THE EFFECT OF M-SHWARI SERVICES ON FINANCIAL ACCESS IN KENYA:

A CASE STUDY OF KISII COUNTY

BY

PETER GEKONDO EVERLYNE

D61/63030/2010

A RESEARCH PROJECT REPORT SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF MASTER OF BUSINESS ADMINISTRATION DEGREE IN FINANCE.

THE UNIVERSITY OF NAIROBI

October, 2013

DECLARATION

This research project report is my original work and has not been presented to any university for an academic award.

Sign: --------------------------------------   ---

Everlyne Peter G.   Date

D61/63030/2010

This research project report has been submitted for examination with my approval as the University supervisor.

Sign--------------------------------------   ---

Dr. Sifunjo Kisaka   Date

DEDICATION

This study is dedicated to my loving parents, Mr. and Mrs. Peter Mayaka and my mentors and spiritual parents Mr. and Mrs Rev. Lawrence Morara who continuously inspired me and supported my efforts throughout this study; they could confirm every step throughout my study and encourage me. Thanks mum and dad.

ACKNOWLEDGEMENT

I wish to express my sincere appreciation to my supervisor, Dr. Sifunjo Kisaka, for having agreed to supervise this study, he has been a mentor to me. Without him the study would not have been a success. May the Almighty God bless you.

I wish to express my sincere appreciation to Mum Gladys Morara for her continuous encouragement, love, understanding and always being ready to support me whenever I needed help. Thank you for being concerned. May the Almighty God bless you mum and dad.

I would also like to express my sincere thanks to my family especially my dear parents, for their love, understanding and support during the project. May the Almighty God bless you mummy and daddy

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ABBREVIATIONS

ANOVA :   Analysis of variance
CBA   :   Commercial Bank of Africa
DFI   :   Development Finance Institution
IFC   :   International Finance Corporation
OECD :   Organization for Economic Corporation and Development

ABSTRACT

Mshwari is the revolutionary new banking product for Mpesa customers that allow an individual to save and borrow right from a mobile phone while earning interest on money saved. The literature on Mobile technology innovations and how it has improved the access to finance by the low income earners in Kenya is not available. Specifically, few studies have been done on the contribution of mobile banking to financial access. The contribution of M-shwari services to financial access has not been researched being a new product rolled out by Safaricom Limited in November, 2012.

This study aimed to conduct a comprehensive research on the effect of M-shwari services on financial access. The study focused on households who are low income earners in Kenya. This group is critical to Kenya as the country is looking forward to become newly industrialized country by the year 2030. Therefore, this study sought to answer the following research question; what is the impact of M-shwari services on financial access in Kenya? The result expected was a strong positive correlation between M-shwari services and financial access. The main objective that the study aimed to achieve was to establish the effect of M-Shwari services on financial access in Kisii County.

The analysis covered a period of six months, starting from March, 2013 to August, 2013. This was so because M-shwari service was rolled out by Safaricom Ltd partnering with CBA ten months ago. A range of approaches and results are discussed within a unified framework; regression analysis was used to analyses the variables. To comparatively examine the individual effect of the two major variables, namely; Amount of deposits made and amount of money borrowed; a case study in Kisii County was carried out and an instrument testing the two variables was developed and data was generated by conducting an interview with the help of questionnaires. The questionnaires were self-administered on randomly sampled respondents in Kisii County. Three hundred and eighty three questionnaires were administered to Mpesa Safaricom Subscribers.

The results from data analysis shows that, amount deposited to Mshwari account increased as the number of registered Mshwari users increased. This depicts that, financial access of low income earners was significantly increased by the service of Mshwari. Moreover, the amount of loans extended to customers also increased as the number of registered Mshwari users increased. This service has put ready money at the customers' disposal, thereby increasing access to finance. Regression analysis show a strong positive relationship between dependent variable (financial access) and independent variables Xi. The correlation coefficient showed an almost perfect correlation. This is also supported by the coefficient of determination which indicated that over 50% variation was explained by both variables.

The study concluded that M-shwari services had an effect on the amount of deposits made to the accounts that were opened; the services provided a door for saving little amounts of money for as low as sh. 1. This therefore, increased access to finance and financial services to low income earners who are not able to operate a bank account. Secondly, Mshwari services also had an effect on financial access through credit advances. Access to finance was improved to low income earners, because they were able

to access cheap loans of which they were not able to get. This independent variable had more effect to financial access compared to amount of savings made.

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

M-shwari is a revolutionary new banking product for Mpesa customers of Safaricom limited. It was started in the year 2012. It allows one to save and borrow through a mobile phone while earning interest on money saved. It is a service for that enables customers to have access to interest bearing saving accounts and have the ability to take out small loans. This is the next step in the M-Pesa story of increasing further access to a wider range of financial services and is the result of a new strategic cooperation between Vodafone, Safaricom and the Commercial Bank of Africa (CBA).

Safaricom customers are able to sign up to the M-Shwari interest bearing savings account, provided by CBA, directly through the M-Pesa menu on their phone. There are no forms to complete and no need to visit a bank branch. M-Pesa customers can also apply to CBA for a mini-loan, again directly from their phone. Based on the individual customer's M-Pesa transactions and savings history, CBA determines the customer's eligibility. The loan money is sent by CBA to the customer's M-Pesa account immediately, again emphasizing the convenience and simplicity of M-Shwari.

According to the Director for M-Pesa within Vodafone Group, in his speech during the launching of M-shwari, 'M-Shwari is a transformational service: saving is no longer the privilege of an elite; all Kenyans can now save, even the smallest amounts and at their own pace. M-Shwari creates a safe environment for customers to borrow small amounts and links the amounts of credit available to the ability to save. Through their M-Shwari savings account, M-Pesa customers are empowered to manage their financial lives'.

M-Shwari is a truly mobile proposition, which leverages the power of mobile communications to provide simple and valuable access to banking services.

1.1.1 Financial Access

According to Richardson, (2008), access to finance refers to the possibility that individuals or enterprises can access financial services, including credit, deposit, payment, insurance, and other risk management services. Those who involuntarily have no or only limited access to financial services is referred to as the unbanked or under-banked, respectively.

An inclusive financial system is critical to economic development, poverty alleviation and reducing inequality. Access to finance is therefore integral to economic and human development. With only 19% of Kenyans having access to formal financial system (Financial Access Survey, 2006), in the Kenyan context the topic of access to finance is a vital economic issue to be addressed if Kenya is to achieve aspirations outlined in the Vision 2030. Kenya's Vision 2030 is the economic blue print for transforming Kenya into a newly industrializing "middle -income country providing high quality of life to all its citizens by the year 2030" (Vision 2030, p. 1). The financial sector through its intermediation function is the engine and driver of the realization of the goals outlined in the Vision 2030. The financial sector as the important component of economic transformation hinges on three essential pillars: access, efficiency and stability.

