MOBILE PHONE BANKING AND FINANCIAL MARKETS
IN SELECTED M-PESA OUTLETS IN KENYA

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Master of Business Administration

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DECLARATION A

"This dissertation is my original work and has not been presented for a Degree or any other academic award in any University or Institution of Learning".
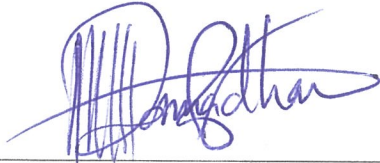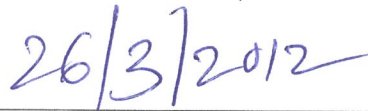
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Ousuru Denniece Odionyi

October 01, 2011
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Malinga Ramadhan

Supervisor

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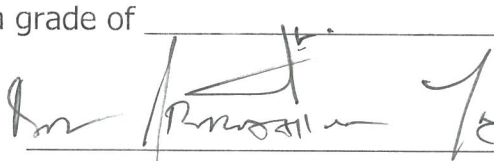
Date

APPROVAL SHEET

This dissertation entitled **"MOBILE PHONE BANKING AND FINANCIAL MARKETS IN SELECTED M-PESA OUTLETS IN KENYA"** prepared and submitted by **Ousuru Denniece Odionyi** in partial fulfillment of the requirements for the degree of **Master of Business Administration in Information Technology** has been examined and approved by the panel on oral examination with a grade of _____.

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DEDICATION

It is my humble privilege to dedicate this piece of work to my beloved parents Bonaventure W. Odionyi and Gertrude W. Nyadoi.

ACKNOWLEDGEMENT

ABSTRACT

The purpose of this study was to investigate the extent to which mobile phone banking has enhanced the involvement of people in financial markets in selected M-PESA outlets in Kenya. The study adopted a cross-sectional survey research design which allowed the collection of primary quantitative data through structured questionnaires. The target population was 500 respondents sampled from three districts (Bungoma, Nakuru and Nairobi – Kenya). Sloven's formula was adopted to arrive at 222 respondents who were subjected to the research study. The data was analyzed using both descriptive and inferential statistics.

Consequently, the findings of the study were that mobile phone banking has greatly influenced the participation of people in financial markets in Kenya since a majority of the respondents frequently used the M-PESA service because it has a bigger market penetration and widely adopted. The study also revealed that a bigger percentage of the M-PESA users are young single adults most of whom were male. It further indicated that the wider market penetration of M-PESA has enabled the people access money faster thus realizing a greater extent of mobile phone banking. The study revealed that financial markets in Kenya has witnessed a greater extent because it has shifted from corporate and big business participation to individual customers participating in financial markets.

In a nutshell therefore, the study revealed that mobile phone banking is positively related to financial markets at 0.001 level of significance. The study therefore concluded that mobile phone banking has an influence on financial markets hence the need for Safaricom to strengthen its collaboration with financial institutions such that the M-PESA service is integrated in their financial packages to enhance faster service delivery.

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CHAPTER ONE

THE PROBLEM AND ITS SCOPE

Background of the Study

One of the key features of the Kenyan financial system is the presence of a large number of small and medium sized firms. In most private firms, families still retain a significant control of the management which is a phenomenon not very common in an advanced financial system. Another feature is the limited development of the financial markets over the last 30 years. A majority of the companies in Kenya are usually not listed and hence the more plausible source of finance is from banks rather than financial markets. The market concentration ratio is rather high for Kenya as compared to other more advanced financial markets as market capitalization is highly concentrated in the hands of the ten largest firms. On these grounds, the Kenyan financial system can be described as a bank-based system rather than a market-based system. Interestingly though, there is a shift in the current state of affairs since the bank is not the only place where money is flowing. There has been a rapid advancement of the movement of money within the cycles of mobile money banking, hence provoking an inquiry as to its relevance in financial markets.

Mobile money is electronic money that can be accessed via the mobile phone and can be converted to liquid (physical cash). Beginning from 2005, mobile money subscribers in markets such as South Africa, Kenya, Philippines, Japan, Uganda, Tanzania and elsewhere use mobile money for transactions and services including domestic and international remittances, bill payments, payroll deposits, loan receipt and repayment, and purchase of goods and services ranging from prepaid airtime to groceries, to bus tickets to micro insurance. Indeed there are no limits to the range of financial transactions and services for which mobile money is being used, and more are being invented.

Consequently, mobile money has significant implications for economic requirements, which has greatly created a very attractive, agile and aggressive economic development.

M-PESA Mobile Money

In March 2007, Kenya's largest mobile network operator, Safaricom (part of the Vodafone Group) launched M-PESA, an innovative payment service for the unbanked. "**Pesa**" is the Swahili word for cash; the "**M**" is for mobile. Within the first month Safaricom had registered over 20,000 M-PESA customers, well ahead of the targeted business plan.

The product concept is very simple: an M-PESA customer can use his or her mobile phone to move money quickly, securely, and across great distances, directly to another mobile phone user. The customer does not need to have a bank account, but registers with Safaricom for an M-PESA account. Customers turn cash into e-money at Safaricom dealers, and then follow simple instructions on their phones to make payments through their M-PESA accounts; the system provides money transfers as banks do in the developed world. The account is very secure, PIN-protected, and supported with a 24/7 service provided by Safaricom and Vodafone Group (Nick Hughes and Susie Lonie, 2007).

Financial markets are - any type of financial transaction that you can think of that helps businesses grow and investors make money.

Economists hold different perspectives on the theoretical link between development of financial markets and economic growth. Schumpeter (1911) contends that the services provided by financial intermediaries are essential drivers for innovation and growth. Well-developed financial systems channel financial resources to the most productive use. The alternative explanation

initiated by Robinson (1952) argues that finance does not exert a causal impact on growth. Instead, development of financial markets follows economic growth as a result of higher demand for financial services. When an economy grows, more financial institutions, financial products and services emerge in the markets in response to higher demand of financial services.

Retail banking in all ways, has been limited in terms of the different transactions that can be done. And this is usually limited by other factors like; the type of account a client has (current, savings, fixed deposit), which ideally makes it difficult to facilitate all-round transactions. Many banks have been promoting savings accounts to clients and fixed deposit accounts because many times the clients have limited funds (or deal in smaller amounts of money). Current accounts were limited to corporate organizations, companies, non-governmental organizations, government organizations, among others that could have access to money as and when it is needed.

In Retail Banking, a client opening a Bank Account had so many requirements, these might include:- Recommendation letter, Identification, Details of residence, Initial Bank Deposit.

On the contrary, to open up an M-PESA account, a customer only needs to have any form of nationally or internationally accepted identification i.e. National ID or Military ID or Passport, and there is no initial bank deposit needed – not even reading or writing skills! Meaning any illiterate person can literally open an M-PESA account.

Opening a Bank Account usually took a while (hours or days) before it is opened, while an M-PESA account takes approximately 10 minutes to be opened.

Banks have limited network branches countrywide, and even more limited in the rural areas and even poor urban centres. However, Safaricom has managed to have thousands of M-PESA Agent outlets that effectively serve the interests and needs of customers.

Money in a Bank is so distant and can only be accessed by physically getting it across the bank counter, or withdraw through cheques, or use of ATM machines both of which are not accessible to all the users. M-PESA money is so available that when one needs liquid cash, he/she simply goes to an Agent outlet to withdraw the cash or even transfer the same money to a friend's, neighbour's, M-PESA account and the recipient can "pay" you the liquid cash. Or if one had cash and needs to get the electronic money, the procedure above still suffices. And this is utterly convenient.

Statement of the Problem

The advent of mobile phone banking has taken the economy of Kenya by storm. Accessing financial markets has been viewed as a cumbersome venture that requires physical presence. The rural folk could not easily participate in financial markets; money was distant and only accessible through the retail banks.

