

An Analysis of Adopting Mobile Banking in Kenya

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ABSTRACT

Banks in Kenya have adopted mobile banking (M-banking) technology in order to provide convenient and affordable banking services. In Kenya mobile banking was introduced in 2007 by Safaricom. Safaricom introduced M-Pesa which was the platform for mobile banking and all the transactions were operated through this innovation. The embrace of mobile banking in Kenya was so high that it was the leading provider of mobile banking services and its performance has been great compared to all neighboring countries.

However, not many studies investigate the factors that may help the bankers to design mobile services, which are suitable for and adoptable by bank customers. This study fills this gap and examines a number of factors affecting the mobile banking adoption in Kenya. The results of this study will show effects in Kenya that are more applicable.

Keywords: M-banking, Safaricom, Technology, M-Pesa, mobile phones, banking.

ÖZ

Kenya'da Bankalar kullanışlı ve uygun fiyatlı bankacılık hizmetleri sunmak amacıyla mobil bankacılık (M-bankacılık) teknolojisini hayata geçirdi. Kenya'da mobil bankacılık Safaricom tarafından 2007 yılında başlatılmıştır. Kenya mobil bankacılık alanında dünyanın en önde gelen ülkelerinden biri olmuştur ve bu alandaki performansı komşu ülkelerle karşılaştırıldığında tüm ülkelerden daha ileri olduğu görülmektedir.

Ancak, birçok çalışma, banka müşterilerinin mobil bankacılık hizmetlerini kulanmalarına yönelik faktörleri incelememiştir. Bu çalışma, bu boşluğu doldurmaya çalışarak Kenya'da mobil bankacılığın benimsenmesini etkileyen faktörleri araştırır. Bu çalışmanın bulguları Kenya bankacılık sektörü için pratik faydaları olacaktır.

Anahtar Kelimeler: M-Bankacılık, Safariom, Teknoloji, M-Pesa, Banka, cep telefonu

To My Family

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Chapter 1

INTRODUCTION

As we know technological innovations are amongst the most important factors of economic development and growth of a country. The rapid growth of technology has contributed to a sustainable economic development of some countries, on the other hand countries that failed to benefit from the available technologies or even delayed the adoption of such changes in technology found them lagging behind. New changes have been taking places in information technologies and are widely used in different industries including the banking industry. Banks have always been trying to improve their technology every time so as to be able to catch up with market ever changing conditions hence competitive position for the banking sector. Over a long period of time banks have been using different telecommunication networks and electronic services so as to offer their products and cost additional services extensively. The prompt improvement in innovation has enabled banks to carry out their activities in a simple and cost effective way.

By using computers and software programs, banks linked automated teller machines, private networks and telephones. Hence banks established mobile platforms. Mobile payments across the globe are growing at a very high rate. It's predicted that in 2016 there will be 448 million mobile payments in a market that is worth to date \$617 billion. Asia will have the most number of people using this platform although Africa may still account for the highest revenues (Kurkinen, 2010).

It is well known that the presence of mobile banking has improved customer service and access to finance. It improved banks' revenue generation, expense reduction, competitive advantage and time saving. Since the incorporation of mobile phones and banking services increases in popularity. Banks are now trying to adopt mobile banking as one of the ways to make it easier for their customers to conduct their transactions and keep track of their accounts by using their mobile phones. In Kenya, the first bank to adopt mobile banking was the Cooperative Bank of Kenya then later other banks also started adopting mobile banking. In March 2007 it is realized that over 1.1 million Kenyans were recorded to have used mobile banking, which is called M-Pesa¹. In the course of eight months about US\$ 87 million had been transacted through the M-pesa systems (Safaricom, 2007).

The main reason for this thesis is to analyze the aspects and critical factors that have made the usage and spread of this technology a big success in Kenya. The other objective is to check the various stages that mobile banking has passed through until it became a success. Initially, we will analyze the number of customers and the level of coverage of mobile banking in the banking sector. This will show us the level of penetration of mobile banking in Kenya. The statistical data will be collected from Safaricom i.e., a telecommunication communication company which was the first carrier of this service in East Africa. We believe that there are several other elements that contribute to the great usage of mobile device to carryout banking activities in

¹ M-Pesa refers to mobile money i.e., pesa meaning money. This service was introduced in Kenya by a telecommunication company called Safaricom and Vodacom. Its main aim was to deliver banking services to different people in the country with the use of a phone.

different countries. We will analyze those factors in Kenya, in order to show how they contributed to the adoption and usage of mobile banking in this country.

In this regard we will examine the banks, telecommunication companies, client of banks and the regulatory authorities to identify how these led to the achievement of using mobile device to deliver banking services in Kenya.

This thesis is divided into six chapters including introduction and conclusion. Chapter 2 will cover some of the important issues related to mobile banking such as definitions, growth and benefits. Chapter 3 will present mobile banking experiences around the world. In chapter 4 we will discuss the usage of mobile devices to deliver mobile services in Kenya. In chapter 5 we attempt to analyze factors which contributed to the success of mobile banking comparing with neighboring countries. Chapter 6 concludes the analysis.

Chapter 2

ASPECTS OF MOBILE BANKING

The use of a mobile device to deliver banking services to the customers is referred to as mobile banking. This mean of banking has a great range of products that it provides to its customers i.e. payment transactions, access to bank accounts and other products or services. The introduction of cheap mobile phones and easy access to them has led to the growth of network services. This kind of banking is not a new concept in the banking industry since it started back in 1999 by the European banks and it was done through the mobile web (Porteous, 2007). The most services that can be delivered through this method of banking are:

- A. Store value.
- B. Convert cash.
- C. Transfer money.

Store value in an account: when one doesn't have a bank account then the telecommunication company will create a virtual bank account for its users². Also those with bank account can just link their account to their mobile phone.

Convert cash: one can visit his mobile provider's retail shops to deposit or withdraw. This is mainly for those without bank account. Those with bank accounts can visit any nearest bank to deposit or withdraw.

² Virtual Bank. A financial institution that handles all transactions via the Web, e-mail, mobile checks deposit and ATM machines.

Transfer money: this allows mobile banking user to send money from one person to another through the use of the mobile device. This can be received by both account holders and non-account holders.

Earliest activities of mobile banking were carried out through short messages services (SMS) which was referred to as SMS banking. In 1999 users were able to access the web through phones that were WAP enabled i.e. smart phones³. In 2010 mobile banking was performed mostly via SMS or through the mobile web application. The introduction of cheap mobile phones and easy access to them has fueled the usage of mobile banking around the world. This made it easy for banks and mobile service companies to interact easily hence helped development of mobile banking services (Sarker and Wells, 2003).

The introduction of more advanced mobile devices like Apple's iPhone, Samsung smart phones, led to the development of new programs i.e. client programs and applications. This made banks to create mobile web support services to compliment the new applications. According to a research by Mapa in May 2012, it is seen that about one third of banks websites have been visited by mobile users. Once the bank website finds a connection from the mobile applications then it will send the user to various options i.e. mobile banking options or redirecting you to a banks website. This always takes place automatically so it is up to the user to choose from the available options (Wikipedia.org/mobile banking).

³ Wap is a safe mode that allows a person to view data immediately on a mobile device.

2.1 How Mobile Banking Works

To perform a transaction, one requires a simcard which is inserted into a phone that can access mobile network or the simcard can be inserted into a card reader to complete the transaction. Mobile banking services can also be undertaken by connecting to internet using WAP technology.