There is substantial and conclusive empirical evidence that finance matters for economic development (Claessens, 2006). This is true for all economies, developing and developed, and at all levels of economic development. In view of this robust evidence, in the past decade, there is clearly a case for inclusive financial sector as a development paradigm (Imboden, 2005). Financial exclusion have adverse effects on economic growth, exacerbates poverty and income inequalities (Beck, Demirguc-Kunt, and Peria, 2006). The United Nations (UN) in one of its major publication on this subject –The Blue Book reaffirms the need for building inclusive financial sector.

1.1.2 Determinants of Financial Access

It is a well-established fact that access to finance is a major determinant of economic growth (Rajan and Zingales, 1998; Beck, Levine, and Loayza, 2000). In the current financial crisis, financially constrained firms and households do not invest (Campello,

Graham, Harvey, 2009). Access to finance, has been one of the core topics in development for quite some time.For instance, Claessens, 2006; and World Bank, 2008, are best eaamples in this area of finance. Therefore, it has emerged on the agenda of nearly all governments. However, in reality it is difficult to measure access to finance. In many studies, the use of finance is taken as a proxy for access to finance. In terms of use, one has to distinguish between different services such as deposit, credit and account mobilization.

Deposits are aggregate indicators on bank penetration that can determine the level of financial inclusion in a country (Beck, Dermirguc-Kunt and martinez peria, 2007). Credit, which is the debt finance that small firms need in order to expand their businesses is very important (Klapper, 2006). SME lending is still seen by practitioners as an underserved market, too costly to reach with the techniques used for large firms and too ill fined for credit – scoring models to be as successful as in consumer lending (Berger et al, 2006). Accounts mobilization involves opening of personal accounts with the bank that will enable an individual or a firm to deposit money and access credit (Gine and Klonner, 2005).

1.1.3 Relationship between Mshwari Services and Access to Finance

According to Baraka et al, (2013) the role of telecommunication technology and in particular mobile phone use in provision of financial service is certainly. M-pesa started in the Kenyan in 2007 is a successful policy intervention that has been replicated in many countries across regions and continents. In 2012, a mobile banking product, M-Shwari was started by a commercial bank primarily to encourage savings and provide soft loans using mobile banking platform. In one year, this initiative raised over Kenya Shillings 1 billion (USD 11.8 Million) with over 1 million clients. This type of policy initiative has immense potential to promote and actualise financial inclusion across various segment of socio- economic class of a society. This shows that there is a positive relationship between M-Shwari and Financial access.

Inclusive financial sector is therefore analogous to financial deepening. As documented in Imboden (2005), there is convincing evidence that there is positive link between

financial deepening and growth. Thus, access to finance could be the real impetus to spur economic growth. Banking sector development are in particular associated economic development and poverty alleviation (King and Levine, 1993; Beck et al. 2007).

1.1.4 Contextual Background

This study wasbe carried out in Kisii County, a former administrative division of Kisii Central district. Kisii County is located to the south east of Lake Victoria, and south western slopes of the Mau escarpment. The County has two rainfall seasons; Short (September – November) and Long (February – June) and temperatures ranging from 16 0C to 29 0C. Its headquarters are at Kisii Town which is currently developing. The area's vegetation is woody and bushed grassland with scattered or grouped trees. Most of the vegetation has however been replaced by crops and exotic trees (District Dev. Plan, 2004 – 2009).

Kisii County has an estimated population of 1,152,282 persons and the County covered an area of 1,317.9 km^2(according to the 2009 census report). Kisii County is mainly inhabited by Abagusii, a bantu-speaking people. Agriculture is their main economic activity (Tea, Bananas, Maize, pyrethrum, finger millet, beans, Coffee and dairy farming). However, due to land fragmentation which discourages large scale farming has made the residents to venture into entrepreneurial activities. Commercial activities take place particularly wholesale and retail trade in agricultural products (District Dev. Plan, 2004 – 2009).

The researcher will focus her study in this area, as it is accessible and convenient. In addition, the demographics of the population as described by the census report (2009) provide the target group of low income earners. The report asserts that, an estimate of 80% of the households is low income earners.

1.2 Problem Statement

In the year 2008, financial access survey estimated that the formal financial system was serving just over a quarter (26.4%) of Kenya's adult population (Financial Access Report, 2009). The Financial Access Report, (2009) continues to assert that, by 2009, the landscape had changed dramatically, a quarter of the population had registered as Mpesa

users, catapulting it to the top of the league in terms of customer base. The microfinance institutions customer base grew by 117%, while commercial banks also registered an impressive 92% growth in customer numbers. This area of study has spurred studies to be done on the impact of formal banking on financial access and inclusion. For instance, Demirguc-Kunt, Thorsten Beck and Patrick Honohan, (2007), wrote a report on Access to Finance: Measurement, Impact and Policy Concept Note. The paper investigated into detail the role of the banking sector in lending and the Government's role in facilitating financial access. The results were positive, indicating that more people were being included in banking sector. Studies have also been done on mobile banking. Munga, K. G., (2010), carried out a research on the impact of mobile banking: a case study of M-pesa in the Kenyan society. The research proved that M-pesa had a big impact on the Kenyans lives.

However, the literature on Mobile technology innovations and how it has improved the access to finance by the low income earners in Kenya is not available. Specifically, few studies have been done on the contribution of mobile banking to financial access. The contribution of M-shwari services to financial access has not been researched being a new product rolled out by Safaricom Limited.

This study aims to conduct a comprehensive research on the impact of M-shwari services on financial access. The study will focus on households who are low income earners in Kenya. This group is critical to Kenya as the country is looking forward to become newly industrialized country by the year 2030. Therefore, this study will seek to answer the following research question; what is the impact of M-shwari services on financial access in Kenya? The result is expected to be a strong positive correlation between M-shwari services and financial access.

1.3 Objectives of the Study

This study seeks to achieve the following objective;

To establish the effect of M-Shwari services on financial access in Kisii county.

1.4 Value of the Study

This study is of great importance to the management and the board of directors of Safaricom Ltd and Commercial Bank Africa as it would determine the impact of M-shwari services on Financial Access, which will point out the success of the product.

It is also important to the government of Kenya as it seeks to make Vision 2030 blue print a reality. It's also of great significance to the academicians seeking to explore this area of study.

The government of Kenya will benefits from the findings and can utilize the results to promote financial access in order to realize vision 2030. In order to be newly industrialized by 2030 a country needs to deal will the hindrance of growth, this study will be of help to policy makers to formulate policies to promote financial access to the unbanked and under banked low income earners.

Scholars will find this research useful. This study will provide a contribution to the scholarly dialogue concerning mobile banking and financial access. This will be important to such future researchers who may want to use the findings of this research as a basis for advancing their arguments.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

According to Mugenda & Mugenda (2003), literature review refers to a systematic identification, location and analysis of previous research documents that have information related to the research problem being investigated. It forms a framework within which the research findings will be interpreted and similarities drawn with the existing body of knowledge. This chapter will review relevant literature to this research. Since this study focus on financial access and the contribution of Mshwari services towards financial access, the literature review will focus on theories of financial access which are categorized into financial intermediation theories, finance growth theories, old development theories and modern development theories in section 2.2. Section 2.3 and 2.4 will discuss the empirical review of prior studies both general studies and local studies. Section 2.5 will summarize the assumptions and major findings of the theories of financial access.