There was therefore a need for flexibility in banking and access to financial markets by both the rural and urban folk. A focus on simplicity that that has come from high-cost, high-income clients to rural customers and time barrier breakdown could have an effect on financial markets which have for long been dominated by conventional banking (for salaried) and conventional income clients. A reason why mobile phone banking is being investigated in order to establish whether it has a significant contribution to financial markets in Kenya.

Purpose of the Study

This study was an in-depth exploration of the technological advancement of mobile money banking and its subsequent impacts on the financial markets of Kenyan economy. Ideally was meant to highlight poignant value that mobile phone banking has had on a free market economy on existing financial systems.

Research Objectives

General: This study determined the correlation between mobile phone banking services and financial markets in Kenya.

Specific: Objectives sought after further in this study were:-
1. To establish the demographic characteristics of the mobile phone banking users in terms of: Gender, Age, Academic qualifications, Marital status and areas of residence.
2. To determine the extent of mobile phone banking services in Kenya.
3. To determine extent of financial markets in Kenya.
4. To determine if there is a significant relationship between the extent of mobile phone banking and financial markets in Kenya.
5. To recommend strategies that will further enhance financial markets in Kenya based on the findings of the study.

Research Questions

This study sought to answer the following research questions
1. What are the demographic characteristics of the respondents in terms of: Gender, Age, Academic qualifications, Marital status?
2. What is the extent of mobile phone banking services in Kenya?
3. What is the extent of financial markets in Kenya?
4. Is there a significant relationship between the extent of mobile phone banking and financial markets in Kenya.

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5. What are the strategies that will further enhance financial markets in Kenya based on the findings of the study?

Scope of the Study

Geographical Scope

The study was conducted in selected businesses which have M-PESA service as their core or affiliate business service in rural areas and poor urban (slums) in three Districts – Bungoma, Nakuru and Nairobi all in Kenya, where these services have been exported. Most of these commercial entities are privately owned by individuals as sole proprietorship and or joint business ventures while a few by the government.

Theoretical Scope

This study was guided by the Theory of Technology Acceptance Model (TAM).

The Technology Acceptance Model (TAM) is an information systems theory that models how users come to accept and use a technology. The model suggests that when users are presented with a new technology, a number of factors influence their decision about how and when they will use it, notably:

- Perceived usefulness (PU) - This was defined by Fred Davis as "the degree to which a person believes that using a particular system would enhance his or her job performance".
- Perceived ease-of-use (PEOU) - Davis defined this as "the degree to which a person believes that using a particular system would be free from effort" (Davis 1989).

Figure 1: The Technology Acceptance Model
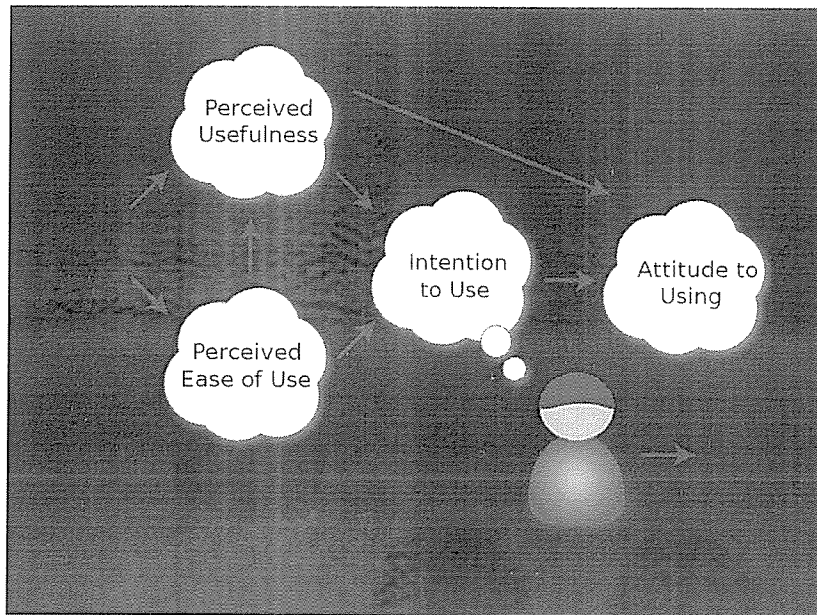
Source: (Davis 1989)

Content Scope

The study looked for the following; the demographic characteristics of the respondents, to establish if mobile money banking has led to the decline of retail banking, to establish if there is a significant contribution of mobile money banking on financial markets, to establish if mobile phone banking has altered customer behavior towards banking, to establish whether mobile money banking has facilitated a saving culture among customers and to establish whether mobile phone banking has effectively helped access the unbanked in the rural areas.

Time Scope

This research study was carried out to cover the period between 2007 and 2010. This is because the mobile phone banking service in question (M-PESA) was established in 2007 and has rapidly seen a significant growth and adoption.

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Significance of the Study

The researcher is confident that this research investigation was useful for the understanding the effectiveness mobile money banking has had on financial markets. The findings and recommendations should;

Help both consumers and mobile money banking owners embrace mobile banking.

Help the country to aggressively improve on technological platforms that could enhance the growth and use of mobile money banking as an alternative to retail banking.

Help stakeholders liberate themselves from traditional banking and synchronize it with mobile money banking as an effective service and tool for development.

Null Hypothesis

There is no significant relationship between mobile phone banking and financial markets.

Operational Definitions of Key Terms

The definitions of major terms as they are used in the study are defined as follows:

Demographic characteristics of the respondents are the attributes looked for in this study in terms of age, gender, academic qualifications and marital status.

Mobile money is electronic money that can be accessed via the mobile phone.

Banking services refers to financial services rendered by banks and financial services to consumers as well as businesses, and other important activities beyond the primary functions of creating money through lending and investing, taking deposits of various kinds and providing the mechanism for payments and transfers of funds, of the commercial banks included in this study.

M-PESA it is Safaricom's unique Mobile Money services that is popularly used to move and/or receive electronic money that can be converted to liquid cash.

Correlation The study intends to correlate the Independent Variable (Mobile Phone Banking) against the Dependent Variable (Financial Markets).

CHAPTER TWO
REVIEW OF RELATED LITERATURE

Concepts, Opinions, Ideas from Authors/Experts

The initial concept of M-PESA was to create a service which allowed microfinance borrowers to conveniently receive and repay loans using the network of Safaricom airtime resellers. This would enable microfinance institutions (MFIs) to offer more competitive loan rates to their users, as there is a reduced cost of dealing in cash. The users of the service would gain through being able to track their finances more easily. But when the service was trialled, customers adopted the service for a variety of alternative uses. M-PESA was re-focused and launched with a different value proposition: sending remittances home across the country and making payments (Safaricom Annual Reports, 2008).

M-PESA quickly captured a significant market share for cash transfers, and grew astoundingly quickly, capturing 6.5 million subscribers by May 2009 with 2 million daily transactions in Kenya alone. As a result, the growth of the service forced formal banking institutions to take note of the new venture.

Minney (2010) emphasizes that Kenya's biggest mobile telecommunications company will continue to lead the market through its revolutionary mobile payment system M-PESA – already the world's most successful with 9 million users – and through moving fast into data. Safaricom (www.safaricom.co.ke) has 78% market share (83% by revenue) and 15.2 million customers, according to Les Baillie, Chief Investor Relations Officer, and it will be hard for its competitors to catch up. M-PESA, which allows people to do cash transfers using their mobiles, was originally started as a customer loyalty tool, but has soared ahead in proving the value of the mobile phone in bringing financial services to Africans. Now 22% of Kenyans are signed up as users and use it for a range of

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functions including paying their water and electricity bills, receive their share dividends (Safaricom paid 150,000 shareholders their dividends this way) and even buy airtickets and make international transfers, all using the mobile handset.