There are various platforms that have been developed by telecommunication companies where the banked and unbanked people can send or receive money. This is achieved through messaging applications such as Unstructured Supplementary Service Data (USSD), where codes are created and the codes can be presented at any mobile money agent to withdraw money or created by the agent when sending money. The unbanked people in Kenya who do not have mobile phones can send / receive money through the USSD application by approaching the mobile money agent and provide the money to be sent and the mobile number of the receiver. Using the USSD application, codes are created and sent as a text message to the receiver's phone. A confirmation message is received by the agent that money has reached the recipient. The receiver can now present the message to any agent and withdraw the money. As long as the money is on the receiver's account (which is the phone number), it can be used to pay for bills like Digital Satellite Television (DSTv) services, water bills and or electricity bills and so forth. Service providers of mobile banking services charge a small percentage for their services.

In an academic study mobile banking refers to a means through which financial services are delivered by use of a mobile phone. The most commonly used services

that can be accessed through this mode are balance enquiry, deposit and withdrawal of cash. (Tiwari & Buse, 2007, p.73-74).

According to the above definition mobile banking is divided into three units that link to one another:

- Book keeping
- Third party
- Information services

The services in book keeping and third party are operation founded whereas information is in data nature. The non- transaction one has more importance than the rest because a person may need to check balance before sending money anywhere. So these three concepts are interrelated to one another although information services can be delivered as a separate content.

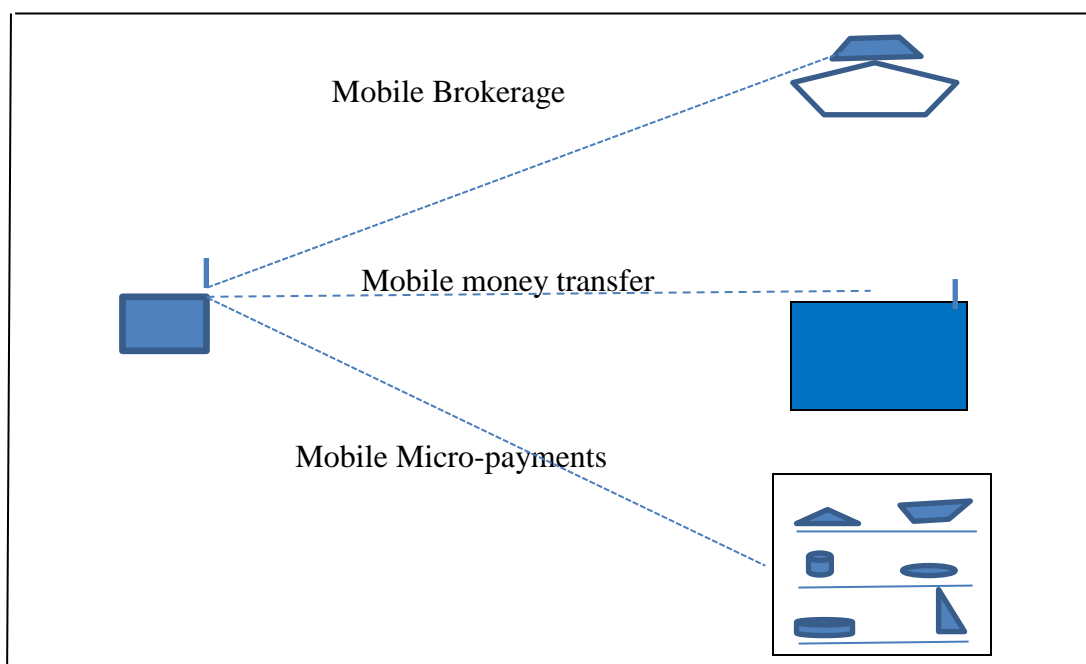


Figure 2.1: Cellular financial services.

Source: Adapted from Varshey and Vetter (2001,p, 20-24).

There has been a great revolution that has taken place in the mobile technology sector. Forster (1998) describes mobile banking as a new wave of delivery channel for banking services. It provides various services such as account enquiries, cash deposit, withdraw and transfer. As suggested by Varsheny and Vetter (2001) Mobile Financial Applications with services such as mobile banking and brokerage services, mobile money transfers and mobile micro payments could turn a mobile device into a business tool as shown above in Figure 2.1. This tool could replace bank, ATM and credit cards as it will let the user to conduct financial transactions with mobile phone.

2.2 Theoretical Studies

Recent improvements in delivery of internet connection by users have led to great attractiveness among individuals. Moreover, the rapid growth of mobile devices has enabled internet banking to gain more attention hence increased users. Internet banking offers their banking activities in much ease i.e. anywhere, anytime. This is all supported use of a mobile device (Lee & Chung, 2009). The idea that use of mobile device to deliver banking services leans to the use of internet to offer banking services has provided users with safety, easy to use and time saving. These benefits provide a chance for bank customers to rise. Furthermore, the great improvement in the mobile device technology has led to the development of new devices i.e. smartphones, tablets and cellphones which are trendy among young adults. It would be of great value to banks and telecommunication companies to know what pushes the youth towards the use of mobile banking services, probably they are going to be the majority users of this services in the future (Munongo & Chitungo, 2013).

According to Yu (2013) despite the observed advantages that would arise from the use of this service, still the number of mobile banking users hasn't increased as it

was anticipated. They further stated that the lack of trust in m-banking services is among the causes that led to little adoption of mobile banking. While there are 5 billion mobile users globally, the mobile banking users are only about 200 million (Jeongs & Yoon, 2013). There is less use of mobile phone and mobile banking services in the advanced economies such as USA, Sweden and UK. Many people who reside in remote rural locations can only access few internet enabled computers. This may welcome services offered by mobile banking as opposed to the limitations of internet banking. Telecommunication companies are investing a lot of resources in the mobile banking industry so as to provide better services to the less wealthy population in the emerging markets.

African economies are trying hard to promote economic growth in different sectors through the application of technology especially in the development of the banking infrastructure. However access to capital to develop these areas has been a major hindrance. This partly explains the imbalance of economic growth in the different African economies because of lack of access to finance. The Africa continent is characterized with a lot of struggle in accessing formal services of banks. In order for one to be able to gain the benefits of banking services then he had to pass through a long line of procedures which are very expensive and time consuming (Stork & Esselaar 2006). Furthermore due to poor banking infrastructure and high level of poverty in this continent, it is very hard for many individuals to have bank accounts and accessing other financial services.

According to a research by Federal Reserve in March 2012, 21percent of mobile device users in the United States contacted their banks 12 months ago through their devices to conduct various banking services in their own free time. There is a strong

connection between using mobile device to carryout financial services and the use of internet. It has been anticipated that if the number of internet registered person's increases, mobile banking users will also increase. A press release by eTForecasts (2001) found out that the number of internet users has increased and it counts over a billion users. Also the company forecasted that the cap of 2 billion users will be reached by 2015.

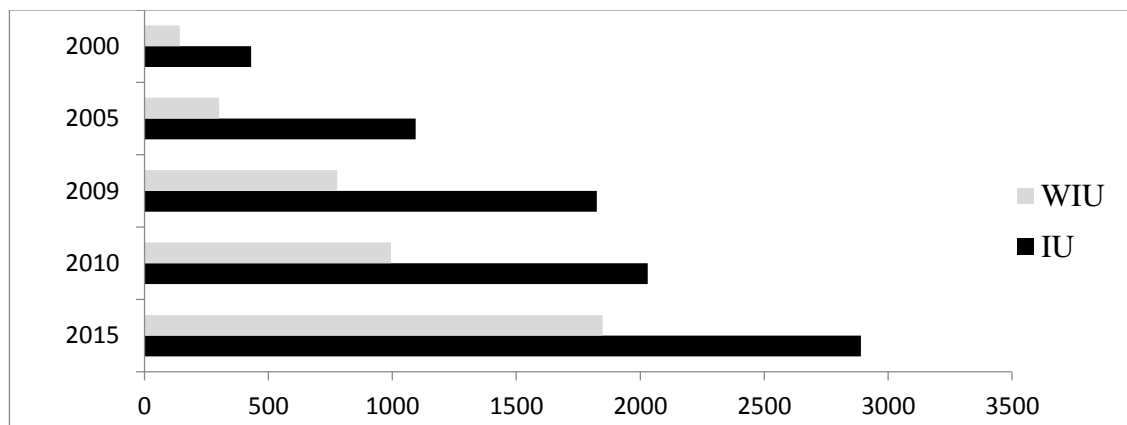


Figure 2.2: Worldwide internet users and wireless internet users in millions.
Source: eTForecasts (2001) (www.Marketer.com).

