needs. One respondent summarised this concept effectively: *'Standard Bank is specifically for the kids, I don't want to mix up my monies'* (Taxi Driver 3).

5.3.4.3 Personal goals

The use of Wizzit Bank and the motivations for use were centered on addressing the short term and long term personal goals that users had. These personal goals varied from saving to

buying an asset, securing employment or, in the immigrant's case, an opportunity to save and start one's own business.

'I purchased airtime with it a lot. I had about R400 in my account and I used it to purchase airtime while I was busy looking for a job. When I saw a post/ vacancy advertisement on a newspaper I would use it to purchase airtime' (Taxi Driver 1).

In the above example, Wizzit Bank facilitated the achievement of a personal goal for the now employed taxi driver.

5.3.4.4 Privacy

One interesting aspect mentioned by one of the respondents was that mobile banking provides the users with more privacy regarding their finances and wealth portfolio. In one case, the respondent used the Wizzit Bank transfer facility because it was a more private way of sending money to his family. They highlighted the difference between Wizzit and the traditional way of sending money by physically handing over money to relatives, friends or neighbors who were going to where his or her family resides. The traditional ways made known the amounts sent through the friend or neighbor delivery person who would physically send the cash to family periodically. This meant that the financial status of the sender became common knowledge to friends or neighbours. Wizzit Bank was therefore perceived as a service that offers them the privacy that they desire.

5.3.4.5 Convenience and affordability

The study reveals that users appreciate the convenience of accessing services in the different branches, and that the affordability of services is an influencing factor to their use of Wizzit. Below is a summary of some respondent quotes:

Factors	Respondent Quotes
Convenience	<i>No, I don't say I'm leaving Absa no I'm using both but the one which is easier for me is the one I'm going to use now but now Wizzit Bank is gonna be the one. Migrant 5</i>
	<i>Whenever I want to withdraw money from Wizzit I get it</i>

	<i>without any hassles and I can withdraw from any bank Absa or Postbank. Taxi Driver 3</i>
Affordability	<i>What I know is that Absa has high banking charges, so I prefer to use Wizzit because their charges are reasonable. Taxi Driver 2.</i>

Convenience of the service has encouraged the underbanked and unbanked to use the services to conduct transactions within social groups. Social groups in this study are defined as two or more individuals who are brought together for a common purpose. This includes the ROCSA and the identified occupation or citizenship groups. The ROCSA of older, unemployed women has encouraged all members of the association to open Wizzit Bank individual accounts. This made it convenient to conduct the disbursements of their communal savings into individual accounts. Most association members have existing bank accounts with other banks, but the association encouraged every member to open the Wizzit Bank account for the mentioned purpose. It seemed that most members valued their membership with the group as it instilled in them a level of discipline in saving that they may not have handled on their own. Additionally, it seemed as though they enjoyed the periodic social interactions of their meetings.

It is interesting to note that one user stopped using the Wizzit Bank account when the savings association was no longer in existence, and only re-opened a new account five years later when she re-joined another social group. The social group expected the member to have a Wizzit account because it allowed for convenient transactions to be facilitated within the group. An interview with the chairperson of a Hawkers Association highlighted that the association offers loans to its members to purchase stock to keep businesses afloat. She highlighted that they initially had individual Wizzit Bank accounts, and then opened a group/business account for their association, and now encourage every member to open a Wizzit Bank account. The pooled account is used to store borrowed funds meant for lending to the association members.

The extent of the personalised touch that vulnerable groups' desire is best summarised by a ROSCA member who stated, *'...and then Wizzit ...when it's your birthday I like that they send you a message and say happy birthday to you'* (ROSCA Member 1). An interviewed non-user of Wizzit Bank referred to Capitec Bank, which also targets low income earners, and highlighted its service and products as offering client-oriented services. Some of the non-users highlighted that they had stopped using Wizzit when they were informed that they had to travel to Sandton to get a printed bank statement or have it faxed from Sandton.

5.3.5 Perceived importance of mobile banking

5.3.5.1 Dissatisfaction with formal banking services

Participants highlighted how the formal banks were providing services that were not affordable to them as the charges were too high for the small amount that they earn and deposit into their accounts. The respondents perceived there to be no transparency on the service charges. *'With other banks if you withdraw money and you leave only R50 they tell you, you no longer have money in the account so you don't know where that R50 disappeared to,'* stated the Hawkers Association chairperson. Additionally, if the account is not used, most formal banks close the account. One respondent noted, *'I was using Wizzit a lot so I stopped using my Nedbank account because I thought they closed it.'* (Taxi Driver 1).

One issue that was clearly raised by a number of the respondents was that the formal banking sector did not offer the personalised services that they think they deserved as customers. The following quote demonstrates this:

'What I also like about Wizzit is that we can communicate with them via the phone, with other banks you'll have to go to the branch and stand in the queue. If you have misplaced your card you can contact Wizzit. When we lost our card we called Wizzit they asked me to bring copy of registration and other documents. I brought all the requirements and after a few minutes they came back to us and issued us with a new card' (Hawkers Association chairperson). Below are some quotes:

Factors	Respondent Quotes
Perceived importance	<i>I realised that I can buy electricity and airtime without</i>

of ICTs

going to the store. Taxi Driver1.

What interested me is that I can use it even when I'm out of the country like Maputo, Zambia, Namibia. I'm a foreigner so because I travel a lot I can use it to save money wherever I am, that's what interested me a lot. Taxi Driver 3

Most respondents highlighted that the reasons they joined Wizzit Bank were because they were informed by Wizzkids that the facility was easy to use and could facilitate banking transfers over the phone. Most of the respondents had bank accounts, but they had no time to go to the bank to conduct financial activities. They therefore took up Wizzit Bank because they perceived that they could conduct their financial transactions over the phone whilst still conducting their everyday business. However, most of the users preferred using Wizzit for savings more than the transfer facilities. The convenience of the useful service within their lives was a major determining factor of adoption. Most respondents could get access to a physical bank but preferred using the Wizzit because it was convenient and easy to use. The physical access was not a barrier to formal financial services but the inconvenience of using the brick and mortar facilities was a barrier to access.

5.3.6 Profession, mobility and mobile banking

This study finds that the employment situation and nature of the individual's profession often determined how and why individuals use their mobile banking account. Most of the taxi drivers revealed that they were motivated to save money in the mobile banking account because their future was unknown. Most users saved an amount each month to accumulate savings for an unknown future. One respondent's concerns were captured as, *'I was saving money because in a taxi business there's no guarantee, tonight the boss can just tell you that you no longer have a job. So I was saving it for rainy days'* (Taxi driver 1).

Therefore, the lack of job security impacts on which mobile banking services an account holder is motivated to use. The research finds that the type of job the Wizzit Bank account holder has also influences usage. With their profession, taxi drivers are constantly on the road

and have a limited amount of time to conduct financial transactions; therefore the mobile banking solution presents a convenient and fast solution to banking needs. They use Wizzit Bank to buy airtime, pay for electricity and transfer money to their families whilst they are at work.

The hawkers also highlighted that, in their informal settings, sometimes business is slow and high transaction costs would be detrimental to their profitability. Additionally, they were not eager to leave their vending stands unattended to go to the bank. Wizzit Bank mobile banking services do not require the client to leave their business premises. Therefore, the mobile banking service addresses a need in a way that complements their business operations.

The findings show that most of the respondents use Wizzit Bank for savings, and once they had met their financial goals, only then did they utilise the transfer services. The study finds that users store their money in their accounts and do so almost every month. The amount saved depends on the amount earned per month; the more income earned the greater the deposit for savings. The money is saved for unforeseen circumstances that include unemployment, funerals and health issues. The mobile banking service is not necessarily used for day-to-day transactions, but is frequently used for airtime purchases and electricity purchases, such as when the pre-paid electricity is cut unexpectedly. Mobile banking is used in the economic portfolios of the unbanked and under-banked.

5.3.7 Convenience and affordability of mobile banking services

Wizzit Bank can come to your place of residence or place of work to open the account. Additionally, if a client loses their PIN number or if they require their card to be replaced, they can call Wizzkids anytime and the card can be replaced, even outside of normal working hours and during the weekends. This is an added convenience that a normal brick and mortar bank branch cannot provide. Although some Wizzit Bank services are not cheaper than traditional bank entry accounts, the convenience of the mobile phone and the agent network encourages uptake and usage.

5.3.8 Location and mobile banking

The findings show that the location of the respondents impacted on the respondent's use of the mobile banking service. Most of the urban dwellers had extended family in the rural

areas, and therefore were motivated to use the transfer service to send money home. Funds are probably expected to be sent to the rural areas from the urban areas where the breadwinners originally reside. The location of the respondent therefore impacted use. One respondent comments, *'I send money to my mother using Wizzit, and it's much easier when she also has a Wizzit account because it's a transfer from Wizzit to Wizzit'* (Taxi Driver 2).

5.3.8.1 Financial services needs

Wizzit Bank now offers credit facilities, but this service requires the client to come to their head office in Sandton to apply. Although many respondents are interested in credit facilities, the requirement to travel to the offices to apply for the loan deters most clients from accessing the service. The funeral plan that Wizzit Bank offers at R20 a month was highlighted as an important feature of the service that has encouraged others to try Wizzit Bank. The value added services offered by the bank have also encouraged adoption of the service, revealing that low income earners need access to other financial services beyond mere bank accounts.

5.3.9 Trust factors

Trust factors were identified by users who used the various facets of the mobile banking services. This includes the services offered, the identity of the banking service provider and the availability and visibility of its respective Wizzkid agents. What is interesting to note is that none of the users identified the lack of trust in the mobile phone, perhaps because most users did not conduct transactions using the mobile phone frequently and none have used the mobile phone for bill payments. Most preferred to go into the banking halls of the partnering banks to withdraw their money and only use the phone to check their balances and conduct airtime and electricity purchases.