In an interesting report Veniard (2009), points out that the new Emerging Platform; From Money Transfer System to Mobile Money Ecosystem; M-PESA has created a dense network of 23,000 retail points where clients can convert between cash and electronic value. Mobile money also allows clients to send the e-value to others on the system. These two features comprise the core functionality of a *payments platform* and this is enticing all kinds of companies to join, including most of the retail financial sector. Furthermore, Companies using M-PESA and other mobile money services are adopting the platform to expand geographic outreach and transact with new market segments (including the rural and poor populations) more cheaply, quickly and reliably than before. All this with an intention of outsourcing transactions and thereby reducing providers' costs of handling cash and frees up staff time to focus on sales and other value-added tasks. In addition, mobile money's accessibility drastically reduces the time and money consumers spend reaching financial services providers-a value add of interest to poor consumers who typically are not located in close proximity to financial service outlets. Together, these factors allow consumers to make more frequent, small value transactions they otherwise could not or would not do.

In a recent piece, researched and written in collaboration with Bill Maurer, head of the Institute for Money Technology and Financial Inclusion at UC Irvine, and Phillip Machoka at the United States International University in Kenya (Kendall, Machoka, Maurer, and Veniard (2011)), findings revealed that mobile money is

becoming an infrastructure backbone connecting clients with myriad financial service providers in a way that may transform the Kenyan market.

Mas and Olga (2009) assert that there are some factors that have facilitated the growth of M-PESA as a money transfer method. They contend that poor alternatives for making domestic money transfers, particularly in the absence of technology-enabled or retail-based alternatives with a broad network of service points, also has fueled M-PESA's growth. The majority of low-income Kenyans use informal methods to send money home from towns. Some give money to friends and family members traveling back to the rural area. Although this method is the cheapest, it may also be the riskiest, as some or all of the money could be lost along the way. Money is also traditionally transferred through bus and matatu (shared taxi) bus companies. These companies are not licensed to transfer money, thus there is considerable risk that the money will not reach its final destination. PostaPay, a money-transfer service offered by the post office, is another popular option. Although PostaPay has a presence in rural areas, many complain that the service is inefficient and frequent cash shortages are reported. Thus there was a significant gap in the domestic remittance market when M-PESA was introduced, and it had a significant role in filling this gap.

Various channels are available in Kenya for the transfer of remittances between urban and rural areas. This includes commercial banks, post offices, forex bureaus, bus companies, and friends and family. Even with these numerous channels market research argues that there are 'service gaps, inefficiencies and unmet demand' in the remittance market, especially among the low-income segment of the population (Kabbucho *et al.*, 2003). To address this unmet demand, Safaricom— Kenya's largest mobile service provider—has introduced an m-banking application called M-PESA (Vaughan, 2007). Launched in March of 2007, this application allows for the real-time transfers of e-money via the mobile

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phone and is being rapidly adopted for urban-to-rural remittances. The application works as follows—those who want to send money must first register for the service by visiting an M-PESA agent and providing them with photo identification such as a driver's license. After the identity of the customer is verified the agent establishes an electronic account, and links it to the mobile phone number of the customer. To activate the account, the customer deposits cash with the agent. This cash is thereafter reflected as e-money in the M-PESA account. After an e-money balance is established, a wide variety of transactions can be conducted via the mobile phone. This includes checking account balances, making deposits and withdrawals, transferring money and phone credit to other users. The transferring money option is interesting in this context because it facilitates remittances between urban and rural areas. Anyone with a mobile phone number in Kenya can receive e-money via M-PESA, and withdraw it from an agent. Safaricom (2008) has reported that the M-PESA application is being adopted rapidly in Kenya.

Through this branchless banking, there is great potential to extend the distribution of financial services to poor/rural people who are not reached by traditional bank branch networks; it lowers the cost of delivery, including costs both to banks of building and maintaining a delivery channel and to customers of accessing services (e.g., travel or queuing times).

Business practices in Kenya have gone through many changes, the most important being the introduction of Information Communication and Technology (ICT). The mobile phones have been a key ICT product that has affected business practices. This is manifest in various areas including advertisements, marketing, emergence of new products, and new methods of payments. The methods of payment through the use of mobile phones have been the most recent development in Kenya and have revolutionalized how business is

conducted among the small-scale business holders. Micro-businesses have embraced the use of mobile payment technology in their operations. They view this mode of payment as an easier form of cash delivery to their suppliers and business partners, a system which is relatively affordable, personal and can be used anywhere and at any time (Anurag, *et al.*, 2009). There is appeal and utility of mobile banking and mobile payment services across the country as there are probably more people with mobile handsets than with bank accounts (Porteous, 2006).

The micro-business operators are able to transact payments directly with their customers and suppliers through a mobile phone in the palm of their hands without necessarily going through a bank (Anuradi, Tyagi and Raddi, 2009) and without having to leave their business premises. This is beneficial because all it requires is for one to have a mobile phone and basic literacy to operate the phone. Other benefits derive from the fact that the system does not rely on any physical infrastructure such as phone wires and is accessible to a large segment of the population (Elder and Rashid, 2009); and from the fast speed in transacting money transfers. These features bring considerable convenience to business operations. The mobile payment providers' agents are well distributed and easily accessible to the micro-business owners for support of their services in Kenya. It is also easy for the micro business operators to control their mobile phone accounts as they can access their accounts any time.

A lot of Kenyans applied for the Safaricom IPO. The overwhelming response meant shareholders were generally allocated very few shares. This coupled with the shares low par value meant the dividend receivable per share have been very minimal. To save on paper work for such transactions Safaricom has been encouraged shareholders with dividend of less than Kshs 10 to register and

receive their money through M-PESA this move has coerced a lot of Kenyans to adopt m-commerce.

Financial Risk; Kenyan stock market have been very volatile with the market experiencing closure of stock broking firms like Francis Thuo, Nyaga, Discount, and Ngenye Kariuki. Some of these brokers were accused of selling their client shares and their directors have pending cases in court. Clients in the stock market have subscribed m-commerce "stock SMS alerts" that notify them any time their shares are sold to safeguard from such frauds.

Security Risk – Kenyan are exposed to high risk of being robbed when carrying money. M-Commerce eliminates this risk by providing an alternative mode of transporting money.

The role of international remittances in developing economies is gaining increasing global recognition and economic significance to national economies. Estimated at about US$221 billion worldwide in 2006, sub-Saharan Africa accounted for only US$9 billion or 4% of the total (World Bank, 2006). As a uwhole, developing countries received more than twice as much inward-bound remittance than official development assistance (ODA), excluding debt. In sub-Saharan Africa as a whole, inward-bound remittances were over three times larger than ODA. On a country-by-country basis, however, it is by no means the norm for developing countries to receive more remittances than ODA. This is the situation in Benin, Burkina Faso, Cameroon, Côte d'Ivoire, Ethiopia, Mozambique, Namibia, Rwanda, Senegal, Tanzania, Uganda and Zambia. Nonetheless, international remittances are becoming increasingly significant to national economies, as highlighted in Table 2. However, the actual size of remittances would be much higher if informal remittances were taken into account (Gupta, Pattillo & Wagh, 2009).

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The large amounts of money that are remitted home by economic migrants each year are not sent home without cost and concerns. According to the UK Department for International Development (DFID) the largest concern for those sending money is whether it will arrive home safely, followed by concerns over excessive charges and delays in receiving the money (Porteus, 2006; UK Remittance Working Group, 2007). Money transfer agencies in the UK have signed up to a new Customer Charter that commits them to provide transparent information on these issues. Charges for sending money internationally are dependent on whether sender and recipient have bank accounts, the speed of transfer, destination country, amount sent, exchange rates, and so on. The smaller the amount of money sent, the higher the charges (expressed as a proportion of money sent). The cost of sending £100 can vary from 4% to 40% (UK Remittance Working Group, 2007).