The future expansion of internet usage in the developed economies is restricted because the number of internet penetration is about 65% to 75%, while in the emerging economies it's about 10% to 20%, hence this shows that the emerging markets have a chance for growth. It's also realized that many people will use wireless web in the future hence increasing the number of people using the internet.

Owning a mobile phone does not guarantee usage of mobile banking services. Certain procedures have to be followed in order to access such services. Mobile banking can be applied in three different ways:

1. Through browser
2. Through message application
3. Through client application

Through the browser: This is carried out through the use of Wireless Access Protocol (WAP) to connect to the internet so as to carryout mobile banking activities. This will only need a mobile device that is capable to interact with WAP so as to link bank accounts through use of internet (Kim et al, 2007).

In regard to Message applications, here the interaction between the customer and the bank is done by sending of a text communication. For example, a mobile banking customer sends unknown commands to its bank, leading him to carryout operation with his bank. This type of service is being executed through phones with Unstructured Supplementary Service Data (USSD). WIZZIT based in South Africa uses this kind of technology to execute its orders (Wizzit, 2005)⁴. M-Pesa in Tanzania also offers its customers message based banking services (Camner and Sjoblom, 2009).

Through client applications, here specific programs are designed and are installed in the mobile device so as to deliver mobile banking services. An example of M-banking that is being run through this program is M-pesa of Kenya. The program that runs M-pesa is known as SIM toolkit standard (STK). This program is installed on the phone in order to carry out mobile banking services (Safaricom, 2007).

⁴ WIZZIT is a telecommunication company in South Africa that provides mobile banking services through the use of Unstructured Supplementary service Data (USSD) on the mobile device.

2.3 Mobile-Services Development in Africa-Kenya as a Point Of

Reference

Mobile banking services can be delivered in various forms and it caters for both the banked and unbanked. As discussed from different studies it is noted that these services are delivered differently in various countries (Anyansi and otubu, 2009). Several studies imply that there is no significant research done to prove whether mobile banking pushes the economy forward.

There is no particular method of mobile banking's delivery of service although it aims at attaining its objectives and keeps changing their delivery mode in different countries. Mobile banking provides a wide range of banking activities i.e. cash deposit, withdraw and remittance. Currently these services are being adopted by different organizations and industries. According to Portoeus (2006) mobile banking services can be accessible in three different ways i.e. through banks, telecommunication suppliers and joining of bank and Telecommunication Company. In the developing countries most telephones are enabled with the capability of storing value when carrying out banking transactions.

2.4 Benefits of Using Mobile Banking

Both banks and customers benefit from mobile banking services. Most research has proved that alternative mode of delivery such as ATMS, internet and mobile device will enable numerous banks to reduce their transaction cost. As Didio (1998) stated that typically when one visits a bank his cost of transaction is about \$ 1.07, it decline to \$0.27on ATM, declines by a penny through internet and decreases further when performed on the mobile. When banks adopt mobile banking there will be an added advantage to its customers since they will be able to settle their bills by electronic

means which will be cost effective. The delivery of bills by means of electronic is greatly cheaper than when one uses paper method.

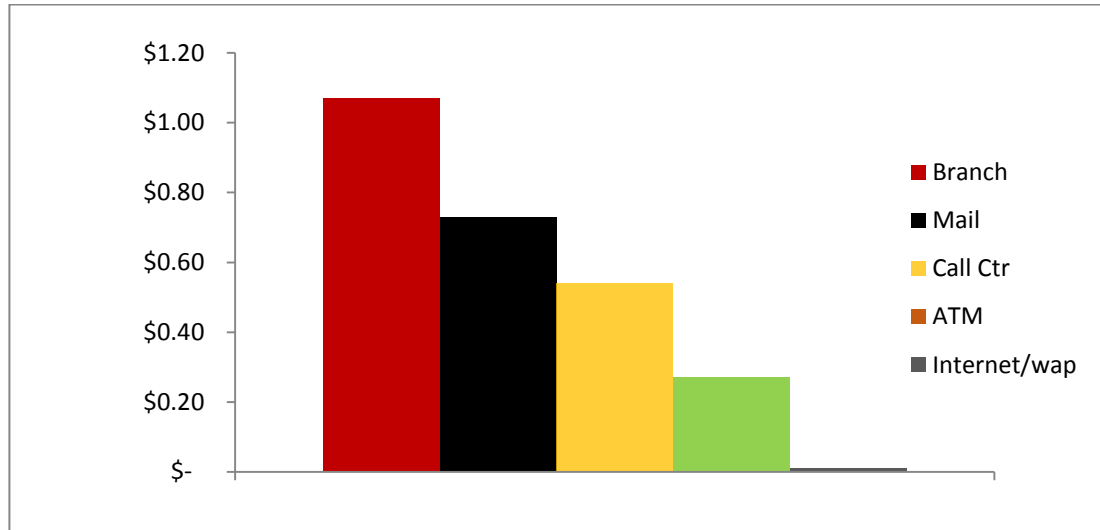


Figure 2.3: Bank cost per transaction.
Source: American Bank Association (1999).

Banking through the mobile, internet or any other mode apart from going physically to the bank to make the necessary transactions, enables users to save costs and gain from various banking activities (Osterland, 1999). The use of a mobile device to carry out banking activities banks is a convenient alternative to the traditional bank visit because it is an attractive option for time pressured consumers by saving trips and resources to the bank offices.

As customers become more familiar and comfortable with mobile banking services, mobile banking will continue to grow. Banks will extend the functionality and move beyond basic transaction services to more personalized ones. Riley et al. (2009) showed the different percentage of active mobile users and number of transactions for a period of four years. This analysis shows great penetration of mobile banking in the USA according to Table 2.1 below.

Table 2.1: Mobile Banking Data on Usage in USA.

Year/ Data	Active mobile banking user's (Millions)	Mobile banking transactions (U\$\$ Billion)
2010	17.8	2.9
2011	27.4	5.6
2012	39.3	9.4
2013	53.1	14

Source: Riley et al. (2009).

According to the above table there is a positive growth of mobile banking as number of mobile user's increases yearly and also number of transactions is increasing.

2.5 The Main Players of Mobile Banking

In order to analyze "mobile banking" we have to define the different players who participate in mobile banking. These players' actions and practice are important in developing "mobile banking" industry.

Mobile banking is a collective participation of four parties that is:

1. Banking sector represented by operating banking institutions;
2. Mobile network providers operating in the country;
3. Beneficiaries, businesses and private consumers;
4. Regulating authorities (Country's Central bank).

1. Banking sector represented by operating banking institutions;

The banking sector is composed of various financial institutions like Equity Bank, United Bank of Africa and other banks operating in the Kenyan economy. These banks provide a network for accessing mobile banking services. The banking

institutions have realized that there is need to increase financial inclusion by providing a network that helps the unbanked people to access financial services even without bank accounts. Equity bank is an example of such a bank that has undertaken provision of mobile financial services in Kenya.

2. Mobile network providers operating in the country;

Network providers are the diverse companies that provide mobile banking services which include banks and telecommunication companies. An example of a Mobile Network provider is Safaricom that designed the M-Pesa platform which has helped the Kenyan people to send and receive money with or without an account or mobile phone. These network providers charge a fee for using their financial services and hence, the reason for being in business.