5.3.9.1 Trust issues related to the service offered

One interesting aspect within the Somali immigrant community that is impacting uptake and use was the perceptions around affordability and low barriers to entry of Wizzit Bank. This study finds that some respondents were apprehensive about Wizzit Bank because these attributes seemed too good to be true. In other words, the immigrant community were suspicious of a bank account that is affordable and easy to open because of their experience

with conventional banks. An interesting illustration of the relationship between trust and affordability of services was well illustrated in a description from one immigrant. A 23 year old previously unbanked college student stated: *'...if you are going to go to school and a school is cheaper than other schools, the students ask why the school is cheaper....because maybe the teachers are low. So they ask themselves why this card is easy to get....'* (Immigrant 2).

In order to enhance trustworthiness of the Wizzit services, one respondent recommended that Wizzit Bank use Somali students to translate its services to potential Somali immigrant clients so that they can explain the services better. Other statements provided to Wizzit Bank in order to improve usage included, *'Yeah the way they could improve it is to make it more trustworthy to our community so that they can use it'* (Immigrant 2). Additionally, he recommended that a workshop could be held to provide information and thereby gain trust, as people were not comfortable with depositing money *'in a card you get in the street'*. One interesting aspect is that Somali immigrant communities have their own informal way of sending money to relatives back in Somalia. The immigrants remit money using their own trusted system that involves their community association. When asked about how they send money home, one respondent was not anxious to respond and said, *'(sigh) it's just you know, I think its social issues, its social issues'* (Immigrant 2). The immigrant community has their own social arrangements for sending money back home because they trusted this conventional system with their earned income.

Indigenous South African respondents also mentioned trust issues as a factor that influenced their use. It was interesting to note that one respondent actually tested the system to check if the right amount of money would be sent and received and the right fees would be deducted from his account. He confidently noted, *'No I don't transfer money often; I just wanted to see if what they were saying about it was the truth'* *'Yes I was testing it and I was impressed'* (Taxi Driver 3).

5.3.9.2 Trust factors associated with the identity of service provider and partners

The issue raised by respondents of awareness campaigns links with an issue that was raised by other respondents as well. One Wizzkid highlighted that some clients ended up not using

the Wizzit Bank facility because partners and service providers did not recognise Wizzit Bank as a legitimate Bank or did not know it existed. Therefore, when clients tried using the card at retailers or banks, they were not allowed to perform their transactions because shop owners or the teller did not know Wizzit Bank. This discouraged Wizzit Bank users and they prematurely stopped using the facility. The embarrassment from the rejection of the Wizzit Bank card may make users lose trust in Wizzit Bank, and they discontinue using it. The Wizzkid highlighted that the nature of Wizzit Bank's license operating as a subsidiary of the Bank of Athens did not permit them to market their services as fully fledged banks do. Wizzit can only market services through Bank of Athens, and not as an independent institution. He related one incident he witnessed in a Pep store where a Nigerian man was flatly refused use of his card to purchase goods from the shop. The Wizzkid had to intervene, and only after speaking to the manager was the man then allowed to use his Wizzit Bank card to pay for his purchases. The issue was that they were not aware of Wizzit Bank and its debit card. This was also highlighted by other respondents who specified that they sometimes then resort to trusted alternatives that include Checkers/Shoprite Transfers to facilitate transfers and use cash to make payments. Non-users reiterated that they had not used Wizzit yet because they did not know enough about it to trust the service.

Wizzit Bank issues Maestro branded cards that can be used on any Maestro branded ATM and Point of Sale (POS) machines anywhere in the world. Additionally, Wizzit Bank cash in transactions can be conducted in ABSA banking halls anywhere in South Africa. ABSA is one of the leading commercial banks in South Africa. The study finds that some users associate Wizzit Bank with a level of '*seriousness*' as the debit card can be used anywhere in the world. They refer to it as an '*international bank*'. This motivates them to use the mobile banking services confidently. One respondent actually commented that the Wizzit Bank is different from ABSA as it is an international bank. One user commented, '*you see the Wizzit Bank is the good bank than other people because you see it's the under of the Absa bank*' (Immigrant 5). Some of the non-users of Wizzit Bank, when quizzed about why they had not opened Wizzit Bank accounts, referred to their fear of being scammed. When the aspect of ABSA being a partner to Wizzit Bank was brought to their attention, they were motivated into looking into opening a Wizzit Bank account. Essentially, the association with a known financial institution like ABSA increased user trust in Wizzit.

5.3.9.3 Trust issues related to the location/proximity of Wizzkids

In Wizzit Bank's case, the bank account registration is done by Wizzkids, however, the cash in / cash out function can be done at various partner branches including the Post Office and ABSA. Most respondents appreciated the use of Wizzkids for registration as they could be immediately taught how to use Wizzit Bank to facilitate transactions. Some respondents, however, highlighted that when they could not locate the Wizzkid when they had a query or needed assistance. This resulted in them not using the service and looking for alternative banking activities.

The Post Office in certain areas has accommodated Wizzkids to use space within their banking halls. However other Wizzkids are less fortunate and have no fixed location from where they operate. This lack of a fixed place of work impacts on trust and ultimately usage. One Wizzkid drew my attention to an area called Kahlekong where Wizzkids do not have a fixed office. She observes that there is less growth and usage there in comparison to areas where a Wizzkid has been strategically located in the Post Office. More clients have committed their trust to Wizzit Bank and therefore more usage is recorded at the fixed location. Users trust that when they need assistance they can go directly to the Post Office and find a Wizzit Bank agent.

Wizzkids also revealed that there is a high staff turnover at Wizzit Bank, specifically with regards to Wizzkids. This turnover has resulted in users losing confidence in the service. When the agent who opened their account cannot be found, clients are found to then keep dormant accounts and make limited use of the service. When queried about the Wizzkids sometimes not being there and how it makes them feel, one respondent said, *'Ah it makes actually to think twice now because I don't see any bank of Wizzit is around and the guy who did open the account for me is not here you see ...'* (Immigrant 5). Additionally, some respondents noted that the way the Wizzkids explain and resolve a service issue for them is differs among the various agents; therefore the high staff turnover can affect usage of Wizzit Bank negatively.

On the other hand, it is interesting to note that some Wizzkids have been located in specific areas for a significant period of time, and were trusted by their clients to deposit money for them in their accounts. Some respondents, however, mentioned that they trusted Wizzit Bank

because of the use of the Post Office as cash in/cash out office. For them, the association with this governmental institution that they have known for a long time gives them the confidence that their money will be there when they need it.

5.3.9.4 Trust issues related to lack of knowledge

One aspect of trust that was highlighted was that a service might not be trusted because of a lack of sufficient information and education around the product, particularly in sensitive communities. This was well articulated by one respondent as: *'I didn't ask them, you know especially our community they don't know how to use, and they...you know in Somalia we trust each other face, hand to hand, we don't know this kind of business and they are not educated much of them, most of them they are not educated. That's why they think, they want everything must be easy...'* (Immigrant 2).

The lack of knowledge of the mobile banking service seems to be an issue that impacts usage. When potential and existing account holders do not understand the mobile banking process fully, they do not trust its services, and therefore do not use its facilities.

5.4 Functionings

5.4.1 Actual use

Using the theoretical framework as a lens of analysis, the study also examines the benefits, opportunities and/or challenges that mobile banking has presented for users. Specifically, the use of mobile banking and the circumstances where the mobile banking facility was actually used. Usage findings are summarised below:

Use	Respondent Quotes
Deposits	<p><i>Once a month, but sometimes when Jane* is here I ask her to deposit R50 for me. Taxi Driver 2</i></p> <p><i>I get paid weekly so initially I deposited R200 and later on I put in another R200. Taxi Driver 1</i></p> <p><i>Yes sometimes I save R400 a week, but currently I have some financial problems so I haven't put in money in a while but I'm sure I've got R3000 in my account. Taxi Driver 3</i></p>

Bill payment	<i>No I don't use it to pay for store cards; I only use it to purchase airtime and other important things. Taxi Driver 3</i>
Airtime purchases	<i>I bought airtime for myself and someone else. Taxi Driver 2. I use MTN, so instead of going to the bank I buy sometimes 3 thirty rands a day, sometimes R100, sometimes 2 thirty rands. Migrant 1.</i>
Transfers	<i>No I didn't use to transfer money...No but they...you know my budget is still small that's why I when I maybe...I don't have much friends to send some money, my friends they support me you know.</i>

*Name changed to protect identity

The patterns of usage are dependent on the need for the service. In line with the Capabilities Approach, the mobile banking services are taken up differently by different people. Of those that used the service for airtime purchases, they used it very frequently for this particular reason. Of particular note was one respondent who was looking for a job and therefore bought airtime frequently. The service most consistently used was the savings facility where the respondents deposited money in the brick and mortar bank branch each month. Users also seemed to be more comfortable with checking their balance on the mobile phone than making bill payments.

5.4.2 Where mobile banking was accessed

Alampay (2003) emphasises that understanding functionings requires the exploration of use contexts and scenarios of use. Below is a summary of where mobile banking was actually used:

	Respondent Quotes
Electricity purchases	<p><i>It was emergency actually I needed it you see, I went to my house it was dark so there's that they're selling it they say it's finished so I decided to buy it from my cell. Migrant 5</i></p> <p><i>Yes I also use it to purchase electricity but I purchased it once because it was late and I was desperate. Taxi Driver 3</i></p>
Airtime purchases	<p><i>Yes I used all of it; mostly to purchase airtime because I was job hunting. Taxi Driver 1</i></p>
Savings	<p><i>I make sure that every day I save R50, at the end of the month like now it's December; it's almost Christmas I'm going to use that money to buy clothes for kids. So the money I put in a Wizzit Bank account I don't use, I only save it. Taxi Driver 3</i></p> <p><i>When I get money today I make sure that I save it because there's no guarantee that I'll still be having a job tomorrow, I save money so that I can survive tomorrow in case I lose my job. Life is tough; everything needs money. Taxi Driver 1</i></p>
Transfers	<p><i>I sent money to the person in Nelspruit because he was stranded, he desperately needed it and I didn't know how I can send it to him. He gave me his banking account details, I transferred the money and it went through. I didn't experience any problems. Taxi Driver 3</i></p>

The study shows that there is usage of mobile banking services in low income areas in South Africa. The scenarios in which the services are used depend on the individual needs of the users and their circumstances. Respondents frequently used the savings facility to save for future family functions, and the transfer services and electricity payments were mostly used in times of emergencies and in instances where a timely intervention was required. When the

transfer facility was used, it was used to transfer money to parents and children in other provinces in South Africa for groceries. This was done consistently each month as most of them are breadwinners in their families. The mobile banking service is used to expedite the meeting of family needs that would otherwise take longer to meet.