2.2 Theories Relevant to the Study

2.2.1 Financial Intermediation Theories

Financial intermediation is seen as the extent to which financial institutions bring deficit spending units and surplus spending units together (Ndebbio J., 2004). Arguments point out that, banks are able to effectively monitor borrowers and thus play the role of delegated monitoring (Diamond, 1984). Diamond, 1984, asserts that intermediaries provide services by issuing secondary financial assets to buy primary financial assets. If an intermediary provided no services, investors who buy the secondary securities issued by the intermediary might as well purchase the primary securities directly and save the intermediary's costs.

Financial market frictions which include information asymmetry and transaction costs, play a central role, influencing key decisions regarding human and physical   capital

accumulation and occupational choices. These market frictions are critical in generating persistent income inequality or poverty traps. For example, according to Demirguc-Kunt, Asli, Beck and Honohan, 2008, in theories stressing capital accumulation, financial market imperfections determine the extent to which the poor can borrow to invest in schooling or physical capital. In theories stressing entrepreneurship, financial market imperfections determine the extent to which talented but poor individuals can raise external funds to initiate projects. Thus, the evolution of financial development, growth and intergenerational income dynamics are closely intertwined. Finance influences not only the efficiency of resource allocation throughout the economy but also the comparative economic opportunities of individuals from relatively rich or poor households.

Access to finance attempts to reduce these market frictions. Information asymmetry is a situation where by the one party has more or better information than the other (Chibba, 2009). Dermirguc-Kunt and Levine (2009) argue that reducing financial market imperfections to expand individual opportunities creates positive, not negative, incentive effects. This models show that lack of access to finance can be the critical mechanism for generating persistent income inequality or poverty traps, as well as lower growth.

In summary, the theoretical models cited above point out five main roles that financial intermediaries play namely: acquisition of information on borrowers, provision of risk reduced agreements, accumulating capital, improve corporate governance and ease the transaction process.

2.2.2 Finance Growth Theories
Theories on finance growth advocate that financial development creates a productive environment for growth through 'supply leading' or 'demand is following' effect (Serrao, Sequeirra and Hans, 2012). These theories also perceive the lack of access to finance as a critical factor responsible for persistent income inequality as well as slower growth. Therefore, access to safe, easy and affordable source of finance is recognized as a pre-condition for accelerating growth and reducing income disparities and poverty which creates equal opportunities, enables economically and socially excluded people to

integrate better into the economy and actively contribute to development and protect themselves against economic shocks (Serrao et al, 2012).

Theoretical disagreements do exist about the role of financial systems in economic growth. Some economists see the role as minor while others see it as significant. The demand following view as supported argues that the financial system does not spur economic growth; rather the financial system simply responds to development in real sector. The supply leading proponents contrasts the former view. The origin of the finance-led growth hypothesis argues that the existence of an energetic financial sector has growth enhancing effects. Schumpeter in 1911 posited that banks enable an economy to grow by providing efficient markets for funds. According to GoldSmith (1969), McKinnon (1973), Levine and Zervos (1996) also emphasize the positive role of financial systems in economic growth as cited by Aduda J. and Kalundu E. (2012). Therefore, the main argument of proponents of the supply leading theory is that, financial markets evolve in response to increased demands for financial services from an already budding economy. Therefore, the development of financial markets is a reflection of growth in other sectors of the economy. Majority of the theories have established a positive link between financial development and economic growth.

2.2.3 Old Development Theories
An early approach to development emphasized the role of inequality and wealth concentration in the early stages of a country's economic development. For example, Kaldor argued that certain facts that, rich people's marginal propensity to save is higher than that of the poor, that investment needs and the need to provide incentives to reward productive efficiency, would necessitate wealth concentration, leading to a fundamental tradeoff between efficiency and social justice. And indeed, most of the earlier empirical evidence from US and most of the OECD countries supported the Kuznets hypothesis, which argued that income inequality increases during the early stages of development.

Up to 1970s, the Kuznets hypothesis seemed to work at least in the developed world, there was virtuous circle, with higher inequality leading to a higher growth which in turn reduced inequality. However, the downward trend in inequality reversed sharply in more recent years. The view that inequality is growth – enhancing was further challenged by a

number of cross country regressions, which all find a negative correlation between the average rate of growth and inequality measures (Alesina and Rodrick, 1994; Perroti, 1992, 1993, 1996; Person and Tabellini, 1994).

2.2.4 Modern Development Theory

Modern development theory studies the evolution of growth, relative income inequalities, and their persistence in unified models. In many of these models, financial market imperfections play a central role, influencing key decisions regarding human and physical capital accumulation and occupational choices. For example, in theories stressing capital accumulation, financial market imperfections determine the extent to which the poor can borrow to invest in schooling or physical capital. In theories stressing entrepreneurship, financial imperfections determine the extent to which talented but poor individuals can raise external funds to initiate projects. Thus, the evolution of financial development, growth and intergenerational income dynamics are closely intertwined. Finance influences not only the efficiency of resource allocation throughout the economy but also the comparative economic opportunities of individuals from relatively rich or poor household.

To explore the theoretical basis of access to finance, only a handful of countries in the world have broad and deep financial markets involving a significant range of non-bank financial institutions and instruments. A small sub-set of enterprises in most developing countries face the same sort of choices as enterprises in developed economies (bank credit versus debt versus equity and foreign versus domestic sourcing etc.) but most enterprises will not. This point been articulated most forcefully by the Peruvian economist De Soto (2000). He argues that only 25 out of the 200 countries in the world have reliable and legally enforceable property rights and ways in which work and savings can be converted into usable capital. The reason is the widespread absence of legally enforceable property rights in most developing countries. The main result is the predominance of informal semi-legal business activity and informal means of financing most enterprise activity: for example, there are 2.65 million small businesses in Mexico that are not legally registered for various reasons, but mainly widespread illegality, typical patterns of finance are confined to within the household and unincorporated

business sectors, and involve few, if any, intersections with formal financial institutions (Goldsmith, R. W, 1969).

Aggregate data on components of the financial sector (e.g. total bank credit or stock market turnover) typically reveal little or anything about the number of beneficiaries of finance. This is true, for example, of the most recent and most comprehensive of such data sets include; data compiled by Beck, Demirguc-Kunt and Levine (2000); Enterprise survey data that have been used in the financial structure literature such as the large IFC survey used by Singh and Hamid (1992) typically focus only on a small number of larger enterprises.

IFC data from between 50 and 100 of the largest enterprises in each of 10 low and middle-income countries (India, Korea, Jordan, Pakistan, Thailand, Mexico, Malaysia, Turkey, Zimbabwe and Brazil), have the following results that surprised the economist. Specifically, for these larger enterprises, they found out that; the large corporations relied heavily on external funds and on new issues of shares to finance their growth of net assets.

In developing countries, large enterprises used both external finance and particularly equity finance to a much greater extent than their counterparts in the advanced economies.