According to the UN International Fund for Agricultural Development, the cost of sending remittances in the developing world, depending on the method of transfer, is between 3 and 12%. The cost of using an international money transfer organisation (such as Western Union or MoneyGram) is currently around the 12% mark (IFAD, 2007). CGAP notes a marked improvement in remittance costs, which have come down drastically since the late 1990s (Lyman et al, 2006). It is likely that charges will decrease further with the advent of electronic payment transactions such as online and mobile payments.

Results of Research ICT Africa's household survey (2007) reveal many households receiving money from, or sending money to another household. In all countries in the survey, between 8.5% and 39% of households have received money from other households. Although it is more common to receive money from a household in another village or city, significant amounts are received from

abroad (except in Burkina Faso and Ethiopia, here more households receive money from abroad than they do from another village or city). In most of the countries surveyed, remittances were more often received through a money transfer agency like MoneyGram or Western Union than through banks. In Mozambique, Namibia, Nigeria, Tanzania, South Africa, Uganda and Zambia, remittances were more often received from a bank account, reflecting either the better-developed banking systems and higher bank penetration in these countries or else the absence of Western Union and MoneyGram services. Notably however, banks and agents such as Western Union and MoneyGram together make up only a small fraction of the transaction channels used. Sending money in person, through a friend or family member, or through other informal channels is more popular. This is indicative of the problems identified in the CGAP survey which indicate that people are still very concerned about security and the costs involved in remitting money (Lyman et al, 2006). There seems to be substantial demand for a service that meets the concerns of people regarding security and costs. In addition, institutions that reduce the costs of remittances can expect a higher-than-proportional increase in the value of remittances – in other words, remittances display negative cost-elasticity (Gibson, *et al.,* 2005).

Theoretical Perspectives

Mobile payment procedures are essentially information technology (IT) procedures and channels through which users make various payment transactions. Studies show that the acceptance to use the mobile payments varies with the context in which users are able to use a mobile payment procedure. Moreover, the mobile payment procedures are functional services adopted for utilitarian reasons (Khodawandi, Pousttchi and Wiedmann, 2003). This study focuses on the factors influencing the mobile payments usage by the micro business operators and applies the Theory of Technology Acceptance

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Model (TAM). TAM is a theoretical model that explains how users come to accept and use a technology (Davis, 1989). The model suggests that when users are presented with a new technology, a number of factors influence their decision about how and when they will use it. These factors are perceived usefulness defined as the degree to which a person believes that using a particular system would enhance his or her job performance, and perceived ease of use defined as the degree to which a person believes that using a particular system would be free from effort (Davis, 1989). These two factors are considered to be the primary determinants for adopting and using a new technology and are influenced by other variables such as security concerns, cost, convenience, and satisfaction (Lu *et al.*, 2003). Perceived ease of use directly affects perceived usefulness and both determine the user's attitude towards use, (behavioral intention to use -BIU) and eventually to the actual use of the system (Viehland and Leong, 2007).

TAM has been widely used to predict user acceptance and use based on perceived usefulness and ease of use (Ndubisi and Richardson, 2002). Consequently, TAM was chosen as the appropriate model and was extended to include other factors such as perceived ease of accessibility of the mobile payment services, perceived low cost of the mobile payment services, perceived convenience, perceived security, perceived support from the mobile services provider and from the government, perceived satisfaction and actual usage of the mobile payments.

Related Studies

This portion discusses past empirical investigations similar to or related to the present study.

Ngugi, Pelowski and Ogembo (2010), in their study of the critical early adopters' role in the rapid adoption of mobile money banking in Kenya established that through the widespread and accessibility of the mobile phone, it has revolutionized customers access to financial services especially in Kenya where many of the biggest percentage of the society had no access to formal banking. The authors of this piece even predicted that by the year 2012 an estimated 364 million low-income unbanked population in Africa will have will be using mobile money. This figure has so far been surpassed.

Munyoki and Mutua (2011), in their research of customers' perception of M-PESA services provided by small and medium business in Kitengela and Arthi river townships in Kenya. The study found out that M-PESA customers perceive the service as easily accessible, made bills payment easy, improved the living standards of people, has safe and secure transactions, are very fast in terms of transaction as compared to other forms of money transfer and are easily adaptable. Besides these, the study found that the customers face such challenges as complexity of transactions unlike the use of Automatic Teller Machines (ATMs), lack of M-PESA outlets or Pesa-Point ATMs in other parts of the country, low transactional speed when the network is congested, customers outlet employees being rude to the M-PESA client and high transactional costs as compared to other money transfer operators.

Wangari and Mwaura (2009), in their study of mobile banking in developing countries, they concluded that mobile phones provide technological services that reduce costs; increase income and increases reach ability and mobility. They can help to extend social and business networks and they clearly substitute for journeys and, for brokers, traders and other business intermediaries. These services are supposed to provide an e-commerce platform of choice in a country where credit cards have struggled to reach most the population without the bank

accounts.M-PESA, an innovative new mobile payment solution that enables customers to complete simple financial transactions by use of mobile phone. Their research concluded that mobile banking is a variation of branchless banking which is the delivery of financial services outside conventional bank branches using information and communications technologies and non-bank retail agents, and that M-PESA has a positive impact on transfers, payments, deposits and withdrawals in financial transactions of small businesses. It is a cost effective, reliable and simple way of conducting business and reduces the instances of human error that is characteristic during human interaction in traditional banking.

Jack and Suri (2009), in their study of the economics of M-PESA, indicated that while the world was rebuilding the collapsed global financial system, the financial architecture in parts of the developing world were rapidly being transformed notably the reduced cost of mobile phone technology and the faster the adoption of the technology to support financial services, mobile banking innovations have taken centre stage and have spread across and within the poor countries. The low cost, and the widespread unmet demand for financial services, as captured by low rates of bank access, means that mobile banking has the potential to reach remote corners of the socio-economic, as well as geographic, spectrum. This was realized in Kenya, through M-PESA where it has exceeded 40 percent of the adult population.

SCHEMA

I.V   D.V

MOBILE BANKING (MPESA)	FINANCIAL MARKETS
- Money Transfer - Cash withdrawal - Cash deposits - Bill payment - Saving	- Stocks - Shares - Debentures - Capital markets
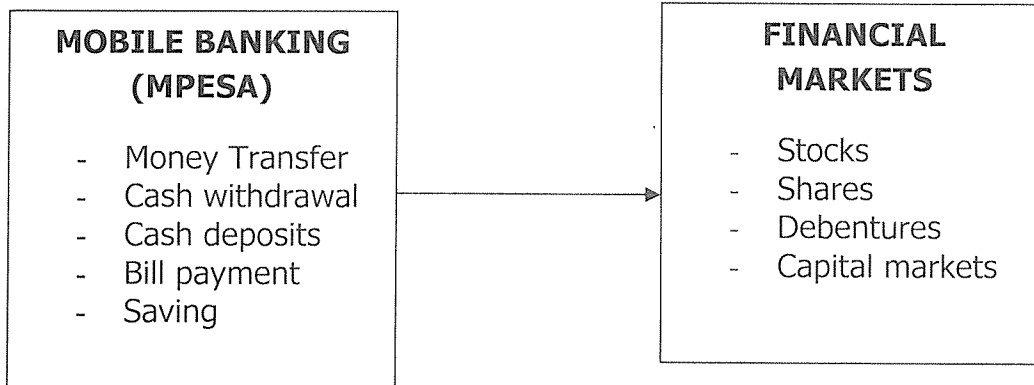
Figure 2: Schema

CHAPTER THREE
METHODOLOGY

Research Design

The strategy that was used in this study is that of descriptive survey research design. Here, the correlation and comparative descriptive strategies were used. The study dealt with the relationship between variables, hypothesis testing and advancing of generalizations together with theories that have universal validity.