3. Beneficiaries, businesses and private consumers;

Beneficiaries of the mobile banking services are the local Kenyan citizens or other people in Kenya using the mobile banking services and business people who intend to make their payments using mobile money. Businesses and private consumers always use mobile money services to send or receive money from different kinds of people who are either family members or business partners. Mobile banking improves these players' standards of living.

4. Regulating authorities (country's Central bank);

The regulating authority is the Central Bank of Kenya which is the country's top most authority in banking matters. Central Bank of Kenya regulates fiscal and monetary activities that take place in the country. To operate in the country, the financial service providers have to follow all the regulations and terms set by the regulatory authorities.

The most vital factors are considered to make M-Banking successful are policy and regulations. Any profit making business usually takes into account the performance of all parties involved in the line of business. According to CGAP5 mobile service can be delivered in two ways i.e. through Bank based or through non-bank based. When mobile banking services are delivered through bank based it means that the user has a through interaction with his bank. It entails dealing with agents who are contracted by the banks to offer their services. In Non-bank model the customer has no any relationship with a bank. The individual liaises with the telecommunication company through their agents to carry out all their banking financial services on phone. Both the two models use retail agents to bring closer the traditional banking services to their customers.

Chapter 3

EXPERIENCES AROUND THE WORLD

The decade, beginning from early 2000s was characterized by challenges, trials and errors in a bid to develop mobile banking application. It was hard for some customers to view their banking data on the small display screen of mobile devices during that time, while other banks delivered these products but were discontinued within a short span. A mobile device that could carryout banking activities was introduced in 2002 by Wells Fargo but only about 2,500 people were registered to use it. Later they withdrew offering the services because of the poor response. (Dasgupta et al. 2010).

In 2008 small banks started to deliver financial services through mobile device and most users who accepted it were already clients of big banks. In USA around February 2009, it's noted that about 1.9 million users adopted mobile banking service that was introduced by Bank of America. Different companies joined the industry i.e. American Telephone & Telegraph (AT&T). This was a telecommunication company in America which introduced programs that could be used by clients of not the same banks and also diverse mobile phone to carryout mobile banking different (Hughes & Lonie, 2007).

Safaricom and Vodafone are the leading Telecommunication Companies in Kenya. It has been established that in Kenya most people use M-pesa than people who hold

bank accounts. During the early days of its initiation, M-Pesa had 6.3 million users (Hughes & Lonie, 2007).

It was attested that there was about 2 million new users daily and about 5.6 billion GSM users around the globe. These statistics were carried out by GSM Association (GSM, 2013). With the increase of mobile banking users, it is estimated that by the end of 2015 or even before there will be 6 billion users (GSM Association, 2013). Presently, the mobile usage in South Africa has progressed so high, approximately 83% active mobile banking users. This kind of increase has definitely pushed majority of business premises to adopt this mobile banking service in South Africa (Wizzit, 2005).

Currently, great focus is that people are categorizing the delivery of banking services by phone as a financial product. It has been predicted that the steady growth of mobile banking services will change people ways of doing their transactions in the growing economies and this is today's experience in African economies (Ivantury & Pickens, 2006).

The table below shows how the large economies like China, Brazil and USA have embraced usage of mobile devices to provide banking services in year 2012 and 2013. However, Kenya is amongst the economies on the African continent where mobile banking has increased substantially and the poor people have benefited through access of the financial services though they do not hold bank accounts. The appearance of the Kenyan economy amid countries where increased mobile banking usage exists confirms that Africans have interest in mobile banking.

Table 3.2: Growth Ratio of Mobile Banking Users in 2012 and 2013.

Country	Percentage of bank consumers using mobile banking		Increase
	2012	2013	
China	10%	25%	150%
Brazil	10%	21%	110%
Kenya	6%	18%	200%
USA	11%	22%	100%

Source: Jeong& Yoon. (2013).

The delivery of mobile banking services in UK improved at about 9.7% in 2010 to 20.4% in 2011, whereas for USA it was different with an increase of about 11.4% to 21.9% while in Sweden it rose about 8.1% to 20%. Global use of mobile banking rushed in 2012 due to the increased development on infrastructure and technology around the globe. Consequently, increasing the number of users across the world as confirmed by TNS (Taylor Nelson Sofres) latest research.

In 2013 countries such as China, Brazil and Kenya mobile banking users increased by over 100% in 12 months. Banks in these countries changed their strategy of delivering their service from traditional method to use of mobile banking. This growth was not only limited to emerging markets but also developed countries like UK, USA, Singapore, South Korea and Sweden.

There has been slight use of mobile wallet over the past period of time in different nations i.e. USA, Singapore and Hong Kong. The usage of mobile wallet has grown so high in different countries respectively i.e. USA about 6% in 2010 to 8% in 2011,

Singapore about 10% to 13% and Hong Kong about 16% to 17%. According to research, it was recognized that in Chile, mobile wallet users were below 1% in 2010 but this rose to 7% in 2011. The growth and need for mobile banking services led companies in China to capture a big number of customers. The financial services that were mostly used by Chinese people were paying bills (25%), withdrawals (15%) and paying wages (15%).

The number of people around the globe that aren't able to access banking services is quite large. The presence of mobile banking services in African countries may not only bring access to finance but also develop a different consumer base which might lead to the improvement of the banking industry and also create a chance for the telecommunication industry.

Mobile banking will cover the gap by delivering financial products to people who can't own a bank account in the developing countries. Banks which are unable to deliver these services resorted to mobile banking to capture the market. For example sending and receiving money through mobile banking requires one to use a phone. The advanced technology in the mobile money has the ability to cater for the ever growing African economy and providing its users with a great ability to access finance. For instance family members in the urban areas can easily transfer money to their loved ones in the villages where mobile technology is available, thus creating greater access to financial services by use of the mobile (CGAP 2008).

Mobile banking services has helped many banked and unbanked Africans to turn their mobile devices into wallets that they can deposit, withdraw and save their money thus bringing them to the bigger financial world and help in the growth of the

economy. For instance in Kenya, people are able to pay for services like water bills, rent, electricity, school fees and services by sampling using their mobile wallets from the comfort of their homes or offices using their mobile phones. This also renders easy access to financial services and providing security for their monies through use of passwords and any forms of encryptions provided by the service providers. Banking in Africa has moved in a new direction with the introduction of mobile banking. This revolutionary service is hassle free and does not need the traditional cheque books or long bank lines to see a teller. The banking process has become much easier with the possibility of completing all transactions on one's mobile phone. All an individual needs is a phone and a simcard inserted on the phone and thereafter person can complete all transactions by a press of a button.

Most important to note is that mobile banking is creating opportunities for the poor to have access to the wider financial services sector in developing countries in Africa and elsewhere. This is a key aspect of helping people out of poverty in developing countries. Access to mobile financial services now means that the poor will have access to small business loans/microfinance, savings accounts, insurance and tailored investment opportunities. Through their mobile phones, they can transfer funds without physically carrying it around or keeping money at home. People use mobile bank account cash credits to pay bills, shop for food and other personal items. Peter Ondiege, the African Development Bank's chief research economist says that mobile phone is an ATM, a point of sale terminal and an internet banking terminal. It is also a bank cash card and debit card for your mobile account (Cracknell, 2004).

In emerging markets use of mobile device for delivering banking services plays a greater role in the growth of the country. Presence of banking using a phone has

enabled to capture a wide dormant market that was majorly controlled by use of cash to carryout transactions. Partnering of mobile banking service providers with banks has led to the presence of new users throughout the developing countries hence increasing government revenue (Arunachalam, 2002).

3.1 Service Providers in the Countries Using Mobile Banking

At present most banks and companies in Africa offer their services through the mobile device. The countries that have performed best in adoption of this innovation are Kenya, Philippine and South Africa. These service were delivered in different countries through different service providers and different application i.e. Philippine used Globe Telecom and the service was called GCash⁵, in Kenya Safaricom Telecom and the service was called M-PESA and in South Africa Wizzit and FNB (First National Bank) were the providers of services delivered through the mobile phone by the use of USSD (Unstructured Supplementary Service Data).