Other researchers have qualified these strong results and some have emphasised the small sample biases. For example, Atkin and Glen (1992), while agreeing broadly with Singh's first point above, found high levels of variation. In S. Korea, for example the average firm dependency on internal finance was only 12.8% whereas it was a high as 58% in both Pakistan and Zimbabwe (Mazani & Fatok, 2012). Mazani & Fatok (2012), continue to assert that, the limited number of enterprises impacted by these results is confirmed by the small number of stock-market listings in most developing countries and by the even smaller number of enterprises whose shares are actively traded. For example the stock markets of Brazil, Egypt, Mexico, Korea and Thailand are all quite large (number of enterprises listed being 470, 1050, 185, 720, and 390 respectively; source, World Bank Report, 2011). However, in all these cases somewhere between 40% and 75% of all

turnover is accounted for by just 5% of the listed enterprises (23, 52, 9, 36 and 19 enterprises).

The IFC results are also consistent with the proposition that international portfolio flows of finance, including those from DFIs and through foreign banks, are heavily concentrated on larger enterprises in each country but do little or nothing to relieve the financing problems of the mass of enterprises.

According to Mazani & Fatok (2012), Systematic literature on what constrains the availability of finance in developing countries is rather fragmented and not linked to the debate about exclusion in developed economies.

They identify four factors that are, commonly mentioned; the sparse coverage of rural areas by bank branch networks; an unwillingness by commercial banks to focus on rural and SME business; the very high cost of formal banking services; and the lack of financial self-sustainability for most microfinance institutions.

The acute nature of this problem in a developing country context is evidenced by experience in Kenya, a country which has a relatively developed banking sector that mobilises significant volumes of finance relative to GDP (KIPPRA, 2001). Estimates by the Kenya Bankers Association suggest that the minimum costs of setting up a rural bank branch are above €250,000.

The volume of small-ticket transactions needed to cover such costs is way above likely business volumes in poor rural areas. Even in an urban context, calculations by Peachey S. and Roe A. (2004) suggest that a basic salary account for a professional (teacher, doctor, civil servant, etc) would cost at least €10 per month to run and require a monthly income of around €8,000 for the interest on the average monthly balance on such an account to cover the charges made for using it.

2.3 Empirical Literature

Sanz, (2011), a study on improving access to finance through mobile financial services. The purpose of this research initiative is to analyse IF models based on prepaid platforms and cellular technology can address the lack of access to financial services in the vast

majority of developing countries. A review of the relevant factors that explain the lack of access to financial services was done between January – March 2011.

The study shows that mobile banking is used often because the industry beliefs in future profitability , enabling regulatory change , a dramatic fall in connectivity cost and the creation of cash handling agents using existing networks. The study focused on how Mobile banking has improved financial access.

Barako, et al, (2013), a study of a firm specific factors and access to financial services. The study was carried out in Kenya between June 2012 and February 2013. The study's main thrust is access to financial services, examining specifically firm factors associated with expanding access to financial services. Branch networks are utilized as a surrogate for access to financial factors. Regression results indicate that size is the most significant determinant of access to financial access.

Alvarez & Lopéz, (2012), find that financial development has an impact on export status in Chile but with different effects on small and large firms. Feenstra, et al. (2011) finds a positive significant role of finance for both the intensive and the extensive margins for Chinese firms. Zia (2008) in Pakistan and Kappoor, Ranjan, and Raychaudhuri(2012) in India also find a positive significant role of access to subsidized credit, the former focuses on changes in export sales after the elimination of subsidized credit to a specific segment of the textile sector, the latter on the level and growth of individual exports by subsidized firms in India.

Mbiti & Weil, (2011), a study on Mobile Banking: the impact of M-Pesa in Kenya. Their main focus was to examine how M-Pesa is used as well as its economic impacts. Analyzing data from two waves of individuals data on financial access in Kenya, they found that increased usage of M-pesa lowers the propensity of people to use informal saving mechanism such as 'Merry Go Round' but raises the probability of their being banked. The researcher also found that, M-pesa improves individual outcomes by promoting banking and increasing transfers.

2.4 Review of Local Research

Aduda & Kalunda, (2012) carried out a review of literature on financial inclusion and financial sector stability with reference to Kenya. The review focused on literature explaining financial inclusion and financial sector stability. The review revealed that financial access/ inclusion is a prerequisite to economic measures of financial inclusion which include both access and usage are not the same but supplementary.

Munga, (2010), carried out a research on the impact of mobile banking: a case study of M-pesa in the Kenyan society. The purpose of the study is to determine the economic and social impact of mobile banking such as M-Pesa to the society in Kenya. Questionnaires were used to collect primary data which was supplemented with some secondary data from safaricom's Annual Reports. Various statistical analysis techniques such as descriptive statistics, difference of means and Chi-Square test were used to measure the social economic impacts M-Pesa has had. The research proved that M-pesa had a big impact on the Kenyans lives both socially and economically.

Korir, (2012), carried out a research on the factors influencing mobile banking in Kenya: A case study of Kenya Commercial Bank in Garrissa. He focused on eliciting information from the customers of Kenya Commercial Bank. Data was collected using questionnaires and was analyzed using descriptive statistics and presented using frequency tables. The analysis showed that majority of the respondents were educated, they owned a phone, operated a bank account and had subscribed to mobile banking. This clearly indicates that people are comfortable and ready to embrace technology regardless of their level of education. Mobile banking is popular among many people.

Njenga, (2009), studied on Mobile Banking: Usage Experiences. He focused on the extent of usage of mobile banking in Kenya. The discussion of his paper was based on an analysis of the mobile phone based banking, performance in terms of outlook and appropriation objectives. The study was informed by survey on M- Banking services and demand. The findings of the research validate the view that the Kenyan mobile sector presents a delightful outlook of exploitation. Depending on the nature of activities and requisite levels of expediency users will employ M- banking in various ways.

2.5 Summary

This chapter discusses the theories relevant to the study which are classified into financial intermediation, finance growth, Old and Modern theories. It also summarizes the empirical evidences for both local and general studies.

The major studies on financial studies in the old and modern theories focused their studies on institutional access to finance. Both proponent agree that IFC results are consistent with the proposition that international portfolio flows of finance, including those from DFIs and through foreign banks, are heavily concentrated on larger enterprises in each country but do little or nothing to relieve the financing problems of the mass of enterprises.

The studies had focus on the impact of M-pesa on the Kenyan society. It had been proved that,Mpesa hadbig influences both socially and economically. Most studies indicated that Mpesa had improved livelihoods as it facilitated distribution of income. The studies carried out agreed that mobile technology used in finance increased financial access among the people.The empirical studies also have dwelt on mobile banking. Through the studies, it has been shown that, many people and banks are embracing the technology and this generated an ongoing argument on how the technology has improved financial access. The pro-technologists argue that technology has improved financial access to business enterprises while those against are citing that most enterprises in developing world are becoming worse off with technology not leaving the individual(Mazani&Fatok 2012).