Research Population

The target population in this study included a total of 500 M-PESA customers in selected M-PESA outlets in three districts in Kenya namely; Bungoma, Nakuru and Nairobi respectively, as well as Financial institutions. The Business owners and attendants of the M-PESA outlets, bank managers, and M-PESA customers will be requested to fill in questionnaires so as to give information on mobile phone banking services and Financial Markets.

Criteria for selecting the respondents will be based on their academic qualifications, work experience in financial institutions or M-PESA business, their knowledge and involvement in financial markets.

Sample Size

In considering the nature of the target population where the number for M-PESA service outlets, owners, attendants and customers are many, a sample was taken from each category. The sample size involved **222** respondents, derived from a population of **500**. This number was arrived at by adopting Sloven's formula i.e.

$$n = \frac{N}{1+N (e^2)}$$

Where:

n   = Sample size = 222

N   = Population = 500

e   = Level of significance

Sampling Procedure

The purposive sampling was utilized to select the respondents based on these criteria:

1. Male or female respondents in any of the selected M-PESA outlets included in the study

2. M-PESA customers with M-PESA accounts.

3. The M-PESA outlet owners in the selected outlets.

From the list of qualified respondents chosen based on the inclusion criteria, the sample random sampling was used to finally select the respondents with consideration to the computed minimum sample size.

Research Instrument

The following are the research tools that was utilized in this study:

(1) *face sheet* was used to gather data on the respondents' demographic characteristics: (gender, age, academic qualifications, marital status, the duration as an M-PESA account holder, form of livelihood);

(2) *Researcher structured questionnaires* determined the different aspects of the areas under investigation. These included areas referring to the level of acceptability and adoption of M-PESA, its relationship with traditional retail banking, whether it has changed their attitudes towards banking and saving

culture, accessibility of the service to the rural customers and its relevance to financial markets. The response models and scoring included:-

(1) Strongly Disagree, (2) Disagree, (3) Agree, (4) Strongly Agree

Validity and Reliability of the Instrument

The validity of content in the study was ensured by subjecting the researcher's devised questionnaires on mobile phone banking services and its contribution to financial markets, to the opinion of content experts,-people who approximated the validity basing on their experience who were experts in the field of the study.

The pre-test technique was used to determine the reliability (accuracy) of the researcher devised instruments to qualified respondents. These respondents were not included in the actual study. In this test- retest technique, the questionnaires were administered twice to the same subjects. If the test is reliable and the trait being measured is stable, the results will be consistent and essentially the same in both times.

Data Gathering Procedures

Before the administration of the questionnaires

- The researcher obtained an introduction letter from the School of Post Graduate Studies and Research for him to seek approval so as to conduct the study from the selected commercial banks.
- The researcher, upon approval, made safe a list of the respondents (M-PESA agent service owners and customers) who are qualified. Selection was done through systematic random sampling from this list for the sample size.
- The contacted respondents were briefed about the study by the researcher, and were requested to sign the Informed Consent Form (Appendix 3).

- A total of 222 questionnaires were reproduced for distribution to cater for the whole sample size and thus reduce mortality threat to validity.
- Before distributing the questionnaires, pretesting was performed this was aimed at testing the reliability and accuracy of the instrument.
- Research assistants were selected by the researcher to assist in the data collection. He briefed them the details and familiarize them on the aim and objective of the study so as to be consistent in distributing the questionnaires.

During the administration of the questionnaires

- The respondents were assured of the confidentiality of the information given and that it was only used for the purpose of the study only.
- They were requested to provide answers to all the questions in the questionnaire, with no blank spaces.
- The researcher plus the assistants gave emphasis to repossession of the questionnaires in minimum time but within three days from the date of distribution.
- Upon collecting the questionnaires, they were be checked for correct answering.

After the administration of the questionnaires

- The collected data was organized, analyzed for interpretation through applying statistical tools: mean standard deviation, frequency distribution and correlation.

Data Analysis

The following statistical tools were employed in this study.

1. The frequency and percentage distribution to determine the demographic characteristics of the respondents as to: Gender, Age, Academic qualifications, Marital status, and Duration as an M-PESA account holder.
2. The mean and standard deviation for the extent of mobile phone banking.
3. The mean and standard deviation of the extent of financial markets in Kenya.
4. The Pearson's product moment correlation for significant relationship for mobile phone banking and financial markets

Data Interpretation

To establish the extent of mobile phone banking services and financial markets in selected M-PESA outlets in Kenya, the following values and interpretations were used based on a 5-point scale:-

MEAN	INTERPRETATION
4.21 – 5.00	Very High
3.41 – 4.20	High
2.61 – 3.40	Moderate
1.81 – 2.60	Low
1.00 – 1.80	Very Low

Ethical Considerations

To ensure confidentiality of the information provided by the respondents and to ascertain the practice of ethics in this study, the following activities were implemented by the researcher:

1. Permission was sought to adopt the standardized questionnaire on banking services through a written communication to the author.
2. The respondents; bank managers and customers participating in the study were marked using some numeral values in order to avoid reflecting their names.

3. The researcher sought permission through a written request to the concerned banks and managers included in the study.

4. The respondents were also requested to sign in the *Informed Consent Form* (Appendix III)

5. The researcher acknowledged the authors quoted in this study together with the authors of the standardized instrument through citations and referencing.

6. The findings of this study were finally presented in a generalized manner.

Limitation of the Study

In this study, the researcher claimed an allowable 5% margin of error at 0.05 level of significance this is due to the following threats to validity. However, procedures were taken in order to minimize and eradicate the threats to the validity of the findings of this study are also indicated.

1. *Testing:* due to the use of research assistants inconsistency in the administration of the questionnaires, arose mainly during distribution, understanding of the questions and explanations given to the respondents. This threat was minimized since the researcher gave a detailed brief and oriented the research assistants on procedures to be done in data collection.

2. *Confounding variables:* that was beyond the researcher's control such as respondents' pressure, honesty, personal biases or stress which might have led to wrong answers from the respondent.

3. *Selection:* on choosing the sampling procedure to follow during the collection of data, the researcher failed to follow the set procedure and ended up using a different one; this will led to the researcher being biased.

4. *Instrumentation:* The research instruments on mobile phone banking and financial markets were not standardized. Reliability and validity tests were done to determine the accuracy and the degree to which the instrument measures, so as to produce a credible measurement of the research variables.

CHAPTER FOUR

PRESENTATION, ANALYSIS AND INTERPRETATION OF DATA

Data Analysis and Presentations

This research used probability sampling where two hundred and twenty two (222) respondents were randomly selected within three districts (Bungoma, Nakuru and Nairobi) respectively. These respondents formed the basis for valuable information gathering about mobile money banking and financial markets. The researcher used questionnaires as the primary method of data collection.

The researcher sought to establish the demographic characteristics of the mobile phone banking users in terms of their gender, age, academic qualifications, marital status, form of livelihood and duration as an MPESA account holder.

Table 4.1: Showing the Demographic Data of Respondents

Gender	Frequency	Percent
Male	138	62.2
Female	84	37.8
Total	**222**	**100.0**
Age Bracket		
20-30	106	47.7
31-40	71	32.0
41-50	25	11.3
51-60	9	4.1
60 and Above	11	5.0
Total	**222**	**100.0**
Marital Status		
Single	90	40.5
Married	104	46.8
Divorced	17	7.7
Widowed	11	5.0
Total	**222**	**100.0**
Level of Education		
Primary School Certificate	18	8.1
Secondary School Certificate	52	23.4
Diploma	59	26.6
Degree	56	25.2
Masters	19	8.6
PhD	18	8.1
Total	**222**	**100.0**
Duration as MPESA holder		
1 Year	22	9.9
1-2 Years	112	50.5
3-4 Years	65	29.3
5 Years	21	9.5
6 Years	2	.9
Total	**222**	**100.0**
Occupation		
Work with Bank	12	5.4
Work with Safaricom	9	4.1
Work in government sector	19	8.6

Work in private sector	40	18.0
Work in education sector	98	44.1
Self-Employed	27	12.2
Unemployed	17	7.7
Total	**222**	**100.0**

Source: Primary Data, 2011

The findings above indicate that 62.2% of the respondents were male while 37.8% were female. This in a way is an indicator that it is the male sex who either have a mobile phone at their disposal for which they can easily use for their mobile money transactions.