Secondly, companies that are not banks have started to join mobile banking business and hence compete with financial institutions. At the moment it's recognized that electronic money providers are in Afghanistan, Indonesia, Kenya, Malaysia, Philippines, Rwanda and Sierra Leone. The providers of electronic money are always active in creating new inventions and increasing their business activities so as to capture all the market of the banks. For example, M-Pesa partnered with Western Union so as to allow persons of 45 countries to be able to remittance money, thus putting in consideration of the amount being transferred. In 2011 World Bank valued this total remittance to be \$US483 billion. Financial institutions in Africa are

⁵ Gcash is a remittance service provider in Philippine. This service is provided by Softbank payment service Corporation with the partnership of GXI, a subsidiary of Globe Telecom.

reviving their services so as to compete with mobile money issuers. As a result some banks improved their business, for example in India ICICI bank started internal reforms, which made the bank to improve its market portion in transfer of money around the world by up to 50%.

The rise of mobile banking has created a close partnership between banks and mobile phone companies, whereby by each one of them utilizes the other to reach to their respective markets and attain their goals. This move empowers banks to reach customers who do not have bank accounts and hence providing them with the financial services that they require. The partnership of these markets has brought plenty of gains and made these companies to become stronger. This partnership has also made mobile phone companies to invest more in their set ups, and make it cheaper for them in rendering their services to their customers.

Safaricom initiated various ways to transfer money for example, M-Pesa International Money Transfer (M-pesa IMT) and M-kesho⁶. Both services were introduced to the market in May 2010. These services were introduced together within a partnership of Safaricom Kenya and Equity bank. The bank sets up an account that facilitates all M-Pesa transactions. This M-Pesa service like any other financial service allows a user to check their balances straight from their handsets.

M-Pesa allows the transfer of money abroad through M-pesa International Money Transfer. This service is much cheaper and gets to the intended receiver faster compared to competitor's services like Western Union.

⁶ M-kesho is a program that was designed by Safaricom and Equity Bank to help deliver banking service between people with accounts in Equity Bank and Safaricom.

In today's world, competition is a must. Apart from Safaricom there is Zain which is a major competitor in Kenya and in over 15 countries in Africa⁷. Zain introduced Zap-mobile services i.e. cash transfer, deposits and withdrawals⁸. Zap has borderless advantage covering most parts of Africa and serving over more than half a million customers and managed to expand the mobile banking services in numerous countries including Niger, Malawi and Sierra Leone, Uganda and Tanzania within the first year.

Just like how Safaricom partnered up with Eco Bank in Kenya, Zain went the extra mile to meet the needs of wider markets by joining operations with numerous banks across Africa i.e. Standard Chartered Bank, Eco Bank and Citibank. Eco bank runs its operations from Togo agreed to sign a memorandum of understanding in June 2011 so as number of people using mobile device to bank can rise in their respective markets it covers. Eco bank covers a wide range of customers spreading over 30 African countries with the reach of 750 branches to serve its customers by the end of April 2011. At the same time Airtel⁹ also made a major move to serve more than 223 million customers over its respective operational countries, with this continuous success Eco bank in Ghana also started entering the mobile banking market but in a different perspective by allowing their account holders to manage and check their accounts through the services provided by Airtel. This brought about over 500 agents

⁷ Zain Group in 1987, Zain officially launched its operations in Kuwait and later spread across the Middle East and northern Africa with a reportedly 96.5 million subscribers by the end of June 2014.

⁸ Zap is mobile money transfer service that was launched by Zain in Africa and the Middle East.

⁹ Bharti Airtel is an Indian base Telecommunication Company known as Bharti Airtel Limited by commonly referred to as Airtel. As a multinational company with its headquarters in New Delhi, and holds its operations in over 20 countries from the channel islands, Africa and South Asia.

who provided services to Zap and Eco bank. This made the Central Bank of Ghana adjust its rules to accommodate new market entrant.

After being able to penetrate the Ghanaian market, Eco bank and a mobile operator company in Liberia called lonestar joined hands to serve their markets in September 2011. This new collaboration brought about new services such as mobile money, which gave access to new and existing customers to complete their banking services through the use of their mobile money services.

As part of the intention of spreading mobile banking services, the biggest mobile operator in South Africa Vodacom joined operations with Nedbank to offer these services¹⁰. They were very keen on convincing the people without bank accounts to start opening accounts so as to start enjoying the benefits of banking through the mobile device.

In South Africa leading banks in offering mobile banking service was First National Bank (FNB) and it had the largest figure of customers. There was a great development in mobile banking services in different branches in Africa. This is evident from the yearly growth of 277% in Botswana, 376% in Zambia, 204% in Namibia and 437% in Swaziland as was stated by First National Bank (FNB) in June 2011. The e-wallet mobile service also gained much attention after it was introduced to the neighboring countries. E-wallet started its operations in Botswana so as to

¹⁰ Vodacom Group Limited (Vodacom) is Telecommunication Company based in Africa that provides various services i.e. messaging, voice calling etc. These services were mostly penetrating over 55 million customers. Vodacom started in South Africa and expanded its operations to Tanzania, Mozambique, Lesotho and Democratic republic of Congo. This company also offers services to about 40 million countries in Africa.

deliver the essential mobile banking services. It is noted that over 89,000 cash transactions have taken place since the introduction of the innovation in the country. Therefore First National Bank (FNB) decided to introduce the service to its branches around Africa.

Also MTN introduced mobile money accounts that enabled customers to make all dealings of mobile banking from within or outside the country¹¹. In 2010 MTN declared a strategy whereby one could have full bank account on a mobile device. This service was initiated in 20 countries where it had its branches and a big customer base of 90 million persons. This led to the penetration of mobile banking services in Cameroon, Ivory Coast, Uganda and Ghana.

3.2 The Future of Mobile Banking in Africa

The spread of mobile devices in the developing economies in different parts of the world have proved the ability of this device to be flexible and easily accessible in any part of the world. Mobile phone usage to bank is changing the way people live in different parts of emerging markets. Most successful banks in the emerging economies have developed a great coverage of its customers through a line of branches such as Eco bank, while telecommunication companies such as MTN, Zain and Vodacom have approved that there are a great number of customers in the developing economies, ready to adopt mobile banking services.

Afful (2013) believes that in developing countries by 2015 around 12 million won't have bank accounts but they will have a mobile device. The mobile banking innovation is revolutionary in Africa. The introduction of smartphones in developed

¹¹MTN Group is a telecommunication company based in South Africa and it operates in many continents i.e. African, European and Middle Eastern. Its main offices are based in Johannesburg.

countries is great but surprisingly not many people have adopted mobile banking. Different countries like UK, France, Germany, Italy and Spain have showed that 20 million subscribers across these markets use their device to contact their banks as observed in March 2011 and as stated by Comscore Mobilens. It's important to note that only 70% of the people who own smartphones use them for mobile banking services in developing countries. In Europe many subscribers weren't embracing this new innovation of delivering banking services through the mobile device like M-pesa of Kenya.

The success of mobile services in Europe may never overtake that of Africa. The availability of strong retail banking in Europe that caters for the delivery of service to customers is moved by rivalry with other banks in Europe. Africa can set a good example in case the European market intends to pursue further this innovation of mobile banking in Europe.

Chapter 4

APPLICATION OF MOBILE BANKING IN KENYA

Kenya is an independent country located in the Great lakes area of East Africa. Nairobi is the capital city of Kenya and it's the largest capital city in the region. Kenya's neighboring countries are Tanzania, Uganda, Ethiopia, Sudan and Somalia. The country size is about 581,309km² (224,445 sq. mi) and in July 2012 its population was estimated to be about 44 million. Nairobi serves all the Central and east Africa as a business center. In South East and central continent it's only Kenya that has a bigger economy with a GDP of about \$37.23 billion as of 2012 statistics. The map below shows the location of Kenya.