Therefore, these studies, both local and general studies, have only focused on how banking and mobile banking has improved financial access to enterprises. This clearly shows that there is a knowledge gap on financial access to individuals. Therefore, this study sought to answer this question; what is the effect of M-shwari services on financial access?

CHAPTER THREE

RESEARCH DESIGN AND METHODOLOGY

3.1 Introduction

This chapter outlines the methodology used to conduct the study. Section 3.2 explains the research design that was used, section 3.3 describes the target population, and section 3.4 also describes data collection procedures and instruments were used. Section 3.4.1 discuses on instruments validity and reliability, section 3.4.1 outlines how the reliability and validity was tested on the instruments of data collection while section 3.5 describes on how data analysis was done. Finally, Section 3.5.1 describes the conceptual framework of the study and the analytical model that was used to analyses the data and further explains how the strength of the relationship between variables was determined.

3.2 Research Design

Research design refers to the way the study is designed, that is, the method used to carry out the research (Mugenda and Mugenda, 2003).

This was a descriptive research. Descriptive research is the investigation in which quantity data will be collected and analyzed in order to describe the specific phenomenon in its current trends, events and linkages between different factors at the current time. It is concerned with finding out the what, where, and how of a phenomenon (Donald and Pamela, 1998).

Descriptive design, specifically a case study of Kisii County, was used to establish the relationship between M-Shwari services and financial access in Kenya.

3.3 Population and Sample

The study population consisted of all M- Shwari users in Kisii County. According to the Safaricom annual report of April 2013, Safaricom subscribers in Kisii County are estimated to be 382,978 people from whom a sample was drawn. Simple random sampling technique was used to select a sample. The sample was selected from safaricom

dealers in Kisii County. Mugenda and Mugenda (2003), explain that the target population should have some observable characteristics, to which the study intends to generalize the results. This definition assumes that the population is not homogeneous.

The Krejcie & Morgan table of sample size selection was adopted. The below formula was used to select a sample size, which was a representative of the population (Krejcie & Daryle, 1970)

$$n= X^2N*P (P-1)/ (d^2 (N-1) + X^2P(P-1)\text{--}(1)$$

n= required sample size.

X^2= the table value of chi-square for 1 degree of freedom at the desired confidence level (3.841).

N= the population size.

P= the population proportion (assumed to be .50 since this would provide the maximum sample size).

d= the degree of accuracy expressed as a proportion or Marginal Error(.05).

At 90% confidence level and margin error of 5%, the population size 100,000 gave a sample size of 384 respondents. Mugenda and Mugenda, (2003) indicated that a sample size of 30 and above of the population is sufficient sample size for the study. The respondents werebeing selected through simple random sampling method. The researcher collected data from Kisii County for convenience purposes.

3.4 Data Collection Procedures and Instruments

Questionnaires were used to obtain important information about the population. They were self-administered drop and pick questionnaires. According to Sproul, (1998), a self-administered questionnaire was the only way to elicit self-report on peoples' opinion, attitudes, belief and values. Questionnaire containing both closed –ended and a few open ended questions were distributed to all respondents.

The study used both primary and secondary data. Primary data was the information that the researcher obtained from the field while secondary data refers to the information obtained from articles, books, newspapers, internet and journals (Mugenda & Mugenda, 2003). The secondary data was obtained from the Safaricom Website and newspapers.

3.4.1 Instruments Validity and Reliability

Reliability and validity is a major issue when it comes to research, indeed failure to assure the validity and/or reliability of the findings may cause the research to be questioned even worse rejected as invalid (Wallen & Fraenkel, 2001). Reliability refers to consistency and/or repeatability of the measurement (Cooper & Schindler, 2003), since the study use questionnaire as a method of data collection, to enhance reliability questionnaire was clear and well define in order not to confuse the respondents. Validity refers to the degree to which the measurement procedure actually measures the concept that it is intended to measure (Cooper and Donald, 2008).

Validity was addressed when writing the questionnaires in order to measure what the study was intended to; relevant questions to the area of study were asked. Respondent selected to fill the questionnaire were guided on filling the questionnaire.

3.4.2 Pre test

According to the American heritage Dictionary (2000), pretest is a preliminary test administered on a research instrument to check on its reliability and validity. This was done by issuing few questionnaires to the target population. The pretest allowed information such as clarity of question, question wording, or response categories to be tested and revision was done where it was necessary. The correction was made to the final questionnaire before issuing.

3.5 Data Analysis

The completed questionnaires were edited for completeness and consistency. A content analysis and descriptive analysis was employed. The content analysis was used to analyze the themes that emerged from the data and they were not imposed by the researcher (Braun & Clarkeb (2005). Quantitative data was coded which enabled the responses to be

grouped into various categories. Descriptive statistics were calculated and data relationships were analyzed in accordance with the objectives of the study. Factor analysis was used to rank factors that determine financial access in order of importance. The statistical package for social sciences (SPSS) and Excel was used to analyze the data.

Tables and graphical charts were used to present the data collected for ease of understanding and analysis.

3.5.1 Conceptual Model

Regression analysis was used to analyze data. Regression analysis is a statistical process for estimating the relationships among variables. It is used to understand which among the independent variables are related to the dependent variable, and to explore the forms of these relationships (Mugenda & Mugenda, 2003).

The following conceptual model was used.

$$Y = F(X_1, X_2)$$

3.5.2 Analytical Model

The following analytical model was used to analyze data.

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \varepsilon \text{---(2)}$$

Where Y = Financial Access (was measured by the number of adults per 100 who used Mshwari services for the last six months.)

X_1= Amount of Deposits Made (was measured by the amount of deposits made by individuals for the last six months.)

X_2 = Amount of Loan Advances (was measured by the amount of loan advances individuals receive for the last six months).

α: Autonomous Access to Finance

β: Slope

ε: Error

Determination of Strength of Relationship

Results of the study were recorded in a spreadsheet and transferred to SPSS for statistical analysis. Descriptive statistics and data relationships were calculated. Independent t-tests and simple analysis of variance (ANOVA) were used to look for significant relationship between M-Shwari and Financial Access. A statistical software program, SPSS (Statistical Package for Social Sciences) was used for in-depth data analyses.

CHAPTER FOUR

DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

This chapter shows findings of the study and discusses these findings in length. The study targeted low income earners, safaricom customers who are M-Shwari users. 383 respondents were studied by random sampling. Section 4.2 shows summary statistics, section 4.3 is estimated model; section 4.4 discusses the average financial access 4.5 summarizes the chapter.

4.2 Summary Statistics

4.2.1 Location of Respondents and Age of the Respondents

The primary source of information for the study was a case study of Kisii County. A sample of 383 respondents was studied. Of the 383 respondents studied, 66% were male and 34% were female. 40 % of the respondent reside in the outskirts of Kisii town, 23% reside in the near towns while 37% reside in the rural areas of Kisii. During the collection of data, all of them were visiting the safaricom customer care centre.