On the age of the respondents, the findings indicate that a bigger number (106) of the MPESA users were between the ages of 20-30 years who constituted 47.7%. These young adults are known to be technology savvy and motivated to the existing technological innovations and putting them to profitable use. This can also be attributed to the fact that most of these users rely on their phones for several uses which included communication as well as meet their enormous banking needs. The middle-aged adults aged between 31-40 years covered 32% of the total respondents. This clearly indicates that the middle-aged adults fairly adopted the technology and use it for many other transactions. Ideally, the middle-aged adults have stable incomes and families; are involved in business or any other industry which require them to be involved in so many activities to make ends meet. The third least category of respondents aged 41-50 years had constituted a paltry 11.3% which indicated that few of these respondents had adopted the MPESA service. Finally those aged 51-60 and above 60 years constituted 4.1% and 5% respectively.

While investigating the marital status of the respondents, the findings indicated that 40.5% percent of the respondents were single. Married respondents

constituted 46.8% while divorcees were 7.7%. The smallest percentage of respondents was that of widowed which was 5.0%

The respondents highest qualification was summarized as follows: - Those who attained primary school certificate were 8.1% while secondary school was 23.4%. The biggest number of respondents acknowledged to have a diploma and this constituted 26.6% while the degree holders were 25.2%. Masters degree holders were 8.6% and PhD holders constituted 8.1%.

The research sought to establish the length of time the users had held and maintained their MPESA accounts. This was because MPESA as a mobile money service had been in operation since 2007. The results showed that 9.9% of the respondents had held the MPESA account for at least one year, while 50.5% had held the account upto 2 years. Another 29.3% of the respondents had maintained it for upto 3 years. The second least category of 9.5% had maintained the account for upto 4 years while the smallest number of 0.9% had held and maintained it for 5 years. 5.4% of the respondents worked with bank, while 4.1%

The results regarding respondents' form of livelihood revealed the following:-
About 5.4% of the respondents worked with the Bank; while 4.1% of them worked with Safaricom telecommunications company. Another 8.6% of the respondents worked in government sector and 18% worked in private sector. A massive 44.1% of the respondents worked in education sector, 12.2% are self-employed while the unemployed category constituted 7.7%.

Table 4.2: Determine the extent of mobile phone banking services in Kenya

Categories	Mean	Std. Deviation	Interpretation	Rank
Phone banking through MPESA				
I am comfortable with the speed of MPESA transactions	3.36	0.827	High	1
Most of my family members use MPESA service	3.34	0.867	Moderate	2
MPESA has penetrated rural population that could not access a bank	3.33	0.860	Moderate	3
I am satisfied with MPESA service	3.32	0.837	Moderate	4
MPESA has led to community accepting technology integration in financial services	3.22	0.947	Moderate	5
I can find an MPESA kiosk in my neighborhood	3.20	0.964	Moderate	6
I am comfortable with costs of using MPESA than those of banks	3.18	0.953	Moderate	7
MPESA offers information during network or service interruption	3.17	0.957	Moderate	8
MPESA offers frequent customer support on account problems	3.13	0.938	Moderate	9
My bank offers services like balance alerts, money transfers, bill payments	3.08	0.999	Moderate	10
Most people prefer MPESA to Retail Banking	3.08	0.914	Moderate	11
MPESA has altered my banking behavior, I bank often	3.07	0.963	Moderate	12
I have subscribed to MPESA only	3.06	1.014	Moderate	13
MPESA offers safe and secure transactions	2.99	1.046	Moderate	14
I maintain both MPESA and a bank account side-by-side	2.96	1.067	Moderate	15
I operate MPESA and other service provider accounts	2.93	1.162	Moderate	16
I don't use my Retail account because MPESA is easy to access	2.91	1.100	Moderate	17
No paperwork required to open MPESA account	2.87	1.106	Moderate	18
I don't own a retail account with banks or any financial institution	2.73	1.129	Moderate	19
I have more than one MPESA account	2.51	1.228	Low	20
Overall Average Total	**3.07**	**0.512**	Moderate	

Source: Primary Data, 2011

The researcher in the quest to establish the extent of mobile phone banking in Kenya, subjected the data collected under analysis and results were as follows:-

The overall total mean stood at 3.07. Following our 5-point scale, this indicated a high extent. This is a pointer towards the wide market penetration and level of acceptance of the of the M-PESA service.

While establishing factors like comfort of usage of M-PESA; the respondents' mean stood at 3.36 with a deviation of 0.827. This indicated a high degree of satisfaction. Other factors like popularity of the service among family members, penetration in the rural market, acceptance of the technology, affordability of MPESA charges, availability of information for users, availability of customer support when user accounts have problems; all these variables were ranked as moderate based on the scale. This in the long-run indicates that the mobile money banking (MPESA) has achieved a wider extent.

Table 4.3 To determine extent of financial markets in Kenya

Categories	Mean	Std. Deviation	Interpretation	Rank
Financial markets				
With MPESA banks and financial institutions have working linkages for bill payment, retail purchase	3.17	0.934	Moderate	1
I use MPESA because of its wide network penetration	3.12	0.936	Moderate	2
MPESA is widely used for daily buying and selling of goods and paying bills	3.12	0.954	Moderate	3
With MPESA it is easy to know how much is spent and saved	3.08	0.912	Moderate	4
I have acquired loans from friends and family and repaid through MPESA	3.01	0.993	Moderate	5
People repay loans obtained from financial institutions by MPESA	2.95	0.933	Moderate	6
To facilitate bigger transactions I own an MKESHO account	2.80	1.091	Moderate	7
I had no bank account, but nowadays I save, send and receive money by MPESA	2.80	1.112	Moderate	8
The cost of bank charges were high and I could not operate a bank account	2.80	1.093	Moderate	9
I have participated in stock market by trading in shares through MPESA	2.76	1.090	Moderate	10
My salary is paid through the bank but I can withdraw by MPESA	2.76	1.099	Moderate	11
I would rather save with MPESA than a retail bank	2.74	1.091	Moderate	12
I bought company shares using MPESA	2.68	1.101	Low	13
Average	**2.90**	**0.619**	**Moderate**	

Source: Primary Data, 2011

The table above indicates the results from respondents as regards to the extent of at which financial markets are accessed using mobile money banking (MPESA) as opposed to traditional retail banking.

The average total mean stood at 2.90, while the average standard deviation stood at 0.619. Both of these are indicators of the participation and greater involvement of the users in the financial markets through M-PESA. Individual conclusions were interpreted as below.

As indicated, the means for the responses of ranged from the lowest of 2.68 to the highest of 3.17 , and the standard deviation ranges from a low of 0.934 to a high of 1.101 respectively. This in itself, is a clear indicator of the broad extent for which financial markets is being accessed through mobile money banking. Most of the responses were rated as moderate, which indicated a bigger extent of mobile phone banking.

Table 4.4 Correlation showing the Significant Relationship between mobile phone banking and financial markets in Kenya

Variables correlated	R-value	Sig-value	Interpretation	Decision on Ho
Phone banking Vs Financial markets	0.479	0.000	Significant relationship	Rejected

**. Correlation is significant at the 0.01 level

Source: Primary Data

The independent variable (Mobile Phone Banking) was correlated to dependent variable (Financial markets), the r-value of 0.479 and sig-value or 0.000 were obtained respectively indicating a significant relationship hence the hypothesis was rejected.