Figure 4.4: Map showing location of Kenya.

During 2006-2008 the banking system in Kenya developed considerably leading to improved bank infrastructures in the country, this led to growth of bank branches in the region with an increase of about 46 percent. The bank branches increased from a total of 581 in 2006 to 849 in 2008 (Central Bank of Kenya, 2009). Even though these bank branches did not cover most rural areas and less developed areas of the country, it increased in all the major towns of Kenya such as Mombasa, Kisumu and Eldoret where population was high. The benefits of opening bank branches are that, it led to providing majority of Kenyans with bank accounts and access to formal financial services from 16% in 2006 to 24% in 2009.

There are 43 banks in total operating in the Kenyan economy. Kenya Commercial Bank, United Bank of Africa, Diamond Trust Bank, Dubai Bank Kenya, Eco bank, Equatorial Commercial Bank, Equity Bank, Family Bank, Fidelity Commercial Bank Limited, First Community Bank, Giro Commercial Bank of Africa, Gulf African Bank are some of the important banks in Kenya. Table 5.3 presents the complete list of licensed commercial banks, their ownership structure and the number of bank branches owned by these banks.

Table 4.3: Banks in Kenya

Bank Name	Ownership structure	Number of Branches
African Banking Corporation	Foreign	9
Bank of Africa Kenya LTD	Foreign	10
Bank of Baroda	Foreign	8
Bank of India	Foreign	5
Barclays Bank of Kenya LTD	Foreign	82
Central Bank of Kenya	Domestic	4
Charter House Bank LTD	Foreign	9
Chase Bank Kenya LTD	Domestic	7
Citi Bank	Domestic	4
City Finance Bank	Foreign	2
Commercial Bank of Africa	Privately	9
Consolidated Bank	Foreign	12
Co-operative Bank	Domestic	87
Credit Bank Ltd	Domestic	4
Development Bank	Domestic	2
Diamond Trust bank	Domestic	30
Dubai Bank	Domestic	4
Eco bank Kenya	Domestic	12
Equatorial Commercial Bank	Domestic	4
Equity Bank	Domestic	113
Family Bank	Domestic	49
Fidelity Commercial Bank	Domestic	6
Fina Bank	Domestic	11
First American Bank of Kenya	Foreign	2
First Community Bank	Domestic	12
Giro Bank	Domestic	7
Guardian bank	Domestic	6
Gulf African Bank	Foreign	8
Habib Bank A.G	Domestic	7
Imperial Bank LTD	Domestic	11
Investments and Mortgages	Domestic	17
Kenya Commercial Bank	Domestic	166
K-Rep Bank	Domestic	27
Middle East Bank	Foreign	4
National Bank of Kenya	Domestic	34
NIC Bank	Domestic	13
Oriental Commercial bank	Foreign	5
Paramount Universal Bank	Domestic	5
Prime Bank	Domestic	13
Southern Credit Corporation	Domestic	9
Stanbic Bank Kenya	Domestic	17
Standard Chartered	Foreign	37
Trans-National Bank	Domestic	9
UBA Kenya	Domestic	4
Victoria Commercial Bank	Domestic owned	2

4.1 Evolution of Mobile Banking in Kenya

The M-pesa invention in Kenya shows its pioneering of deliverance of financial services through the mobile phone (Lonie, 2010). However, presently the biggest problem of imitating this victory in the nearby countries with situations like fighting of poverty and growth of the economy may give completely different outcomes in various countries. Therefore this proves that some perspectives might be better to the new technology than others.

According to various researches it's not only about finding the characteristics in Kenya that impact delivery of banking services through mobile device ,rather how mobile money will push forward the economic growth and reduce the poor standards of living. Amrik and Ignacio (2009) stated that for any mobile banking activity to be successful it is not delivering the services but, other factors such as political conditions, government regulations etc. play a big role. These provide the foundation that allows people to carry out their banking services through mobile device.

The high mobile usage holds true even for those at the lower end of the economic scale. Of those Kenyans living on less than \$2.5 USD/day, 60.5% owned a mobile phone. With the cost of mobile phones decreasing steadily, what was once considered a luxury good is now more commonly considered a necessity by many Kenyans. According to Kenya's communications regulator in their Quarterly Sector Statistics Report (March 2014), Kenya has a mobile penetration of 78.2%. This figure is significantly higher than the African average of 65% (Praekelt, 2012).

Table 4.4: Percentage of mobile phone penetration in Kenya

Indicator	2009	2010	2011	2012	2013	2014
Mobile penetration (%)	45	51.0	64.0	74.0	75.8	78.2

Source :(CCK, 2013).

The data on table 4.4 above shows the percentage penetration of mobile phone in Kenya from 2009 to 2014 based on Communications Commissions of Kenya.

4.2 Technology Description For M-banking In Kenya

Safaricom initial introduction of mobile money as M-Pesa around 2006 led to the great achievement of banking through the mobile phone. Its acceptance in Kenya was extraordinary. According to statistics to date it's noted that over 13 million people have done transactions through M-Pesa from various part of the country. Even though M-Pesa has brought many new prospects in Kenya still there are many unanticipated problems that it has failed to fight hence more research still being carried out (Lonie, 2010). Most people in the Sub-Saharan Africa rely only on different modes of trade i.e. cash, barter trade for carrying out business transactions. It is only 1% of the population in sub-Saharan Africa that have bank accounts. According to statistics the GDP per capita is too low and most of the people survive on not more than a dollar per day. This shows that most people are not able to save. The division of North-South and urban- rural has brought about the necessity for the transfer of money through remittance, typically from relatives, friends and family. In most of the developed Sub-Saharan family after paying all the monthly bills for example electricity, water, they tend to have nothing left to save. In South Africa

45% of the population have no savings after clearing all the bills (Finscope, 2003). In Tanzania it's seen that only 4% have salary that can be used to transact bank activities and the dependence on official salary will not cover this gap.

4.3 M-Pesa

In reality M-Pesa allows customers to deposit cash in their account by depositing a particular amount in M-pesa systems from available agent then converted back to cash when one goes to withdraw his money at any agent (Mbiti and Weil, 2011). At any M-Pesa agent one is able to do various transaction i.e. check balance, transfer and deposit money. The presence of E-float in the country made it easy for people abroad also to send money back home. Through this method, nowadays it is easy for one to buy goods and services within the country. M-Pesa is different from the normal bank account in two ways i.e. an M-Pesa user doesn't incur interest on their balances but in bank accounts they earn interest on their savings. In banks one can borrow money and pay at a future date while on M-Pesa it is not possible to borrow. The various ways through which M-Pesa earns money from customers is through charging them a sliding tariff on cash withdrawals, on remittance and retail. The E-float on these is fixed at a fee of about 40 US dollar and users are also charged a fee of about 0.01 US dollar for checking balances through their mobile devices (Jack and Suri, 2010).

The volume of M-Pesa is about US\$ 400 million per month which shows extraordinary performance in Kenya. In June 2010 this performance contributed to 15% growth of the economy (Beck et al, 2012). Safaricom had a great number of customers during its initial time of operations in Kenya, but as of 2010 there were a lot of other mobile companies that were joining this kind of business and therefore

gave Safaricom stiff competition. Increased competition gave birth to new types of mobile services by introducing M-Kesho, Mobi Cash etc. These services were offered by different telecommunication in service partnership with banks and other companies in Kenya (Central Bank of Kenya, 2009). Safaricom had the largest number of customers even though other competitors joined the industry; it had three quarter of the market share in this service of mobile banking. It is noticed that during the period 2006 to 2009 M-Pesa enjoyed monopoly position in the country. During the time of its operation M-Pesa complemented the usual banking system in the country.