Users acknowledge that the mobile banking service is fast and convenient. Additionally, there was the frequent use of the words ‘*emergency*’, ‘*desperate*’ to refer to unique instances where money was transferred to family members and friends when they needed assistance in a timely manner. Therefore, beyond the irregular transfers to family members, some transfers were initiated when a friend or family member was in a desperate situation. These words were also used with reference to electricity purchases in emergency situations where the electricity has been cut off.

5.4.3 Benefits of using mobile banking

The study shows that there were a number of benefits for the users who used the mobile banking facility. These are summarised below:

	Quotes
Safe storage of funds and increased savings	<i>For me it changes a lot because sometimes you know if I put R100 in my pocket it's easy to use same time and finish. Sometime this is keeping my budget. Yeah I'll be getting lazy to go far and draw, so there my money is always inside the card and then I don't see my money. When you see your money in physical maybe you take it bit by bit.</i>
Convenience	<i>Right now if I have cash in my hands and I don't want to use it, obviously I will put it in my Wizzit. The day there's a problem that same money will help me. In my opinion I think Wizzit is the easiest bank to use because no other bank does things the way they do. You do everything sitting down using your phone. I don't have money to catch a taxi to town to go to the branch. I can transfer money to your account using my cell phone and you will get it. What if you are in Cape Town or you are very</i>

	<i>far away from the banks and you are desperate? You can just use your phone to transfer money. Going to the bank, filling out a deposit slip is a long process so for me Wizzit is the easiest of all the banks. Taxi Driver 3</i>
Affordable services	<i>What I like about Wizzit is that their charges are very low...people are losing money with these other banks so I encourage them to try Wizzit Hawker 2.</i>
Convenient access	<i>If I'm driving at night and I want something to drink, I just go to Caltex garage and buy cool drink or anything I want with my Wizzit card, if you want cash you can use it. Migrant 1</i>
Ease of Use	<i>Many people have money but they are battling to send money to their families or to other countries so Wizzit made things easier and I think it is the best. Migrant 5</i> <i>We also find out that it's so much easy to open a business account with Wizzit than with other banks. Hawker 2.</i>

Respondents highlighted that the service had impacted their savings habits positively as they have a safe place to store their money. Additionally conducting transactions on the mobile phone has proven to be convenient and easy for respondents. The mobile phone based transactions have reduced transport costs and time spent facilitating transactions. This convenience has allowed users to continue with their day to day business without wasting time going to the bank. Although the respondents could access financial services through the traditional brick and mortar facilities they preferred the mobile banking facility as it offered convenience and easy to use facilities. The mobile banking services give them the freedom to continue with their day to day income generating activities without wasting time conducting transactions in banking halls. The mobile banking service seems to have contributed to achievement of things users' value in life.

5.4.4 Challenges of mobile banking

There were challenges with using the platform. The high staff turnover and high mobility was highlighted as a major issue that deterred use in certain locations. The users depended on the visibility of agents and absence of an agent impacted use. One user explained his challenge in accessing agents, *'yes those ladies told me the same thing, but I don't see them around these days. I told them I still want that card because it worked for me. Maybe they will come back again'* Taxi Driver 1.

The agent process of resolving challenges was long and impacted use of the services. The interaction with the head office in Sandton demanded that agents travel to Sandton when issues were not resolved and this usually took long and impacted use. The challenge in the agent network has left some underbanked users using their other accounts to facilitate transactions.

5.5 Chapter conclusion

This section has comprehensively presented the findings of the study. The section has identified the factors influencing adoption, the actual usage levels and patterns of the service and the findings on situations and purposes of use of Wizzit Bank by low income users. Most users use the mobile banking facility to store their money and facilitate transfers driven by the need for affordable and convenient services. Patterns of use, however, are dependent on the service and the individual needs. Most respondents were motivated to use the services because of the dissatisfaction with or failure to access services in the formal banking sector. Gender, income, profession, education, location and technological ability are factors that were highlighted that impact on use of the mobile banking facility. The section also revealed that the mobile banking service offers safe storage for users' funds and convenient access to funds and transfer services in instances where the bank is not readily accessible. These findings are then analysed and interpreted in the following chapter with emphasis being placed on the factors influencing or constraining mobile banking usage.

CHAPTER 6: Discussion and synthesis of findings

This section will discuss the findings presented in Chapter five and outline the implications of the findings for research and policy. The section will provide an interpretation of the findings. The primary objective of this study was to examine the influencing factors of mobile banking usage and non-usage. This study sought to understand the drivers of behaviour of low income earners in relation to mobile financial services, covering the following research questions:

- i. What is the actual usage of the mobile banking services by low income earners?
- ii. For what purposes and in what situations is the mobile banking facility being used?
- iii. What are the factors that have enhanced or inhibited use of the mobile banking facility?
- iv. What are the benefits, opportunities and/or challenges that mobile banking has presented for low income users?

The findings are analysed using Alampay's (2003) framework for operationalising the Capabilities Approach. The chapter will cover the three components of the CA, specifically the capabilities that mobile banking offers, the conversion factors that determine achievement of functionings and the functionings and their relationship to freedom.

6.1 Mobile banking

6.1.1 Users of mobile banking services

The study finds that the actual adoption of mobile banking services by low income earners is low; however, once they sign up for mobile banking, they use it frequently. This is attributed to the marketing challenges that the mobile banking service has had as awareness of the service is limited. The study also observes that most of the Wizzit Bank users have bank accounts with financial institutions, but use the basic services periodically. Most of the users are essentially under-banked. The formal banking sector is not meeting the needs of these banked clients. They use some of their basic services, but their clients seek alternative services that meet their everyday needs. This, however, confirms Porteous (2008) initial study of Wizzit Bank which finds that the mobile banking solution had limited impact on financial inclusion, as the users were not necessarily unbanked. The study finds that users are

not necessarily poor, as most are in the informal sector or retired and earn more than 5 dollars a day.

The study also shows that women are using mobile banking services. The study finds that women are interested in the service as it allows them a certain degree of control over some of the household income.

According to the study sample, the users of the mobile banking facility are individuals from diverse backgrounds who have a need for convenient affordable banking services for different purposes in their lives. Users are mostly under-banked individuals in the informal sector. The study shows that the major drivers for use are financial services needs and that these emanate from the unique situations those individuals find themselves in. Users are therefore looking for a more diversified portfolio of financial services.

Most users were able to facilitate transactions, although age, skills and education were factors that deterred usage for some. They highlighted that the mobile banking facility was easy to use, and they had not encountered technical challenges when they registered and used the system. Most of the users of the Wizzit Bank services are therefore not extremely digitally poor, but only digitally poor as per Barrantes (2005) categorisation. They have access to mobile phones, but do not fully utilise all the services. The most encouraging aspect of the mobile banking service was the way the menu is designed and the use of vernacular language on the menu. This supports findings of a number of scholars that use of local languages encourages the use of ICTs in low income populations (Ivatury and Pickens 2006).

Of the few that encountered challenges with Wizzit Bank, a lack of knowledge was one of the most common reasons cited. However, the support rendered by family and friends and the Wizzit Bank agents ensured the continued usage of the services and improved knowledge of the mobile banking service. The Wizzkids are always visible in their areas of operation, and these agents were called upon to further explain and assist in using the service. Challenges included a lack of information about the right account number to deposit cash funds. The lack of awareness of the Wizzit Bank services made the challenges more difficult to resolve, but the existence of Wizzkids assistance was a positive factor

6.1.2 Capabilities presented by mobile banking services

The study shows the need for banking services, as the unbanked had tried by all means to access the formal banking sector, but with unsuccessful outcomes. Even the underbanked expressed various frustrations in their attempts to open a Wizzit account and their relief when they finally did. The study shows that the mobile banking service presented low income earners with opportunities to access convenient, and relatively affordable, banking services through the mobile phone. It gave them the opportunity to be included in the financial sector in a more meaningful way.