Table 4.1 Location of Respondents

Area of Residence	Frequency	Percentage
Outskirts of Kisii town	153	40%
Neighbouring towns	88	23%
Rural areas	142	37%
Total	383	100

Source: Authors computation

Most of the respondents are aged between 21 – 30 years. They comprised 42% of the population. Below 20 years old respondents constituted 10%, those aged between 31 – 40 years were 22%, those between 41-50 years also constituted 12% and those aged above 50 years were 14% of the population.

Table 4.2 Ages of Respondents

Age of Respondents in Years	Frequency	Percentage
0 – 20	38	10
21 – 30	161	42
31 – 40	84	22
41 – 50	46	12
Over 50	55	14
Total	383	100

Source: Authors Computation

4.2.2 Registered M-shwari Users

All the respondents were safaricom subscribers and Mpesa users. Out of 383 respondents, 40%, that is, 152 respondents were not M – Shwari services users while 60% percent of the respondents were M-shwari services, that is, 232 respondents. 17% of the respondents had used the service for more than six months. 22% of the respondents registered for the service in August, 2013, 16% registered in July, 2013, 16% registered in June, 2013, 15% registered in May, 2013, 13% registered in April, 2013, and 9% registered in March 2013.

Table 4.3 Registration for Mshwari services between January – August, 2013

Month (2013)	frequency	Percentage
January	7	4.1
February	11	5
March	22	9
April	31	13
May	34	15
June	38	16
July	37	15.9
August	52	22
Total	232	100

Source; Authors Computation

The above tabulated data is represented by the pie chart below.

Figure 4.1 Pie Chart of Registered M-Shwari Users
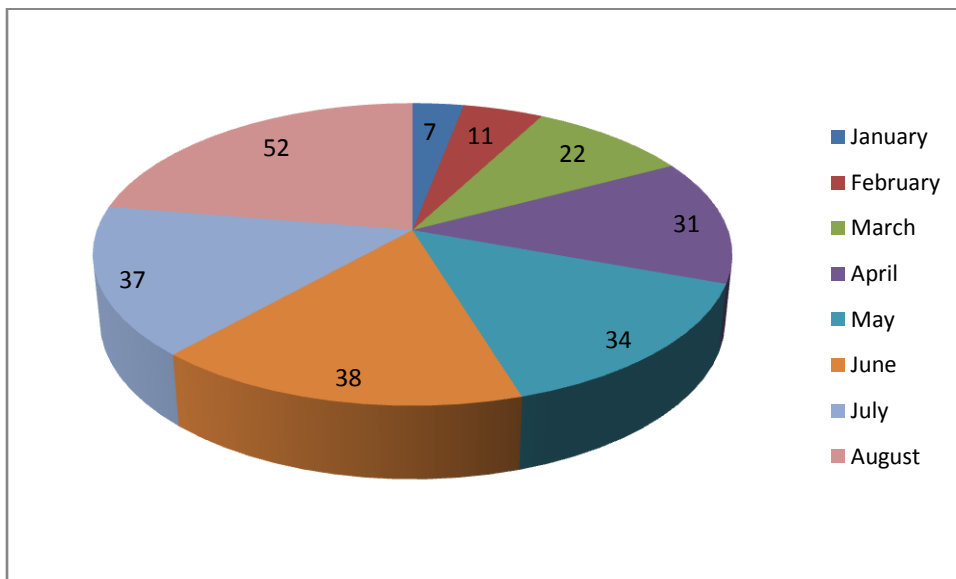
4.2.3 Amount of Deposits Made

The study sought to find out whether during the last six months, the respondents made deposits. The outcome was that 27% of the respondents who are the majority were able to make money deposits which was below five thousand Kenya shillings, 13% were able to make money deposits ranging between five and ten thousand Kenya shillings, 16% of the respondents made money deposits which was ranging between ten and fifteen thousand shillings, 9% and 3% of the respondents made deposits ranging between fifteen & twenty thousand and twenty & twenty- five thousand shillings respectively, 6% made deposits of between twenty-five & thirty thousand shillings, 13% of the respondents also deposited to their Mshwari accounts money deposits ranging between thirty & forty thousand shillings, and 12% &1% of the respondents made deposits ranging between forty & fifty thousand and above fifty thousand shillings respectively . Figure4:2 show a graphical representation of the findings.

Figure 4.2 Amount of Deposits Made
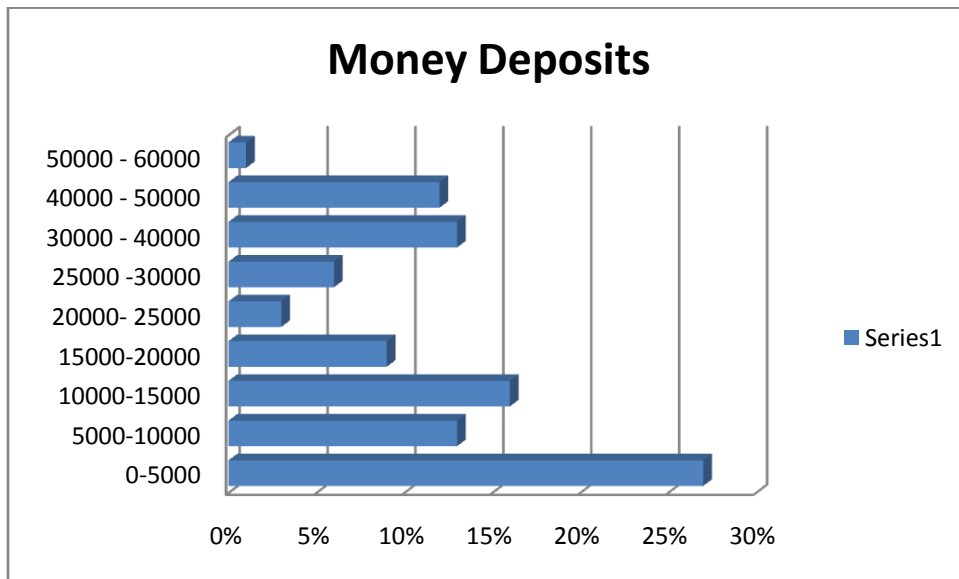
Source; Author's Computation

Figure 4.2 above shows the amount of deposits made by the respondents to their M-shwari accounts. The vertical axis shows the amount of money deposits made by respondents. The horizontal axis shows the frequency or the number of the respondents who made deposits.

Table 4.4 Money Deposits Made Monthly

Amount (kshs)	Frequency					
	March 2013	April 2013	May 2013	June 2013	July 2013	August 2013
0 – 5000	4	6	10	12	14	15
5001 – 10000	-	1	4	7	9	10
10001 – 15000	1	3	4	4	9	15
15001 – 20000	-	-	1	3	8	9
20001 – 25000	-	-	-	1	1	4
25001 – 30000	1	1	2	2	2	6
30001 – 40000	2	2	4	6	6	10
40001 – 50000	-	2	2	5	7	13
50001 - 60000	-	-	-	-	1	2
Totals	8	14	27	40	57	85

Source; Authors Computation

Table 4.4 shows the monthly deposits made by individuals for a period of six months. The results showed a general increase in the amount of deposits made by individuals. There was general increase in the number of individuals who deposited money in their accounts from 8 in March to 14 in April, to 27 in May, to 40 in June, to 57 in July and finally to 85 individuals making deposits in August 2013.