Currently total number of M-Pesa transactions throughout the country accounts for about 58% of all the electronics transactions in Kenya. Introduction of new technology is one of the drives that pushes many companies to gain economic benefits among its competitors, hence most rival firms in Kenya, are adopting the use of mobile device to deliver banking services. In spite of various technology solutions being incorporated aggressively on the programs and software of mobile banking, the adoption of mobile phones to deliver banking services is growing very fast although in year 2007 there was slow adoption of banking through the mobile device. The development of banking through the phone can be traced from two aspects which are;

- Number of customers
- Area of coverage

4.3.1 Number of customers

The number of consumers will tend to substantiate whether the people are willing to sample the mobile services or not, whereby the increase in volume indicates that mobile banking is gaining more market penetration and growth.

The growth of the mobile banking customers has continued to be on an upward trend and performing well for Safaricom M-Pesa, despite being only seven years old in the industry. As of 2013 there were 25,175,056 million customers. These data was collected monthly beginning from April 2007 to April 2013.

Table 4.5: No. of M-Pesa Customers in Kenya.

Years	2008	2009	2010	2011	2012	2013
No. of M-Pesa Customers	2,373,455	6,482,118	9,673,837	14,008,319	19,767,190	25,175,056

Source: Safaricom (M-pesa Kenya).

The data on table 4.4 above shows the number of M-Pesa customers in Kenya from 2008 to 2013 based on Safaricom data.

4.3.2 Area of Coverage

The expansive geographical area where the mobile banking services can reach numerous people in Kenya signifies how M-Pesa has been able to establish its presence in every corner of Kenya. By use of agents Safaricom mobile network has been able to evenly distribute its services all over the country.

Safaricom data of M-Pesa shows that the number of agents in the country has been increasing yearly. This implies that Safaricom has been expanding their coverage

every year, even to those who are deep in the rural areas and other countries such as Uganda.

Table 4.6: No. of Mobile banking Agents in Kenya.

Years	2008	2009	2010	2011	2012	2013
No. of agents outlets countrywide	14,091	59,507	163,811	260,551	358,673	429,188

Source: Safaricom (M-pesa Kenya).

The table above shows M-Pesa agents outlets across the country over the past six years of their operations in the country.

4.4 Regulation

Prior to the launch of mobile banking services such as M-PESA services in Kenya, financial institutions (banks) and telecommunication companies like Safaricom had to seek permission from the regulatory authority, once they are approved then they can carry out their practices in the country. Central Bank of Kenya saw it as a much more so efficient and safe way to send and receive money within the country (Sirken, 2009).

In order to get the authorization of the M-pesa, CBK used its own financial institutions to evaluate Safaricom request extensively, there was Financial Institutions Supervision Department (FISD) that deals with bank deposits which had to oversee that M-pesa service is not going against any banking rules. Another regulatory institution that had to screen M-pesa was National Payment System (NPS) which deals with the overseeing of efficiency, effectiveness and security of the

payment systems. NPS evaluation of m-pesa was more positive to the idea of M-pesa, as they viewed it as a way of experimenting with a non-banking model (CGAP, 2008). However on the rules and regulations of Kenya telecommunication states that a mobile network operation only deals with telecommunication services. coincidentally mobile banking service falls under the same telecommunication services category, so Safaricom made sure that it was among the things listed on the license agreement. in order to ensure the regulation of M-pesa activities CBK took extensive security measures to ensure that M-pesa did not breach the agreed upon framework that they were to carry their activities according to the government law. Particularly all profits arising due to providing electronic banking remain in a financial institution, in trust for the clients. Any interest earned on a pooled account cannot benefit mobile banking service provider. The privileges or negligence that arises from a mobile banking service due to their own carelessness are covered by the mobile banking service provider. Apart from that Safaricom is in charge of fixing the total amount of money that an individual can transact or send through the system. These policies was introduced to control money laundering in the country, also in case of loss of money or received by a wrong party. The amount was fixed at about US\$ 530- US\$ 750 for transactions that are to be made in a day (CGAP, 2008).

To make sure that mobile banking does not violate rules, audits are held frequently to track the performance of these money transfer institutions. The government of Kenya introduced a new bill called Payment System Bill. This bill was designed to monitor all the transactions that are made on mobile banking or at any point of sale (POS).

4.5 Customers Perception of Mobile Banking Services in Kenya

Advances in application of computer networking technology are rapidly changing ways in which financial services are transacted in developed and as well as developing countries. In Kenya M-banking technology was pioneered by a telecommunication company called Safaricom .This Company was the leading mobile service provider and has been very successful. M-Pesa is responsible for transfer of millions of shillings on a daily basis among its subscribers. Mobile banking is the newest innovation in the area. These studies emphasize on factors that influence usage of mobile phones for delivery of banking services by its customers in Kenya. In particular, it focuses on M-Shwari, the largest and fastest growing mobile banking service that was launched on 27th November, 2012 by Kenyan telecoms giant, Safaricom in collaboration with Commercial Bank of Africa. The technology acceptance models by Davis and Venkatesh and Roger's explain the penetration of new technology and factors that have been used to study the determinants of consumer.

Ondiege (2013) outlined why Africa cannot afford to ignore the mobile banking technology. He argues that while Sub-Saharan continent is being categorized for being fast growing in ICT, most of the people in the region still don't have bank accounts. It is estimated that about 20% of people in this region have bank accounts. He further points out that villages account for 60% of the total population in the country though they don't have access to banking services and cost for providing these services is exceedingly high due to factors such as underdeveloped commercial bank branch network, deficiency infrastructure and inaccessibility, and financial illiteracy. Therefore sub-Saharan continent is designing a different position in

delivery of phone banking services so as to enable the area to grow. This could boost domestic savings and increased remittances paying little fee and also reducing other extra charges which culminate in doing business cheaply and therefore benefit SMEs and overall private sector development.

Chapter 5

FACTORS FOR ADOPTION OF MOBILE BANKING

This research analyses the most effective factors which made adaption of mobile banking rapid in Kenya. It is indicated in other research that the most important factors that affect the usage of a mobile device to carryout banking activities are: demographic features of customers such as age, gender and location, risks that are involved in using mobile banking; and how easy to use this service (Nysveen et al. 2005).

Using the same analysis we can conclude that mobile banking adoption and usage in Kenya are affected by the following factors:

Table 5.7: Factors affecting adoption of mobile banking.

Usage	Safety
	Technology improvement
Consumer characteristics	Age
	Family Location
Risk	Financial risk
	Time risk
Ease to use	Easy to learn
	Language

5.1 Usage

This factor includes two variables which have effect on mobile banking usage. These factors are safety and technology improvement.

5.1.1 Safety

Perceived usefulness of mobile financial services (MFS) have a high claim on its benefits hence the high uptake of mobile banking. Most people in Kenya who travelled to urban areas to look for jobs and leaving the rural areas were forced to send back money to their families in the village. These people preferred mobile banking as the most comfortable and safe mode of sending money. To gain more confidence on the products of mobile banking and how they operate, it will be best when the users are brought together in seminars so as to be made aware of these services and how they operate. The act of placing agents in different areas in the country in order to help them in case of any problems will enable users to gain more trust. Another factor is that when more people start embracing mobile financial services in the rural areas, this will make other people develop trust and use the services.

According to Akinyi, (2012) customers were scared of the money getting lost that is if the money did not reach the receivers mobile device, how was the money going to be tracked and brought back to the owner. In South Africa 6 out of 23 people and in Philippine 7 out of 30 people were worried about this issue of lost money in the system and how it would be solved in case the money is lost. In contrast, M-Pesa users in Kenya have gained much trust in this system, due to the long time good relation that Safaricom had placed with its customers during the post-election violence. Also Safaricom did a lot of advertisement about their services, so

customers gained more trust and were ready to use this new innovation (Medhi, et, al.2009).