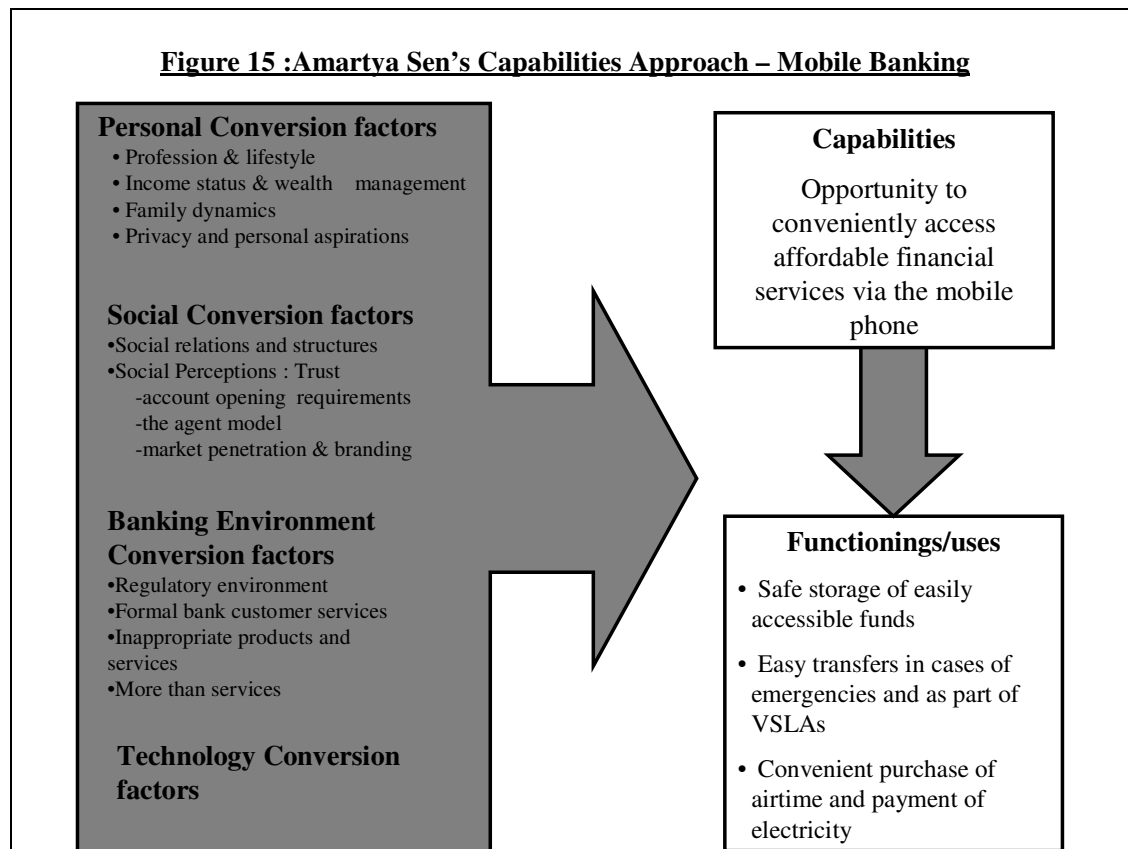
The study shows that mobile banking has given the unbanked and underbanked the capability to conveniently access financial services. The opportunity to access financial services without leaving their homes or place of work was of great value to low income earners. It was specifically important to the formally employed who had limited time to go to physical banks and very important to the self employed as they needed to be present at their place of business to ensure generation of income. Users could resolve challenges and emergencies that can include unexpected monetary needs by stranded relatives and friends by transferring funds to them and buying airtime to call family and friends. Mobile banking also allowed users the opportunity to purchase electricity if the electricity is unexpectedly cut off at home.

The users through the network of agents were given the opportunity to gain knowledge about a financial services option and gain information on how to use it. With this information, the users now have the freedom to convert this capability into actual usage..

6.2 Conversion factors

Conversion factors are the reasons that usage/non-usage of mobile banking despite knowledge of and how to use the mobile banking platform. Gencer (2011) acknowledges that the demographic, socioeconomic, political and business factors were perfectly placed for the astounding adoption rates that Kenya experienced with M-pesa. This study corroborates this finding as it reveals that socioeconomic factors and the operating environment play a critical role in determining adoption. What this study further finds is that these factors continue to play a role in the life of a mobile banking product, impacting usage specifically, as well as frequency of use and context of use. The manner, in which clients of Wizzit Bank utilise the

service, is shaped by who they are, their economic status and their family dynamics. Their mobile banking uptake and use is also determined by whom they associate with and their perceptions of the service. This section will outline these conversion factors that determine the decision to use or not to use mobile banking services. They are categorised into four main categories, social, personal, banking environment and technology conversion factors. The social factors are motivations relating to social relationships and institutions, the personal factors are reasons related to the individual income, age, profession, mobility and personal aspirations. The banking environment factors capture the available service offerings and the regulatory environment. Finally, the technology factors are the factors linked to technology as mapped in Figure 15 below:



Source: Author

Figure 15 above shows the broad and specific conversion factors that determine usage and non-usage that emanated from the first order and second order themes identified in the thematic analysis. Following the coding exercise, responses were clustered into common themes through a thematic map of factors that impact use of mobile banking. These were the

regulatory environment, the service offerings of the formal banking sector, social relationships, social perspectives, family dynamics, income status and profession and lifestyle of users. These first order themes were then further clustered into second order themes that were identified as the four main factors (personal, social, banking environment and technology) that impact use or non-use of mobile banking by low income earners.

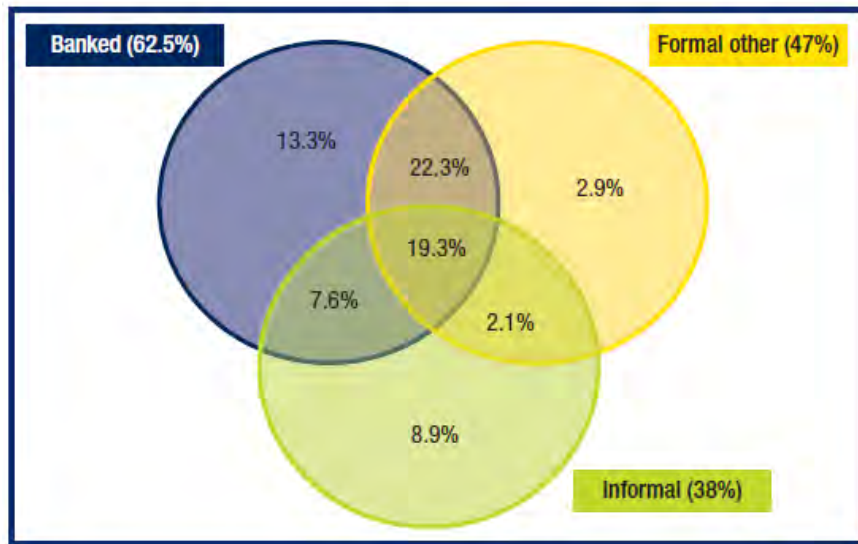
6.2.1 Social conversion factors

The prevalent feeling among the respondents was that most of the mobile banking transactions were motivated by social factors. Usage of mobile banking services is therefore shaped by social relationships and social perceptions. The social context guides decision-making and subsequently influences actual use of mobile banking.

6.2.1.1 Social relationships and structures

Morawczynski and Pickens (2009) in their study of M-pesa users find that users of mobile banking are using it to complement informal savings mechanisms. The findings in this study support Morawczynski and Pickens' research, and additionally show that mobile banking services are now being used in conjunction with both formal banking and informal savings mechanisms within ROSCAs. This reflects the findings of the FinMark Trust (2010) study, which shows that 3 out of 4 individuals in South Africa who use informal products also use formal banking products, with only 13.3% using purely banking services as depicted below:

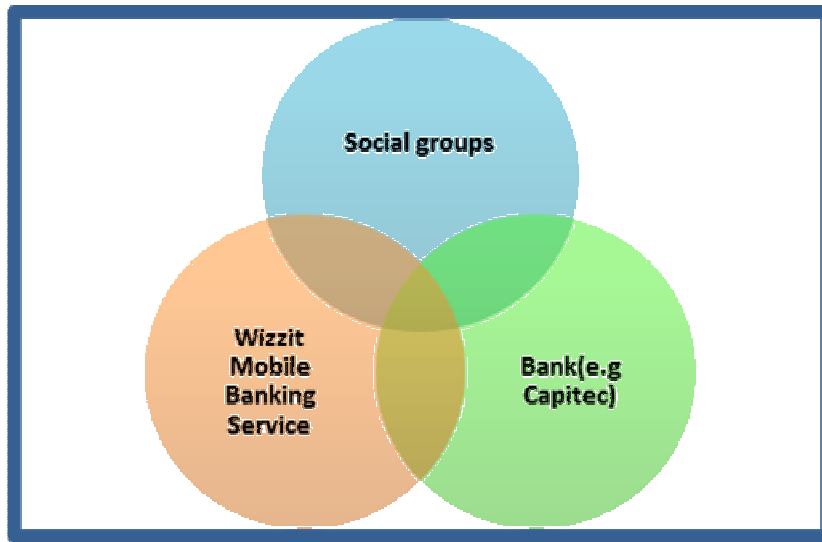
Figure 16: Overlaps in product /service usage



Source: *FinMark Trust (2010)*

According to FinMark Trust, the *banked* are those individuals using services offered by registered commercial banks. The *formal other* is a group of individuals that are using other institutions other than commercial banks to conduct their financial transactions. The *informal* are, therefore users of informal services that include savings groups (FinMark Trust 2010). This is confirmed by Demirguc-Kunt and Klappers (2012) as they find that in sub-Saharan Africa, 5 per cent of adults report having saved, using both formal and community-based methods in the past year. The findings of this study depict a similar level of an overlapping use of financial services driven by social factors, as shown in Figure 17 below:

Figure 17: Interrelationships of Wizzit Bank with other financial services



Source: Authors

The figure above shows the use of mobile banking services to complement traditional formal and informal financial practices. The social groups encourage the adoption of Wizzit Bank, and allows for the usage of mobile banking services within the group and beyond. Therefore, the social context allows for the introduction of new transactional partners. The argument presented, particularly in the case of informal savings, is that social platforms that build relationships can play a role in the adoption and usage of mobile banking services. The social context can drive usage of mobile banking services to complement other existing financial services.

A number of studies have alluded to the role of social structures in ICT usage (Oluwatayo 2012). This study finds that the use of mobile banking services within social groups reflects the potential impact that mobile banking can have on relationships and communities at large. Mobile banking services can build relationships through increased transactional activity within the social group. Donner and Tellez (2008) refer to a potential theme of changes in social structures and relationships due to use of a communication technology. They argue that technology can alter social structures and relations; however they are sceptical of the impact of mobile banking on communities beyond just increased transactional activity. Evidence from this study reveals that because the group facilitates transactions between

themselves for group business, there is potential for additional transactions not related to group business to be conducted between members.