Table 4.5 Regression showing the Significant Relationship between mobile phone banking and financial markets in Kenya

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	17.867	1	17.867	59.683	0.000[a]
Residual	64.963	217	0.299		
Total	**82.830**	**218**			

a. Predictors: (Constant), MPESA
b. Dependent Variable: FMARKETS

Source: Primary Data

A simple linear regression was performed on data collected among the 222 respondents to determine if there is a significant relationship between mobile phone banking and financial markets. The degree of freedom was noted at 1. The t-statistic for the slope was significant at the 0.000. Thus, we reject the null hypothesis and conclude that there was a positive significant relationship between mobile phone banking and financial markets. Furthermore, the "F" value which is the significant value stands at 59.6%, which, in terms of the variability in financial markets could be explained by the impact of mobile phone banking.

Table 4.6: Showing Challenges of MPESA

Categories	Mean	Std. Deviation	Interpretation	Rank
Challenges				
There is widespread MPESA fraud/many related crimes	2.63	1.080	Moderate	1
There is no customer protection against fraud	2.59	1.080	Low	2
MPESA leads to extravagance	2.58	1.072	Low	3
MPESA poses a security risk to customers	2.51	1.141	Low	4
I don't know of any Electronic Regulations governing MPESA	2.45	1.171	Low	5
MPESA has high transaction costs (expensive)	2.40	1.096	Low	6
I have been a victim of MPESA fraud and lost money as a result	2.29	1.122	Low	7
MPESA is a complicated technology to use	2.23	1.075	Low	8
Average	**2.45**	**0.756**	Low	

Source: Primary Data

The above table shows the challenges posed by MPESA. With an average mean of 2.45 and a standard deviation of 0.756, it is an indicator that there are challenges of using the M-PESA service but the advantages outweigh the challenges. This is shown by the interpretation of the 'low rank'.

This is an indicator that while there is a wider extent of mobile money (MPESA), it still remains a convenient while slightly risky. Many of the respondents were either aware of the fraud cases associated with MPESA or they were at one time or another victims of fraud.

The biggest concern of all the challenges was the fact that a bigger number of the respondents were not aware of electronic policies governing M-PESA. This raise a red flag in the aspects of customer protection.

CHAPTER FIVE

FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

Respondents' Demographic Characteristics

The research results revealed that there is a bigger number of male mobile phone banking users compared to the female; and most of these respondents were young adults aged between 20-30 years (most of whom were single). It is reflection of the popularity of the mobile banking service which is an economic shift from traditional retail banking to mobile banking. A big number of respondents belong to Safaricom network which has the largest revenue market share of 78%. Most of it has been acquired through wide use of mobile money banking (M-PESA). Interestingly though, most of the mobile banking users had attained an acceptable level of education with a majority having attained at least secondary school certificate. Half the number of the respondents had owned a mobile phone account for over 2 years, which is almost half the time the service has been in existence. The other significant factor tested was the form of livelihood of the respondents. Results showed that the biggest number of M-PESA users were working in educational sector while those who worked in private sector followed.

Extent of Mobile Phone Banking

The results indicated that the extent of mobile banking is widespread because of the popularity and use of the mobile phone as a handy device to many users. The findings in this report also indicated that many of the users acknowledged the fact that most of their family members use MPESA service almost on a daily basis. They also stated that the service has penetrated the rural population that was originally unbanked. Some even admitted that the MPESA service was a perfect substitute for the traditional retail bank. They noted the presence of

MPESA kiosks within their neighbourhood and that they used the service because of its reliability, ease of use and wide market coverage.

Extent of Financial Markets

On the extent of financial markets, the respondents described that they had actually been involved actively in financial markets without the hustle of using their bank accounts. Money has become very available and the concept of loan acquisition has changed. For example, they noted that acquisition and repayment of loans from friends, relatives was so easy these days. Moreover, financial institutions, microfinance institutions are more willing to offer loans at competitive rates and they could also repay the acquired loans through MPESA which made it very flexible. Users acknowledged having participated in Stock market, Initial Public Offers (IPOs), traded in shares, received their dividends – all with the use of MPESA. This ultimately revealed the extent of participation of the users in financial markets by use of mobile money banking.

The findings also showed that involvement in financial markets involved booking and buying e-tickets, making international transfers – all using the mobile money banking facility of MPESA.

Respondents acknowledged the fact that their banks and financial service providers are working really hard to ensure that they are linked to the now almost household service "M-PESA" so that their clients can be assured of accessing their bank services using their phones.

CONCLUSIONS

The first objective was to determine the demographic characteristics of the M-PESA users. It was concluded that young single adults between the ages of 20-30 years constituted the biggest percentage, most of whom were male, greatly used the service. Most of these had basic education (at least primary school leaving certificate).

The second objective was to determine the extent of mobile phone banking services in Kenya. The study concluded that there is a conscious effort by the users to utilize the service because of its speed and reliability, cost-effectiveness as well as ease of service. Mobile phone banking, having been widely adopted is considered by the users as a way of life. This shows that indeed the extent of mobile phone banking having achieved a greater extent.

The third objective was guided by evaluating the extent of financial markets in Kenya. The study revealed and concluded that financial markets is an age-long phenomenon which has attracted participation of so many stakeholders. There was a shift of participation in financial markets from solely corporate organizations and big business entities to individuals and small scale business owners because accessibility to these markets has been enhanced by the advent of mobile phone banking. Thanks to M-PESA.

The findings agree with the theory of Technological Acceptance Model (TAM).

While determining whether there is a significant relationship between mobile phone banking and financial markets in Kenya, a null hypothesis was advanced which was, "there is no significant relationship between mobile phone banking and financial markets." However, data collected was correlated and regressed.

As a consequence, a significant relationship between mobile phone banking and financial markets was concluded. Therefore the null hypothesis was rejected.

RECOMMENDATIONS

While the findings indicated that there is a bigger male to female ratio in the use of M-PESA service, the study recommends that the female population should be encouraged to participate in financial markets as well as economy building. Possibly another research should be carried out to establish why the female population are not actively participating in financial markets.

The findings revealed that although mobile banking, by and large has been adopted by many users who are benefitting from the service, the service is also risky especially when it comes to security. Security features should be enhanced to enable wider participation in financial markets.

Safaricom and Organisations that are collaborating with Safaricom should establish Electronic Regulations and educate the users to help them know the extent to which they are protected and can be assisted.

Further research should be carried out to establish why a highly acceptable service, with a bigger market penetration is experiencing the highest risk associated with their transactions.

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APPENDIX I: TRANSMITTAL LETTER

**KAMPALA
INTERNATIONAL
UNIVERSITY**

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OFFICE OF THE COORDINATOR, BUSINESS AND MANAGEMENT
SCHOOL OF POSTGRADUATE STUDIES AND RESEARCH (SPGSR)

July 15, 2011

Dear Sir/Madam,

**RE: REQUEST FOR OUSURU DENNIECE ODIONYI B. MBA/200056/81/DF
TO CONDUCT RESEARCH IN YOUR ORGANIZATION**

The above mentioned is a bonafide student of Kampala International University
pursuing a Master of Business Administration (Information Technology).
He is currently conducting a field research of which the title is **"Mobile Phone Banking
and Financial Markets in Selected M-Pesa Outlets in Kenya."**

Your organization has been identified as a valuable source of information pertaining to
his research project. The purpose of this letter is to request you to avail him with the
pertinent information he may need.

Any information shared with him in your organization shall be treated with utmost
confidentiality.

Any assistance rendered to him will be highly appreciated.