Table 4.5 Approximate Amount Deposited by Individuals

Amount (kshs)	Average amount in shs	Amount of deposits made per month in shs					
		March 2013	April 2013	May 2013	June 2013	July 2013	August 2013
0 – 5000	2500	10000	15000	25000	30000	35000	37500
5001 – 10000	7500	0	7500	30000	52500	67500	75000
10001 – 15000	12500	12500	37500	50000	50000	112500	187500
15001 – 20000	17500	0	0	17500	52500	140000	157500
20001 – 25000	22500	0	0	0	22500	22500	90000
25001 – 30000	27500	27500	27500	55000	55000	55000	165000
30001 – 40000	35000	70000	70000	140000	210000	210000	350000
40001 – 50000	45000	0	90000	90000	225000	315000	585000
50001 - 60000	55000	0	0	0	0	55000	110000
Totals		120,000	247,500	407,500	697,500	1,012,500	1,757,500

Source; Authors Computation

Table 4.5 shows an average computation of the findings of the study. There is a general increase in the amount of deposits made in the past six months. In the month of March, 2013 the total approximate amount deposited was shs. 120,000, in April the deposits increased to shs 247, 500, the same trend was realized in May whereby the amount of deposits increased to shs 407, 500, in June the deposits raised to shs 697, 500, while in July the amount went up to shs 1, 012, 500 and finally in August, 2013, the amount of total deposits of the individuals rose to shs 1,757,500.

From the findings, the above deposits shown in table 4.5, on average every individual deposited on average shs 21,658 for the past six months. The middle amount that was deposited was shs 10, 762. Most of the responded deposited in their accounts an average amount of shs 3,333 for the period of six months. The statistics also show that, the deviation from the mean was so big; it was an average of shs 14,361.

4.2.4 Credit Advance

Out of the 232 respondents who were users of Mshwari service, 134 respondents who constitute to 58% of the service users, had not borrowed money from Mshwari. They had only saved money in their accounts, while, 98 respondents, that is, 42% of the Mshwari users had borrowed money from their accounts. According to Safaricom service providers, the maximum amount that an individual can borrow from the account is shs. 20,000 per month. Figure 4.3 shows the amount that was borrowed and the number of respondents who borrowed the particular amount.

Figure 4.3 Number of Individuals and Amount Borrowed
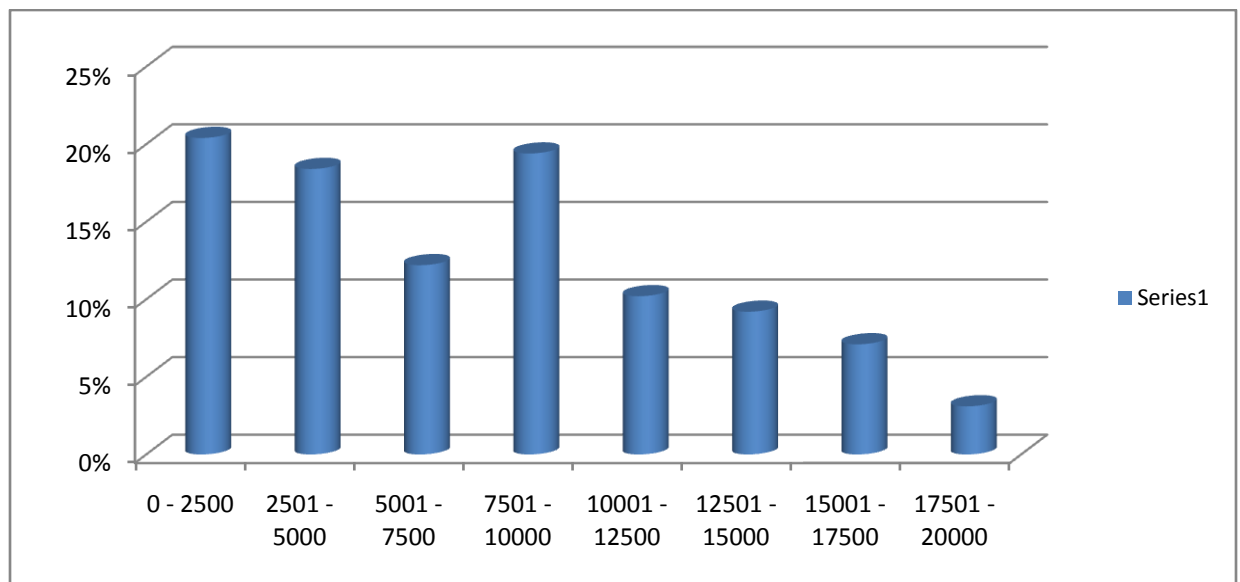
Source; Authors Computation

Figure 4.3shows that most of the individuals borrowed between sh 1 and shs.2500 and only 3.1% of the individuals borrowed between shs 17500 and shs 20000 for the period of six months between March 2013 and August 2013.

Table 4.6 Number of Respondents Who Borrowed From M-Shwari

	Number of people borrowing money per month					
Amount shs.	March	April	May	June	July	August
0 – 2500	2	1	5	3	2	7
2501 – 5000	-	1	3	5	1	8
5001 – 7500	-	-	5	2	-	5
7501 – 10000	3	2	4	3	2	5
10001 – 12500	1	1	-	-	-	8
12501 – 15000	1	-	-	6	-	2
15001 – 17500	-	-	3	-	1	3
17501 – 20000	-	-	2	-	-	1
Totals	7	5	22	19	6	39

Source; Authors Computation

Table 4.6 shows that in March only seven respondents borrowed, the number dropped to five in April and in May the number rose sharply to 22 and June the number borrowed to 19, in July the number of people who borrowed money from Mshwari reduced to six and in August the number rose to 39. Therefore, there was no clear trend of borrowing. Most of the individuals borrowed money during school opening months.

Table 4.7 Approximate Amount Borrowed Per Month

Amount shs	Average	Amount in shillings borrowed per month					
		March	April	May	June	July	August
0 – 2500	1250	2500	1250	6250	3750	2500	8750
2501 – 5000	3750	0	3750	11250	18750	3750	30000
5001 – 7500	6250	0	0	31250	12500	0	31250
7501 – 10000	8750	26250	17500	35000	26250	17500	43750
10001- 12500	11250	11250	11250	0	0	0	90000
12501 – 15000	13750	13750	0	0	82500	0	27500
15001 – 17500	16250	0	0	48750	0	16250	48750
17501 – 20000	18750	0	0	37500	0	0	18750
Totals		53750	33750	170000	143750	40000	298750

Source; Authors Computation

Table 4.7 clearly shows that there is no trend in borrowing compared to the amount of deposits made which showed an upward trend (table 4.5). Individuals borrowed on average shs 7,184 for the period of six months. The middle amount borrowed was shs. 7,762. Most individuals' borrowed an average amount of shs. 2,272. The borrowing deviated by shs 6,624 from the average amount. This shows that, the amount borrowed by individuals is sparsely distributed.