The ROCSA uses the mobile banking account to improve transparency in management of the funds in the pool account. The balance enquiry function is used to enhance accountability of the treasurer. The treasurer can show each member what is readily available in the account when the group meets periodically. This relates directly to Spence's (2003) findings that ICTs can play a significant role in consolidating social networks and social capital by enhancing accountability and transparency.

The ROCSA can demand that each member should open a mobile bank account, resulting in mobile banking playing a complementary role to already existing informal financial services built on social relations. To a certain extent, this builds on Ruthven's (2002) argument that social relations play a more significant role in the financial activities of the low income earners. His argument is that individuals in slum communities rely on social networks to access finance, and therefore financial relations are often built on social relations (Ruthven 2002). Mobile banking usage decisions are occasionally influenced by existing financial arrangements in social groups. This view is also shared by Chipchase (2009) who comments that 'new technology is as an amplifier of existing behaviours' (Chipchase 2009:3). In analysing the mobile phone behaviour relating to mobile money services, he argues that technology like the mobile phone improves existing business activities. In this case, the social practices are strengthened by the use of mobile banking as it improves the storage and distribution of communal funds.

Chipchase (2009) on mobile phone usage finds that in certain instances convenience as a motivator of mobile phone usage takes a back seat to social motivations. He states that, 'practices driven by more social motivations are stickier simply because the decision to opt out of using the technology becomes one of whether to opt out of society' (Chipchase 2009:10). He acknowledges the importance of motivational factors such as convenience but finds that social factors of the user environment can sometimes be more convincing motivators of use. This study finds similar primacy of social factors in mobile banking in certain cases. To fully participate in the group required the adoption of mobile banking services and therefore group members were more willing to try the new service. Rather than risk being excluded from the social forum they opened accounts with Wizzit Bank. This

complements Chipchase's (2009) argument that the use of ICT rooted in social motivations is more extensive because non-usage has implications on one's standing in society.

Technological and operational challenges were not of a great concern to group members; most group respondents were eager to learn, and the members of the group were willing to teach others. This supports Oluwatayo (2012) findings that social groups can present a platform for informal training of mobile technology as they teach each other how to use the technology, and this encourages mobile banking usage.

6.2.1.2 Societal perceptions – The trust factor

Most participants agreed that societal views and perceptions of risk and potential benefits of using mobile banking services determined usage and non-usage. This study confirms Medhi, Ratan and Toyama's (2009) findings that perceptions determine usage, and trust plays a role in adoption and use (Porteous 2007). These perceptions are shaped by the nature of the services offered, the design of the product and the branding and marketing strategies. Mas and Radcliffe (2010) find that the organisation providing a service, the technology delivering the service and the partners and agents need to be trusted to encourage uptake.

The respondents' repeated use of the words '*crooks*' and '*rob*' was interesting. This indicates trust issues surrounding the whole concept and model of mobile banking. The societal perception of trust has been specifically viewed through the following aspects: the account opening requirements, the agent model, the attributes of the service and the market penetration strategies. These will be discussed in detail below.

i. Account opening requirements

Trust is an immensely important issue to immigrant communities. Most respondents in the Somali immigrant community in Mayfair revealed that usage depended on the acceptability and understanding of the product or service within their social structures and their community at large. How the service is perceived within their community determines adoption and usage. A possible explanation of this would be the financial exclusion backgrounds, especially in South Africa where immigrants struggle to be integrated in society, and have previously experienced stringent regulations when opening bank accounts.

The findings show that social perceptions play a key role in determining use of mobile banking. Additionally, the study shows that trust needs to be earned in such communities to ensure uptake and usage. To be able to transfer money to another, an individual has to trust that the money will be transferred, and the recipient should be able to trust the service provider to want to receive the funds via that mode. More importantly, to save money in an account, the account holder needs to believe that when they need to use the funds, they will be readily available. Perceptions of risk can result in low transactional activity.

ii. The agent model

The agents or Wizzkids are the ‘face’ of the service provider; therefore, managing and educating these intermediaries are critical for mobile banking success. The agent model was an interesting aspect that determined the level of trust accorded to Wizzit Bank by its users. Although the Wizzkids do not perform the cash in/cash out function and only register and assist users, they still represent the Wizzit Bank brand and their actions can impact usage. Most respondents agreed that the Wizzkids are always in the community, and their interaction with them allows them to use Wizzit Bank more frequently and gives them the confidence to use it. The study finds that most respondents were motivated to conduct transactions when the Wizzkid was readily available to help. However, when the Wizzkid was not visible and accessible, this absence inhibited usage. The Wizzkids are perceived as ambassadors who are always ready to help, and they give the bank a human face that understands the plight of these communities and identifies with them. This echoes Medhi, Ratan and Toyama’s (2009) argument that clients still desire that human face to any transaction, and this encourages uptake and usage. Moreover, a level of trustworthiness comes into play when dealing with a familiar face that can be contacted easily. One user actually trusts the Wizzkid in his area to go and deposit money for him in his account. This also shows that agents are representatives of a mobile banking service provider and can feed into the perception of the mobile financial service as a whole. The quality of agents reflects the quality of the service provider and distribution channel. Because of limited interaction with, or absence of, a traditional brick and mortar branch in the mobile financial services model, the model is highly dependent on the agents for adoption and usage. This finding also suggests that to some extent, quality, availability and visibility of agents boosts transaction activity.

GSMA (2010) notes that field registration agents' models can determine use. The report highlights that field registration does not necessarily translate into usage as agents push for registration to earn income. Usage may be limited if newly registered customers cannot locate a cash in/cash out agency. This study's findings echo this, as a sense of urgency for registration was established based on the fact that salaries for the Wizzkids are commission based; therefore the more clients a Wizzkid registers, the more he or she earns. However, if the registration drive is followed by sustained visibility in the communities, this increases usage.

The integration of mobile banking with facets of the formal banking services - specifically in this case, the debit card and interaction with banking institutions such as the Postbank and ABSA - makes the mobile banking service more trustworthy. The idea of the brick and mortar model of banking is still considered the pillar of trust as most respondents said that they would be more confident in Wizzit Bank if it had its own branch. This echoes Ivatury and Pickens (2006) findings that traditional bank channels are still considered safer. It is interesting to note that even after explanations of the rationale behind a mobile banking model, respondents still preferred to be able to frequently interact with an office. Possibly, the brick and mortar bank branch represents the long term plans of the service provider with the community and is therefore strongly linked back to trustworthiness.

iii. Market penetration strategies and branding

Sometimes market penetration strategies need to acknowledge the need to gain trust. Aggressive marketing, complemented by grassroots marketing topped with a trusted brand Safaricom, worked to increase usage of M-pesa (Hayer and Mas 2009). Awareness programmes are essential to build knowledge of the product and services in communities. The study observes that with Wizzit Bank, there is a lack of awareness of the bank and the services offered in the South African market. Medhi, Ratan and Toyama (2009) find that that lack of awareness directly impacts uptake and perceptions of mobile financial services. Without implementing a marketing campaign, there is limited visibility, knowledge and trust in the Wizzit Bank's service. This supports Mas and Radcliffe (2010) findings that aggressive marketing can increase trust and usage. The more people know about the service, the better the chances of it becoming a trusted brand.

Trust determines usage and patterns of usage, and a marketing strategy can directly impact trust levels. This study finds that market penetration strategies can gain trust, and consequently uptake if community leaders are involved. The findings demonstrate the importance of building trust in communities to gain mileage in uptake and usage.

Closely related to the market penetration strategies is the issue of branding. Mas and Morawczynski (2009) comment on the issue of branding, recognising the positive impact that the Safaricom corporate brand has had on M-pesa's uptake and usage. By aligning and identifying themselves closely with Safaricom's M-pesa, they gained visibility and trustworthiness. This branding points to the importance of appropriate partnership arrangements with clear roles that ensure success of mobile financial services.

Although Wizzit Bank's association with a small bank like the Bank of Athens has not been of great value, their association with a recognised bank like ABSA seemed to influence adoption and usage. Users want to be associated with a good brand and this motivates adoption and usage. This may stem from a psychological need to be identified with mature brands that then associates one with a certain level of achievement. Additionally, the Maestro branded Wizzit Bank card has motivated adoption and usage. This finding also shows the affect that partnering with strong brands has on usage. The study finds that some users associate Wizzit Bank with a level of '*seriousness*' as the debit card can be used anywhere in the world. They refer to it as an '*international bank*'. The partnerships and brands associated with the mobile banking services influence adoption and sustained usage of the services.

6.2.2 Banking environment conversion factors

This section will discuss the banking environment factors that cover service offerings, regulatory environment and the services those low income earners require.

6.2.2.1 Regulatory environment

The study finds that the South African regulatory environment has hampered the progress of financial inclusion in the country. Reference was made to the limitations of mobile banking solutions within the Bank-led model that the South African government supports. Additionally, Wizzit Banks' partnering bank, Bank of Athens, has placed an emphasis on anti-money laundering compliance, and this has impacted the expansion of Wizzit Bank

(CGAP 2010). As a subsidiary of the Bank of Athens, reference was made to the fact that Wizzit Bank cannot conduct marketing campaigns as a separate entity. This essentially has impacted the levels of awareness of the service in the country and directly affects uptake and usage. Additionally, as discussed, trustworthiness of the product evolves from knowledge and wide usage of the mobile banking service.

Government policies, specifically banking regulations, can have significant impact on the adoption and the use of mobile banking services. This study finds that the regulatory environment shapes the operating environment for mobile banking solutions and consequently the services offered to low income users and the value they place on the service.

6.2.2.2 Formal banking customer environment

Most participants highlighted that they chose to use Wizzit Bank because they were not satisfied with the banking services which the formal banking sector offered them. The South African financial sector is considered the most developed on the continent (Collins et al 2009). The South African government has shown a commitment to financial inclusion through its financial inclusion programme and policy reformation efforts by the National Treasury Department. The study shows that, although most urban residents have access to banking accounts, the challenge that exists is that they are under-banked. Some specific attributes of the formal banking sector drive the under-banked to mobile financial services. Perceptions and service offerings in the formal banking sector has driven account holders to use other alternatives.