Yours truly,

Mr. Malinga Ramadhan
Coordinator
Business and Management (SPGSR)

APPENDIX II: CLEARANCE FROM ETHICS COMMITTEE

Date_____

Candidate's Data

Name_____

Reg.# _____

Course _____

Title of Study

_____

_____

Ethical Review Checklist

The study reviewed considered the following:

____ Physical Safety of Human Subjects

____ Psychological Safety

____ Emotional Security

____ Privacy

____ Written Request for Author of Standardized Instrument

____ Coding of Questionnaires/Anonymity/Confidentiality

____ Permission to Conduct the Study

____ Informed Consent

____ Citations/Authors Recognized

Results of Ethical Review

____ Approved

____ Conditional (to provide the Ethics Committee with corrections)

____ Disapproved/ Resubmit Proposal

Ethics Committee (Name and Signature)

Chairperson _____

Members _____

APPENDIX III: INFORMED CONSENT

I am giving my consent to be part of the research study of Mr. Ousuru Denniece Odionyi Black, which will focus on Mobile Phone Banking and Financial Markets in Kenya.

I shall be assured of privacy, anonymity and confidentiality and that I will be given the option to refuse participation and right to withdraw my participation anytime.

I have been informed that the research is voluntary and that the results will be given to me if I ask for it.

Initials:_____

Date_____

QUESTIONNAIRE TO DETERMINE LEVEL OF SIGNIFICANCE OF MOBILE PHONE BANKING TO FINANCIAL MARKETS

(For Respondents)

_____

Dear Sir/Madam,

I am a candidate for Masters of Business Administration in Information Technology with a Dissertation on **Mobile Phone Banking and Financial Markets in selected M-PESA outlets in Bungoma District, Kenya.** As I pursue to complete this academic endeavor and requirement, may I request your assistance by being part of this study?

Kindly provide the most appropriate information indicated in the questionnaires and please do not leave any item unanswered. Any data from you shall be for academic purposes only and will be kept with utmost confidentiality.

May I retrieve the questionnaires 1 week after you receive them? Or even at your earliest convenience? Thank you very much in advance.

Yours faithfully,

Ousuru Denniece Odionyi

Masters Candidate

INFORMED CONSENT

I am giving my consent to be part of the research study of Ousuru Denniece Odionyi that will focus on Mobile Phone Banking and Financial Markets in Kenya.

I shall be assured of privacy, anonymity and confidentiality and that I will be given the option to refuse participation and right to withdraw my participation anytime.

I have been informed that the research is voluntary and that the results will given to me if I ask for it.

Initials: _____

Date: _____

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FACE SHEET

Code # _____ Date Received by Respondent _____

PART 1: RESPONDENT'S DEMOGRAPHIC CHARACTERISTICS

Please Answer by Ticking (√) the appropriate answer.

GENDER:

_____ **(1)** Male

_____ **(2)** Female

AGE

____ (1) 20 – 30

____ (2) 31 – 40

____ (3) 41 – 50

____ (4) 51 – 60

____ (5) 61 – 65

MARITAL STATUS

____ (1) Single

____ (2) Married

____ (3) Divorced

____ (4) Widowed

HIGHEST LEVEL OF EDUCATION

____ (1) Primary School Certificate
____ (2) Secondary School Certificate
____ (3) Diploma
____ (4) Degree
____ (5) Masters
____ (6) PhD

Duration as M-PESA holder
____ (1) 1 Year   ____ (2) 1 – 2 Years _____(3) 3 – 4 Years ____ (4) 5 Years

What Do I do for a living?
____ (1) Work with a Bank
____ (2) Work with Safaricom
____ (3) Work in Government Sector (Govt Ministry, Parastatal, etc)
____ (4) Work in Private Sector (NGO, Private Business, etc)
____ (5) Work in Education Sector (Teacher, Lecturer, etc)
____ (5) Self-Employed
____ (6) Unemployed
____ (7) Other (Please state) …………………………………………

PART 1: RESPONDENT'S DEMOGRAPHIC CHARACTERISTICS

Direction: As honestly as you can, rate yourself based on the following traits. Kindly be guided with the scoring guide below. Please write your score (number) on the space provided after each item.

SCORE	RESPONSE MODE	DESCRIPTION
4	Strongly Agree (SA)	You agree with no doubt at all
3	Agree (A)	You agree with some doubt
2	Disagree (D)	You disagree with some doubt
1	Strongly Disagree (SD)	You disagree with no doubt at all

NO	RESPONSE	SA	A	D	SD
	SCORE	4	3	2	1
	PART 2: MPESA				
1.	Opening an M-PESA account requires no paperwork				
2.	I have subscribed to MPESA only				
3.	I have subscribed to more than one MPESA account				
4.	I have subscribed to MPESA and other service providers				
5.	Most of my family members use M-PESA service				
6.	Many people use M-PESA instead of retail banking				
7.	M-PESA banking has altered my behavior towards banking, I frequently transact more often				
8.	I no longer use my retail bank account because M-PESA is easy to access				
9.	I can find an M-PESA kiosk (outlet) in my neighbourhood				
10.	I am comfortable with the cost of using M-PESA compared to other banking methods				
11.	M-PESA offers frequent customer support incase my account problems				
12.	M-PESA offers information in case there is a network interference or service interruption				
13.	M-PESA offers me secure and safe transactions				
14.	I have and maintained an account with at least one bank side-by-side with M-PESA account				
15.	I do not own a retail bank account with banks or any financial institutions				
16.	My bank offers services like minimum balance alerts, money transfers, bill payment, credit alerts				
17.	M-PESA has led to community accepting technology integration in financial services				
18.	I am satisfied with M-PESA service				

50

			SA	A	D	SD
19.	M-PESA has greatly penetrated the rural population that could not otherwise access a bank					
20.	I am comfortable with the speed of M-PESA transactions					

PART 3: M-PESA AND FINANCIAL MARKETS

	RESPONSE	SA	A	D	SD
	SCORE	4	3	2	1
1.	M-PESA is very widely used in the daily buying and selling of goods as well as paying bills				
2.	Through M-PESA I have in the past conveniently bought shares from companies				
3.	I have participated in stock market by use of M-PESA (Bought and sold shares, received dividends)				
4.	I have acquired loans from friends and family and re-paid through M-PESA				
5.	People repay their loans obtained from financial institutions by using M-PESA				
6.	With M-PESA it is easy to know how much money you spent and saved				
7.	I never had a bank account before but nowadays I save, send and receive money through M-PESA				
8.	The bank charges for transactions were high and I could not operate an account				
9.	With M-PESA, banks and financial institutions have linkages now work together in operations like paying bills, making retail purchases				
10.	I use M-PESA because of its wide market penetration				
11.	To facilitate bigger transactions I own an M-KESHO account				
12.	I would rather save with M-PESA than a retail bank				
13.	My salary is paid through the bank but I withdraw by M-PESA				

PART 4: M-PESA CHALLENGES

		SA	A	D	SD
1.	M-PESA poses a security risk to customers				
2.	M-PESA is a complicated technology to use				
3.	M-PESA has high transaction costs(expensive)				
4.	M-PESA leads to extravagance (over-spending)				
5.	There is widespread M-PESA fraud/ many related crimes				
6.	I have been a victim of M-PESA fraud and lost money as a result				
7.	There is no customer protection against fraud				
8.	I don't know of any Electronic Regulations governing M-PESA				

Thank you for your generous time. God Bless You.

RESEARCHER'S CURRICULUM VITAE

Personal Profile

Name	:	Ousuru Denniece Odionyi Black
Date of birth	:	11th September, 1981
Marital status	:	Single
Gender	:	Male
Email	:	deblacksnr@gmail.com
Mobile	:	+256712311366, +254712259405

Educational Background

March 2005 – November 2009; Kampala International University attained Bachelors Degree in Information Technology

January – September, 2001; Comptel Integrated Systems Tororo, Advanced Certificate in Computer Studies.

1997 – 2000; St. Peter's Mumias Boys High School attained Kenya Certificate of Secondary Education (KCSE)

Work Experience

March 2009 to date, Kampala International University: **Asst. Deputy Dean of Students** (Incharge of Accommodation and Health).

December 2002 – March 2004, Dam International Ltd.: **Administrator & Computer Instructor.**