5.1.2 Technology improvement

Earlier studies suggest that individuals who were exposed to early technologies like ATMS and phones were most likely to be the first in taking up mobile financial services. On the other hand people in the rural areas that had never seen nor have a mobile device, found it harder to accept this new innovation. According to this analysis we can see that due to the absence of new technology in the villages, embracing mobile financial service will be so hard.

5.2 Consumer Characterizes

Bank consumers have different characteristics that can affect their preference of the bank facility. This difference is shown as per below.

5.2.1 Age

The number of deaths, marriages, illness and births that occur over a period of time can have a big impact on the rate at which technology can be embraced in a particular country. According to various studies it is that people who accept new innovations, have high salary, young age and high social status (Rogers, 1995). Research aspects pertaining to electronic banking are not steady. The literature of mobile banking proves that the most people who used electronic banking were moderately not very old (Joshua & Koshy, 2011). Other studies also revealed that old people were not willing to accept the new innovation and were very rigid to change (Laukkanen et al. 2007). Some researchers discovered people of age between 50 and above were ready to feel the experience of using mobile banking services (Suoranta & Mattila, 2004). Other findings suggest that users between 30 and 49 of age were the most distinctive users of mobile banking (Laukkanen & Pasanen, 2008), old

people and those in their middle age were preferred to be more satisfied with the use of electronic banking (Laforet& Li2005; Dasgupta et al.2011).

According to research that was done in Brazil, 3585 respondents said that older people were finding it hard to use mobile banking, than it was for the youth in the country. It was therefore confirmed that the distinctive users of mobile banking services were 30 years and below after 666 respondents confirmed it (Puschel et al, 2010).

5.2.2 Family location

Rural urban migration marked the start of point in adoption of mobile device banking in the country through introduction of M-pesa. This was due to the fact that a member of the family had to move from town to town so as to look for employment and provide for their families back in the village. Some rural families had children studying in town and had to transfer their school fees, accommodation and pocket money. This was all done through M-Pesa since it was the only fast and effective mean (Akinyi.2012).

5.2.3 Gender

Matters pertaining to masculinity, preceding lessons suggest that many people who are willing and ready to take up mobile banking services are male compared to female (Nysveen et al.2005). Most male are usually focused and adapt so fast to new changes than women. In electronic banking it is about meeting certain ambitions (Cruz et al. 2010). In addition, different statistical analyses have proved the differences in male and women towards adoption of mobile banking service. Women feel that it is very risky to buy anything online while men are not of the same opinion. Different decisions by friends may also have an impact on a woman's decision pertaining to mobile services (Nysveen et al. 2005). Most men will uptake the use of mobile service since they are not aware of the charges that it will incur.

The use of gender as a controlling variable, Riquelme and Rios (2010) found out that in Singapore the impact of social norm on one's interest to accept and use mobile banking services is perceived to be high in women than it is to men. According to the results above, it is essential to establish the effect of gender on accepting mobile banking services.

5.3 Risk

Risk can change in adaption of mobile banking in each country. If people in the country are risk version, it will lead to change their choosing from bank services.

5.3.1 Financial risk

The price that one would pay to carry out his mobile financial services was a matter of disturbance between users of mobile services. Two things that were a matter of concern between the users are; first they needed to be informed of all the costs that will come with the new service i.e. buying a phone, Knowing how much they were going to be charged for using the services. Most of the people were willing to spend less on this new innovation. The price for using this new innovation was a deciding factor on how people were going to accept this service. In order to capture a big market share it was necessary to reduce the price of the service since many rural dwellers didn't have enough money. This resulted to faster use and spread of mobile banking services in the rural area.

It can be seen properly from the score of 80% in mobile banking customers who incur less transaction expenses. This new innovation cuts down expenses of delivering main financial services to its users compared to what it would have cost an individual using formal methods of delivery. This new service benefited the customers so much in saving their expenses. This can be confirmed from 97%

respondents who agreed .The removal of registration costs might have contributed to the above great benefit. It's noted that most people may stop from opening a bank account due to long procedures in the banks. Thus not having bank account and maintaining a fixed balance has boosted their preference for these services. (Nysveen et al. 2005).

5.3.2 Time Risk

The time factor was not a big issue in South Africa, as most users of the service were foreign workers from the neighboring country Zimbabwe, who in reality needed an international remittance service rather than a domestic service. This was all discovered during the time the study was conducted (Medhi et. al, 2009). The purchase of credit or airtime in Kenya was merged with the M-pesa services, although this service did not take off as projected, as when consumers were asked about the use of this service the respond was that the traditional “Bamba talktime” cards were conveniently obtained and that was good enough for them. Some users were not so able to do most of the transactions on their mobile devices while others were good at it. They believe with this application they will save more time. At times going to the bank branches takes too much time especially during rush period of Christmas and New Year.

5.4 Ease to use

Easy to use, easy to learn, and local language are the most important factors to bear in mind. These factors can effect on bank services demand.

5.4.1 Easy to learn

The banking services can easily be adopted once they are easy to understand. According to various studies it was realized that once great effort is put into doing something then it becomes easy. As one continues one gets more knowledge about it.

This reasoning might influence one's decision to take up mobile banking. Although other mobile banking readings supported this factor, claiming it's a push towards uptake of mobile banking. The part played by easy learning needs to be determined (Venkatesh et. al, 2003).

One of the ideas that contributed to ATM success is easiness to learn. Broad research has been carried out and tested in different models of ATM in order to get to know how people have embraced mobile banking and its payments (Davis, 1989).

5.4.2 Languages

One factor in all services is usage of same language by the consumers. Our current study realized that for adoption of mobile financial services to be effective in the country then the use of local language is important. Due to the high number of people living in the rural areas in Kenya, this would be a better way to capture such a market. Although, the rural people have little knowledge and low level of education then making the service in their local language will make them feel at ease with it. Also some villagers who had been exposed to new technology like ATM, at first thought it was hard to use them but once they learnt how to operate them, it became so easy for them and hence this is exactly what happens to the use of mobile financial services (Joshua & Koshy, 2011). Some said that once they were shown how to use them then it will be easy for them but some people complained that the use of new innovations like MFS, ATM was very confusing to use, so they were not ready to start using them. Therefore by making sure that it is easy to use these services, financial activities and technology would contribute largely in the adoption of banking service through mobile device. Most preferably language used must be the local language so as to facilitate embracing this new innovation. In Kenya the

mobile banking service is in Swahili and English which is the local and national language.

Chapter 6

CONCLUSION

In general, the outcome of the study suggests that mobile banking has gained much recognition by customers due to ease of use and cost efficiency. This new mode of banking does not need one to wait or walk long distance so as to access banking services. Despite of the benefits and success of mobile banking, its adoption and diffusion in the emerging markets is mostly dependent on what consumers feel about the benefits, expected outcomes and how easy it will be to use. Once developing countries are able to control and manage the efficiency and consistency of this service, this will result to fast use and penetration of mobile banking.

Support and necessary resources for the service to run efficiently and effectively in the home country is very valuable tool to have in order to ensure that the adoption of the services will run smoothly without any setbacks. With the markets moving with technology and adopting and using all sorts of smartphones and gadgets indicates that education is not a necessary criteria for being able to cope with technological advances. The simplest example or proof of this is that today's youth that easily adapts with the ever changing technological advancements day in and day out. With reference to the experience in Kenya it shows that it is a promising and innovative service that aids everyday necessity, and also helps to increase the economic positions of rural areas not only in Africa but wherever there is a need for such a service.

According to the study it's vital to know that even though M- banking focus at financial services usage in the country, still it works hand in hand in facilitating other activities in the country like pushing the economy forward and facilitating other social transactions (Castell, 1996).

Mobile banking is of great importance to many people around the world. This development has managed to bring services to customers at very low cost. This system enables customers to participate actively in mobile banking financial services.

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APPENDICES