6.2.2.3 Inappropriate products and services

Additionally, the study shows that the unbanked and under-banked require a set of financial services that are not merely payments or bank accounts. The underserved have complex financial services needs. This study shows that the underserved and the nature of their environments and situations present a need for a multifaceted set of financial services. This quest for additional services can result in the migration of low income earners from the formal banking sector to solutions such as mobile financial services. The concept of 'under inclusion' that CFI (2011) refers to comes to mind. The idea of financial inclusion has resulted in a global drive that seeks full inclusion of underserved populations. However, there

are those who are now financially included, but receive inadequate services to meet their needs. Financial inclusion should not only be about percentage of inclusion and headcount but about the quality of service, the range of services and the extent to which they meet the needs of the targeted group and the usefulness of the services offered (CFI 2011).

The product and services offered by the formal banking environment in comparison to the needs of the underserved determines use. The study shows that the unbanked and under-banked desire financial services beyond the mere banking account and transfer services. Should Wizzit Bank wish to capture these potential clients, the services which are offered through mobile banking channels would need to address the needs of the underserved, specifically through convenient and affordable services. Discussions with Wizzkids highlighted that the value-added funeral insurance scheme was one of the reasons why new clients were attracted to Wizzit Bank. Some respondents also confirmed the influencing factor of the funeral insurance scheme and the important feature of the scheme not having a trial period before covering a client as most schemes do. This is a possible reflection of the complexity of the financial needs of the underserved and their attention to the product and service features.

Affordability of formal banking services has been the reason for exclusion of individuals from the formal financial sector and they have resorted to mobile financial services. The Mobile Financial Services Report (2011) refers to this, noting that in instances where the formal banking has high penetration, mobile financial services are merely additive driven by the low cost of using mobile driven services.

The formal banking sector also has limited reach due to the branch network and operating hours and queues. The proximity of cash in/cash out services and the time taken to facilitate transactions are factors influencing mobile banking services (Medhi, Ratan and Toyama 2009). Additionally, the under-banked desire personalised service that the traditional banks are not willing or not able to provide, and this results in dormant accounts. This is therefore a reflection of the need for tailor-made services, even for financial services for underserved.

6.2.2.4 More than services

What this study also finds is that it is more than the financial services offered by the formal banking sector that impacts usage. Some users, particularly the immigrant users, felt a level

of discrimination by the formal banking sector, and this has pushed adoption and usage of alternatives such as mobile banking services. Immigrants consider their exclusion from the formal financial sector as a reflection of the country's acceptance of them. They link financial exclusion to social exclusion. Therefore, financial inclusion represents a level of normalcy for the immigrants and symbolises social integration and perhaps to a certain extent acceptance into society.

The Centre for Financial Inclusion's white paper for financial inclusion refers to the notion of financial inclusion building economic citizenship in Mexico. It states that access to financial services allows an individual to participate in the economy more (CFI 2009). The European Commission (2008) report recognises the link between financial exclusion and social exclusion. Social exclusion can be a consequence of financial exclusion (EC 2008). What this study finds is that social exclusion, due to lack of access to appropriate documentation, has resulted in financial exclusion. Moreover, the resultant financial exclusion has resulted in immigrants losing a sense of belonging, thereby further reinforcing social exclusion.

6.2.3 Personal conversion factors

The personal factors can determine conversion of knowledge of mobile banking to actual use of mobile banking. As shown in Figure 15, how much one saves and the nature of transactions one conducts depend on how much one has at their disposal and one's economic situation, family dynamics and personal aspirations. This is reiterated by Collins et al (2009) that low income earners are wealth managers, and therefore desire to save despite their economic situations.

6.2.3.1 Profession and lifestyle

The profession of respondents for this study sample plays an essential role in the choice of banking solutions and the motivations for using the solution. The study finds that users who were more mobile in their professions used the mobile banking services to conduct financial transactions. Additionally, it also finds that entrepreneurs who could not afford to leave their business to conduct financial transactions in the formal banking system used the mobile banking service. This confirms findings by Mbogo (2010) that individuals are motivated to use mobile banking if it fits well with their business operations and contributes to profitability. Brown, Cajee, Davies and Stroebel (2003) also find perceived compatibility as a

factor that motivates individuals to adopt mobile banking. How mobile banking services fit with one's lifestyle and way of living can be a motivation for adoption and use. The context of use of mobile banking is connected to the lifestyle of the users, rooted in the differences in the South African society and system.

6.2.3.2 Income status and wealth management

Just as McKay and Pickens (2010) find that cost of transactions determine usage, Wizzit Bank's no minimum balance requirement motivated respondents to use it. This is directly related to the user's income status as users did not want the bank to deduct an amount monthly, especially because in some months, there is no or limited activity in the account.

Mobile banking is also used merely as a safe place for storage of earned income. This is also highly prevalent amongst immigrant users who have limited safe options for storing money as their living arrangements do not allow for safe storage of cash. This is in line with Demirguc-Kunt and Klappers (2012) findings that a secure location is one of the reasons that motivate individuals to open a formal savings account. Interestingly, none of the respondents were concerned about the non-interest bearing account of Wizzit Bank. Specifically, it was not mentioned as a deterrent to saving money in the Wizzit Bank account.

6.2.3.3 Family dynamics

The study finds that family dynamics determine usage of mobile financial services. According to Medhi, Ratan and Toyama (2009) and Morawczynski and Pickens (2009), family structure shapes the use of mobile payments. They find that when family members, usually dependents, reside or are in school in different areas than the core family, mobile payments are used to send funds to them. This study supports this finding as most users noted that they were sending money to relatives in other provinces in South Africa. In instances where the different members of the family – and dependents in particular - were residing far from the breadwinner, Wizzit was utilised frequently. The study also finds that some of the under-banked own a bank account, and still open a Wizzit Bank account to save money, specifically for their children or for family future needs or occasions. The reasons cited for storage of the funds, therefore determined the transactional activity in the Wizzit Bank account. This is in line with Morawczynski and Pickens (2009) findings that urban banked users used M-pesa for day-to-day needs, and still used their bank account for long term

storage of funds. Some respondents highlighted that they use the traditional bank for long term deposits. However, this study finds that there are no clear cut distinctions on the uses of the two accounts. Some users actually used the mobile banking account to save in the long term.

One other family-oriented reason for use of the mobile banking service was that social group members were motivated to adopt and use the service as they could open accounts for their children or grandchildren. This has possible transformative effects on families as this specifically will impact the unbanked, especially children and grandchildren of users. Women in the social groups also used the account as a private account that the husbands could not access. They were also adamant that they never send money to their husbands, but to their children only. This relates to the empowerment potential that financial inclusion has on women.

Family dynamics seem to shape the nature of the mobile banking services used. The locations of family members and dependents, as well as future family plans, determine what transactions are conducted. What is interesting to note, however, is that most users highlighted that they do not share the mobile banking account with any family members or with friends. There was limited communal use of Wizzit Bank. When asked if they ever used the mobile banking service with family or friends, most of the respondents highlighted that it had never happened. One respondent said that he had purchased airtime on behalf of his friend. One interesting case is of a non-user who highlighted that she has a younger sister who is a Wizzit Bank user, but was still was not eager to use Wizzit Bank and was not well versed with the Wizzit Bank services. This probably indicates that the financial decision is an individual private decision, and financial matters at any income level are a private matter.

An interesting observation was that more long term plans were mostly observed in the women's reasons for use of mobile banking. The extent of impact for women's use of mobile banking seems to expand to diverse areas in the family. The issue of family dynamics can be a reflection of the motivating factor of personal aspirations and priorities in life.

6.2.3.4 Privacy and personal aspirations

The study shows that one important aspect that motivates people to use mobile banking services is the factor of privacy. Some respondents who had previously been using

commuting friends and relatives to physically send money home found that their private financial affairs were compromised. Financial issues tend to be a private matter culturally; therefore financial transactions are usually kept secret. This probably emanates from a desire to safeguard one's social standing. If one is doing well, more money is sent home, and this becomes public knowledge if travelling relatives and friends are used to send or deliver the money. However, the opposite is also true if less or no money is sent home; it also says something about the senders' economic status.

Closely related to the issue of family dynamics is the issue of aspirations in life. Priorities in life seem to shape the way the mobile banking service is used. It seems that the families are of greatest priority, and usage is centred on what the families require and their plans for the future.

6.2.4 Technology conversion factors

Technological challenges can inhibit the use of the mobile phone for banking services (Medhi, Ratan and Toyama 2009, Ivatury and Pickens 2006). This study corroborates this hypothesis but the study finds that it is typically the elderly who encounter technological challenges. Nevertheless, when the elderly use Wizzit, they could find ways of ensuring that they can still facilitate transactions. The study, however, shows that the Wizzit Bank mobile banking service is easily understandable and is therefore easy to use and operate. Wizzit Bank offers its service in a number of local languages; one can read the menu in any local language and it functions on any basic mobile phone. This supports Ivatury and Pickens' (2006) findings that mobile banking was not necessarily considered difficult to use by users surveyed. Of those surveyed, 23% considered the technology complicated. The study shows that social structures are able to support the technologically challenged and ensure usage. In the South African case, family and social groups seem to play a key role in supporting the technologically challenged. This perhaps indicates the extent to which the perceived usefulness of the facility overrides any handicaps. Mobile banking use is not directly influenced by the mobile telephony, but by the value of the service that the mobile telephony delivers.

Additionally, the recurrent use of the word '*learning*' within the social groups indicated the desire for the services offered by the mobile banking platform. Despite their limited

knowledge of using the mobile phone and mobile banking services, group members were eager to learn and looked forward to the Wizzkids training them on how to facilitate transactions by themselves.

The formal education levels did not seem to directly impact usage and adoption as users were technically agile across different education levels. However, most users who had some basic education were better able to facilitate transactions. The study finds that old age and low education levels do not necessarily mean low or non-usage of mobile banking services. The support structure of family and friends and mobile banking agents still ensures usage in such important contexts.

One challenge highlighted by the Wizzkids was the limited support for clients from Wizzit head office. The importance of having a system that allows clients to be able to seek and find assistance when they require it ensures continued use of the service. However, the Wizzit Bank call centre sometimes has delayed responses to customer queries. The Mobile Financial Services 2011 report highlights the point that support during this period is of paramount importance to ensure success, as some users who need support in using the mobile phone, are illiterate or merely need assistance in facilitating mobile transactions.

6.2.5 Analysis of conversion factors by group

6.2.5.1 Men vs. Women

Comparing men and women, it seems apparent that social conversion factors impacted the use of mobile banking by women. Existing social structures particularly the ROCSA's determined use of mobile banking among women. Additionally, trust issues regarding mobile banking resulted in the mobile banking capabilities not being translated into realised functionings among women. Personal conversion factors are important to both groups but for the women they were mainly concerned about the family dynamics particularly accessing financial services for the children's welfare. For the men, personal conversion factors that are related to their profession, income status and privacy issues determined if the use mobile banking services when they have access to them. Men considered the convenience of mobile banking service when they were working and considered their income status and issues of privacy before they used the services. The service offerings were important to both groups but the women were mostly interested in the personalised services that the mobile banking

services offered resulting in their use. Technologically, only the women were impacted by technology related factors as they were generally older. The study cannot elaborate further on gender dimensions because of the small sample size.

6.2.5.2 Underbanked vs. previously unbanked

The previously unbanked group that was made up of immigrants based decisions of use on mostly social factors. The social issue of trust was a major concern and the absence of trust impacted use. The network of agents contributed to trust building for the users. The concern was shared with the underbanked but the underbanked considered banking environment factors particularly the unsatisfactory service offerings to determine their use decision. Additionally, their profession and mobility demanding convenient mobile banking services therefore despite the close proximity to banking halls they still used the mobile banking facilities.

6.3 Capabilities, functionings, freedoms and mobile banking

The Amartya Sen Capabilities framework helps to conceptualise the impact of mobile banking services on people's lives and on development. According to Sen, development is viewed as an expansion of freedoms. However, in relation to ICTs, freedom is only realised when individuals use the ICT that offer the user this freedom. Use is driven by what individual's value in life. It is therefore vital to understand the contextual uses of ICTs to feed into understanding the potential impact of ICTs on development. Only use (realised functionings) will have developmental impact potential. Hatakka and Lagsten (2011) are of the same view as they argue that if ICTs are not used, the ICT has only given individuals an option, but this does not to expand their freedoms. According to Sen in the case of unused resources, ICTs then become unfreedoms and have no developmental outcomes.

This study reveals that ICTs have the potential to impact development. Mobile banking solutions have not only been accessed by low income earners, but have been used in various contexts. As shown in Figure 15, the conversion of capabilities to functionings with regards to mobile banking is dependent on social, person, banking environment and technology factors. The use of Wizzit Bank services gave the users that had not previously been banked an opportunity to access information about financial services options and to be banked through the mobile phone. Mobile banking was valuable for users that had existing bank

accounts particularly when they were far away from the banking halls and when an emergency transaction needed to be conducted. For both user groups the unbanked and underbanked mobile banking offered a convenience that traditional brick and motor services do not offer.

In cases where users used the mobile banking service to save, the study finds that this solution provided them with an opportunity to save in more diversified ways. Although the increases in savings could not directly be quantified, the mobile banking services resulted in individuals achieving their set savings targets. These included, among others, saving for presents for the Christmas holiday, for school fees and uniforms. It can be concluded that the savings component in mobile banking has the potential to impact the livelihoods of families through education provision and asset accumulation. In cases where users used the mobile banking service to facilitate transfers, this usage gave the users the convenience that they desired to perform their day-to-day duties without wasting time in banking halls. The taxi drivers desired the service so that they could continue working and not waste time visiting the bank.

This study also shows the link between financial exclusion and social exclusion. The immigrants were keen to be included in the financial sector. Despite their own internal means of facilitating transactions, they desired banking accounts. Their exclusion from the banking sector was a source of bitterness. The concept of financial inclusion in this scenario is greatly aligned with a sense of belonging and inclusion. The immigrants needed to be recognised in their alien country, and one of the key signs of this was successfully opening a banking account.

To a certain extent, the role of mobile banking in ROCSA also relates to the link between financial exclusion and social exclusion. Without a mobile banking account, the members of the ROCSA could not fully participate in the savings group. These are essentially 'unfreedoms' that the mobile banking addresses. This study therefore supports studies that show the link between financial inclusion and social inclusion (EC 2008). The mobile banking solution gave them the desired recognition of inclusion.

Therefore, enhanced financial services options that mobile banking offers are instrumental in promoting participation in financial and economic activities. This is in line with Sen's notion

of participation in any sphere of influence as an achievement of freedom that can lead to development.

The various uses of mobile banking services show that people value doing different things for different reasons. However, there are clearly more prominent reasons why people use mobile banking services that speak more to developmental outcomes. The taxi drivers used the mobile banking services when they were working. The functioning was clearly the ability to facilitate transfers and payments over the phone. However, it allowed them the freedom and opportunity to continue working and not waste time conducting banking transactions which was critical to them.

It can therefore be argued that ICTs are impacting the participation of individuals in social and economic spheres. Individuals value participation in certain social and economic platforms and mobile banking promotes this participation. The convenience of facilitating transfers and accessing services via the mobile phone allows individuals to use their time productively. Therefore, the relationships between the capabilities, functionings and freedoms for the different groups are shown below:

Table 4: Capabilities, functionings and freedoms

Group	Capability	Functioning	Freedoms
ROCSA	Opportunity to be financially included in a convenient, affordable manner	Mobile savings accounts and mobile transfers	Social participation and social relationships
Immigrants	Opportunity to be financially included in a convenient, affordable manner	Mobile savings accounts and mobile transfers	Social inclusion and Acceptance
Hawkers	Opportunity to be financially included in a convenient, affordable manner	Mobile savings accounts and mobile transfers	Economic participation
Taxi Drivers	Opportunity to be financially included in a convenient, affordable manner	Mobility and mobile transfers	Economic participation

Source: Author

Users seek to achieve certain freedoms related directly to Sen's conceptualisation of development as a freedom. Sen's notion of instrumental freedoms, particularly the economic facilities and social opportunities become apparent in this study. The analysis shows that there are immediate objectives to using mobile banking services. However, the critical reasons for and results of accessing the service are more associated with freedom and mobile banking gives users this freedom. The ROCSA members want to participate in these social groups fully, conduct transparent transactions within the groups and mobile banking allows them the freedom to do so. Immigrants are greatly concerned about social inclusion and acceptance. Access to mobile banking gives them that sense of belonging. Hawkers and Taxi driver are more concerned with fully participating in economic spheres, continuing to be productive during the day. Mobile banking gives them the freedom to do so through the use of mobile transfers and payment facilities.

The study shows that some levels of denial of access and use due to prohibitive bank accounts and inconvenient brick and motor facilities are a source of 'unfreedom' of low income earners. These unfreedoms are addressed through mobile banking as it provides a convenient, accessible platform for low income earners.. This speaks to the potential impact of mobile banking on expanding freedoms development, particularly social opportunities as mobile banking resolves the challenge to easy access to financial services that can impact peoples livelihoods, Additionally, mobile banking impacts the economic facilities as the use of mobile banking allows the low income earners to participate fully in economic activities and utilise the resources availed to them to achieve what they value. This supports Sen's assertion that these instrumental freedoms can be mutually reinforcing. The freedom to access financial services conveniently in their homes or place of business allows individuals to fully participate in economic activities freely.

The study clearly shows that, when the previously financially excluded are provided with financial options, they are able to participate in the financial system and economy as they so wish. Therefore, there is potential for mobile banking to impact the social and economic dimensions of low income earners' lives. An aspect of their day-to-day lives is impacted on different levels - socially, economically and personally.

6.4 Chapter conclusion

Mobile banking can have the potential to provide convenient and affordable financial services to the underserved and unbanked. However, usage is dependent on the social, personal, environment and technological factors. These conversion factors shape the patterns of use, the intensity of use and the choice of products and services. The use of mobile banking can result in achievement of instrumental freedoms.

CHAPTER 7: Conclusions and future research

Mobile technology penetration has reached unprecedented levels for any ICT. However, the debate on the role of ICTs in development and poverty alleviation is still inconclusive. Using a qualitative approach, this study sought to explore the factors that have enhanced use or inhibited use of mobile banking services amongst low income users. The study sought further to understand the contexts in which the users transfer funds, manages and stores their wealth and facilitates payments.

Data was collected from mobile users and non-users in low income settlements of Orange Farm, Mayfair, Soweto and Roodepoort in Johannesburg, South Africa. The study finds that social conversion factors linked to trust play a major role in determining the use or non-use of mobile banking services and achievement of realised functionings. In this section, a summary of the main findings of the study will be presented and highlight the study's contribution to the ICT4D debate. The section will also outline the suggested areas for future research.

7.1 Summary of empirical findings

The study finds that mobile banking usage is not limited to the unbanked only, but usage is high among the under-banked as well. It highlighted that mobile banking is being incorporated into the economic portfolios of the unbanked and under-banked as a complementary service to existing formal and informal financial services.

The study shows that social dimensions in communities greatly impact on decisions around adoption and usage. From the data analysis the clustering of themes revealed that for low income communities to start using a mobile banking service, the issue of trust needs to be addressed. Other personal, technology and regulatory environments dimensions also play a role in shaping the use or non-use decision but trust based social factors are considered first. The need for the service can be clear to the user; however, societal views of the service can deter use. Women trust their female friends in decision-making, and therefore social groups encourage ICT adoption and use. Social groups are highly influential communication channels (GSMA 2012). Interestingly, social practices within local communities and social groups can facilitate mobile banking usage. The social practices seem to play a bigger role in

determining use of the mobile banking services, as even the technologically challenged are willing to use the service. The older users who are technologically challenged receive assistance from younger family members to facilitate transactions.

The trust factors linked to the agent network, the marketing and branding of the mobile banking platform were key issues that were important for users to transact. The platform allows low income earners to store and transfer their hard earned earnings, therefore trusting the service was important and social relationships, structures, agent network were used to answer some of the key trust questions. The study shows that when trust was established then users could conduct transactions based on their personal needs. Interestingly, the association of the Wizzit Bank with formal banking institutions is a factor that motivates users to use mobile banking services. Formal banking institutions instil a level of trustworthiness in a mobile banking service and psychologically impact use of the mobile banking service.

The analysis of the findings shows that the mobile banking services give low income earners opportunities to access services that meet their personal financial needs. The mobile banking services are convenient, affordable and personalised. The study argues that, although these are the immediate needs of the underbanked, the contextual uses point to their expansion of freedom.

Through the understanding of contexts of use, the study shows that mobile banking has the potential to impact development as Sen defines it: expansion of freedom. The social, personal, banking environment and technology conversion factors show that mobile banking has more psychological impacts on immigrant low income earners, improves participation (access and transparency) in social platforms of low income populations' and can foster enhanced economic participation for low income earners. Therefore mobile banking can impact saving and wealth management positively. Using the lens of the CA, mobile banking can have a positive impact on low income users through expansion of instrumental freedoms and can lead to development.

The issue of safe storage is still critical for financial inclusion; the study shows that most users concentrated on the storage of their money more than any other services, and this is essential to the unbanked and the under-banked. Although reference has been made to interest-bearing savings facilities in some studies (Mobile Financial Services Report 2011),

the savings behaviour confirms more need for a storage facility than the interest-bearing component. Most users valued the service because it gave them a place to store their earnings to save for eventualities and for future financial needs. The overlapping use of different financial service models speaks to the continued diversification of the savings portfolio of low income earners. The prominent use of the mobile banking account shows that low income earners seek supporting mechanisms that can assist them in storing and managing their wealth. This echoes Collins et al (2009) findings that the poor are cognisant of the need to save and want to save on a regular basis.

Although the study tried to focus particularly on the reasons for use of the mobile banking service, the study revealed that most reasons that determine usage are the same reasons that determine uptake.

7.2 Implications

The study points to the importance of the social factors linked to trust in influencing use/non-use of mobile banking. To ensure that financial inclusion is achieved and contributes to economic development, there is a need for policies and designs to consider the social contexts which the mobile based initiatives will be used. It is imperative that the ICT4D community begins focusing on the use of ICTs and not accessibility/supply of ICTs. Understanding use and functionality of ICTs will determine what potential impact on financial inclusion and developmental goals.

The study finds that the regulatory environment not only plays a key role in the adoption of mobile banking, but continues to play a role in usage as well. The issue around branding for the mobile banking platform was linked to regulations. Therefore, the regulatory framework did not allow for Wizzit Bank to market its services independently to begin building awareness that builds trust in communities. Regulations shape the services and distribution strategies that the banking sector and MNOs can offer to the unbanked and under-banked. It therefore impacts on the usage of mobile banking and determines the success of mobile-led financial inclusion strategies. Therefore, efforts for financial inclusion may require a more unified strategy towards achieving the goal to address some of the banking environment challenges that limit adoption and usage of mobile banking. The role that the various

industries and the associated regulators play in determining the extent of financial inclusion should be emphasised.

7.3 Implications for further research

Although this qualitative study is useful in understanding the reasons of usage of mobile banking and the different contexts that shape usage, there is need for more impact studies to determine the true value of mobile banking for the previously unbanked. The area of financial exclusion of immigrants deserves further attention, particularly in the South African context. Therefore, a study of the financial services needs of immigrants and the role of mobile banking services in the immigrant communities would shed more light on this interesting group. An ethnography-based study would be appropriate to understand their experiences, given the sensitive nature of the communities. More ethnographic studies to further explore the social factors that determine use of ICTs would further build upon the debate this study has triggered.

It would be interesting to explore in more detail on ROCSA's and their role in savings accumulation and the full breadth of the mobile banking linkages within the formal sector. This perhaps can shed light on the complementary role that other financial inclusion strategies can play.

This study touches on the aspect of partnerships and I think a full comprehensive study of the various partnerships in mobile banking services is important. A qualitative study on the different approaches to partnerships, the partnership roles and functions and the impact on success are essential. It is imperative to understand the underlying issues of partnerships that drive the success or failure of mobile banking services.

7.4 Conclusion

This study has provided an analysis of the factors influencing conversion of capabilities to functionings of mobile banking services. The study explores the expansion of freedoms to attempt to contribute to impact studies in ICT in the context of the development debate.

The study found that most users of mobile banking services are not necessarily the extremely poor. The full extent of the level of financial inclusion that can be achieved through mobile

devices is still unclear. However two dimensions of mobile banking are clear. Firstly, the poor have access to and use mobile phones extensively and without significant technical challenges. Secondly, their desire for financial services saving and credit facilities accessed reasonably and conveniently is profound. Convergence of the two appears somewhat obvious but what this study finds is that it is not necessarily so.

The overall penetration of mobile phones simply highlights the potential scope and the potential market for mobile banking. However it does not necessarily translate to uptake of mobile banking and nor to usage that impacts livelihoods. The contextual references play a more significant role in simplifying this relationship. The contextual factors determine where, how, when and with who mobile banking transactions are conducted. Of particular importance are the social factors that impact trust, dominate the influencing factors of use. The study additionally shows that mobile banking can impact development through expansion of instrumental freedoms. ICTs have the potential to impact social and economic dimensions of the lives of low income earners positively as it gives users the freedom to participate in areas that they value.

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Appendix 1: Informed Consent Form

(To be read out by researcher before the beginning of the interview. One copy of the form to be left with the respondent; one copy to be signed by the respondent and kept by the researcher.)

My name is Mildred. P. Makore (student number 210545830). I am doing research on a project entitled 'Exploring use of mobile banking services: Case of Wizzit Bank in South Africa'.

This project is supervised by Kathleen Diga and Dr Shauna Mottiar at the School of Built Environment and Development Studies, University of KwaZulu-Natal. I am managing the project and should you have any questions my contact details are:

School of Development Studies, University of KwaZulu-Natal, Durban Cell: 0027844787591. Email: mmakore@gmail.com or 210545830@ukzn.ac.za.

Thank you for agreeing to take part in the project. Before we start I would like to emphasize that:

- your participation is entirely voluntary;
- you are free to refuse to answer any question;
- you are free to withdraw at any time.

The interview will be kept strictly confidential and will be available only to members of the research team. Excerpts from the interview may be made part of the final research report. Do you give your consent for: *(please tick one of the options below)*

Your name, position and organisation, or	
Your position and organisation, or	
Your organisation or type of organisation <i>(please specify)</i> , or	
None of the above	

Please sign this form to show that I have read the contents to you.

----- (signed) ----- (date)

----- (print name)

Write your address below if you wish to receive a copy of the research report:



APPENDIX 2 : INTERVIEW SCHEDULE FOR MOBILE BANKING SERVICE USERS

**(This will essentially be a guide for the interviewer as the process will be flexible to
allow for the exploration of key issues arising)**

- *Identify yourself and explain the reasons for the research*
- *Explain the informed consent form and ask respondent to sign informed consent form before conducting the interview*

SECTION A: PERSONAL PROFILE

1. What is your name?
2. How old are you?
3. What is your highest level of education?
4. What is your main source of income?
5. What is your average income per month/week?
6. Have you ever successfully opened a bank account? If not, what do you think are the reasons for this? if yes please elaborate(reasons for continued use or non use)
7. What is the average distance to the nearest bank or your bank and the average cost?
8. How long have you owned and used mobile phone/phones?
9. How long have you had (or last used) Wizzit?

SECTION B: EARLY ADOPTION PROCESS CONTEXT

10. In your own words, can you tell me how you were introduced to Wizzit and why you were interested in trying out Wizzit?
11. Did you successfully manage to start using Wizzit?
12. What are your overall experiences at the start of trying this facility?

SECTION C: TRANSACTIONS

A. Usage of Wizzit

1. What do you use Wizzit for? Please explain why and how often?

B. Factors influencing current Wizzit payment usage or non-usage and contexts

2. Who do you usually send money to or facilitate payments to? Please elaborate

3. After you started using Wizzit, can you tell us about an incident when you did not use Wizzit and the reasons that made you not use Wizzit to pay, transfer or save money?
Please elaborate (probe for alternatives)
4. What has been your experience with the mobile phone technology in facilitating transactions? Please elaborate
5. What other issues influence your use of the Wizzit payment service and the Wizzit account?(*probe for further information*)
6. Do you pay for goods and services using your Wizzit account on behalf of friends, family or save money in your account for friends or family? Please explain

C. Benefits, opportunities and challenges in using Wizzit

7. Now that you are using Wizzit, what have the actual benefits been from paying through the mobile phone than using cash?
8. Now that you are using Wizzit how has it changed your financial habits? Better money management? Increased savings per month?
9. If female –Since you started using Wizzit as a woman have you seen changes in your family savings? Please elaborate
10. Have you gained access to other financial services since you started using Wizzit?
11. Are there any issues that make you uncomfortable in doing a Wizzit transaction?
12. What do you think needs to be improved?
13. What are additional features that you'd like to see with Wizzit payments? Why?

D. Other

14. Before we end the interview is there anything that you wish to add to what we have discussed?

Thank you for your time!!