The amount of deposits made in Mshwari account, increased greatly as the number of registered Mshwari users increased. This showed that there was an increase in financial access as individuals were able to save and borrow more. The people who benefited most were those with school going children, business people and college student.

4.3Results of Regression Analysis

For statistical analysis, multiple regression was used, dependent variable being financial access (Y) which was measured by the number Mshwari accounts registered per month and independent variables being measures of financial access (Xi), explained in analytical model. Below is the regression output.

Table 4.8 Regression Statistics

Regression Statistics	
Multiple R	0.72
R Square	0.55
Adjusted R Square	0.44
Standard Error	0.77
Observations	383.00

Source; Authors Computation

R-squaremeasures the proportion of the variation in the dependent variable (financial access) that was explained by variations in the independent variables (measures of financial access). From regression analysis R-Square tells us that 55% of the variation was explained. $R^2 = 55\%$ means that 55% of the variation of y_i around y' (its mean) is explained by the regressors X_1 and X_2

Adjusted R-square Measures the proportion of the variance in the dependent variable that was explained by variations in the independent variables. Adjusted R Square of 0.44 shows that 44% of the variance was explained.

Table 4.9: Anova Table

ANOVA					
	Df	*SS*	*MS*	*F*	*Significance F*
Regression	3.0000	14361	21658	3.8900	0.0016
Residual	10.0000	6624	7184		
Total	13.0000	20985			

Source: Author's Computation

The column labeled F gives the overall F-test of H0: $\beta_j = 0$ versus Ha: at least one of β_j does not equal zero. The column labeled significance F has the associated P-value. Since $0.0016 > 0.05$, we do not reject H0 at significance level 0.05.

A simple summary of the regression analysis which is a fitted line as shown below represents the data analyzed by table 4.10.

$$Y= -434.83 + 0.5669X_1 + 0.5891X_2 \text{---ii}$$

Table 4.10: Coefficient Matrix

		Coefficients	Standard Error	t Stat	P-value(one sided)	P- Value (two-sided
X_i	**Intercept**	-434.83	83.77	-5.19	0.0200	0.0400
X1	Deposits	0.5669	2.66	0.21	0.4219	0.8439
X2	Credit Advance	0.5891	0.13	4.53	0.0053	0.0106

Source: Author's Computation

Column "Coefficient" gives the least squares estimates of β_j. Column "Standard error" gives the standard errors (i.e. the estimated standard deviation) of the least squares estimates b_j of β_j. Column "t Stat" gives the computed t-statistic for H0: $\beta_j = 0$ against Ha: $\beta_j \neq 0$. This is the coefficient divided by the standard error. It is compared to a t with (n-k) degrees of freedom where here n = 6 and k = 2. Column "P-value" gives the p-value for test of H0: $\beta_j = 0$ against Ha: $\beta_j \neq 0$. This equals the Pr{|t| > t-Stat}where t is a t-distributed random variable with n-k degrees of freedom and t-Stat is the computed value of the t-statistic given in the previous column. This p-value is for a two-sided test. For a one-sided test divide this p-value by 2 (also checking the sign of the t-Stat). Columns "Lower 95%" and "Upper 95%" values define a 95% confidence interval for β_j.

Test of Statistical Significance

The coefficient of amount of deposits has estimated standard error of 2.66, t-statistic of 0.21and p-value of 0.14. It is therefore statistically significant at significance level α = .05 as p > 0.05. The coefficient of credit advanced has estimated standard error of 0.13, t-statistic of 4.53and p-value of 0.74 .It is therefore statistically significant at significance level α = .05 as p > 0.05.

4.4Discussion

The study showed that financial access improved steadily. The number of registered Mshwari users grew month after month, from January 2013 to August 2013. With increase in Mshwari service users, there was an increase in the amount of deposits made.

The amount of credit advanced to customer also increased with the increase of number of registered Mshwari users. Some months, for instance, April and July 2013, the amount extended to customers was low this was attributed to the need for the finances. This is contrary to the deposits, which were increasing steadily.

Figure 4.4 Amount of Deposits and Loans Advanced
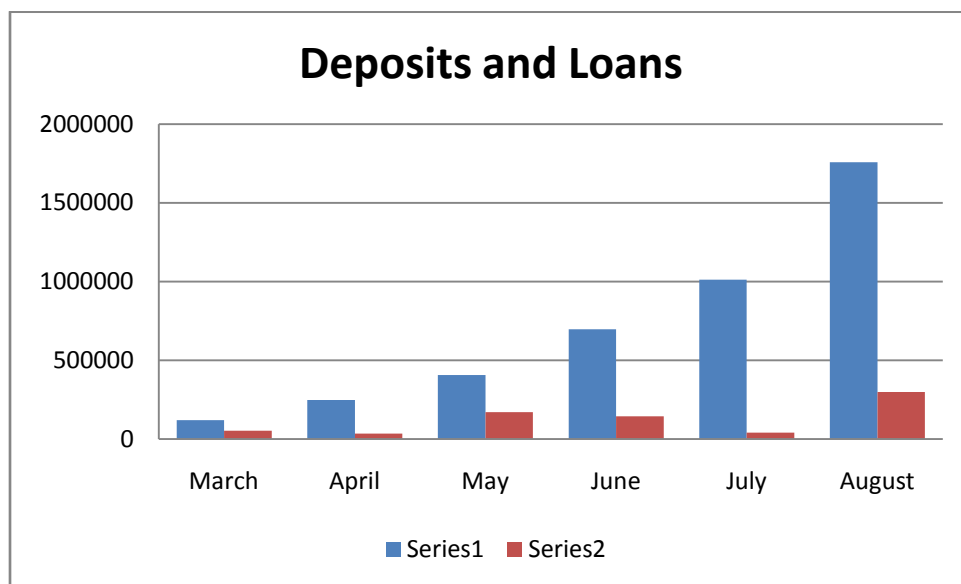
Source: Author's Computation

Series 1 show the amount of deposits made while series 2 shows the amount borrowed. The deposits are higher than loans advanced. This indicated that, the low income earners did not have a saving service that was friendly. Therefore, Mshwari services had improved the access to financial services to the individuals who were not able to operate a bank account with the bank.

From the regression analysis, the variable X_2 (amount of credit advanced) is significant in determining the access to finance. The Variable X_1 is less significant. Therefore, this

study has shown that, though the two variables affect the level of financial access to individuals, the amount of credit advanced is more significant.

4.5 Summary

The data collected was useful in answering the research question: what is the effect of M-shwari services on financial access in Kenya? From the analysis of data collected, amount of money deposited in the Mshwari accounts and the money borrowed from Mshwari had a great effect on financial access of low income earners.

From data analysis, amount deposited to Mshwari account increased as the number of registered Mshwari users increased. This depicts that, financial access of low income earners was significantly increased by the service of Mshwari. Moreover, the amount of loans extended to customers also increased as the number of registered Mshwari users increased. This service has put ready money at the customers' disposal, thereby increasing access to finance.From significance testing, the variable X_2 (amount of credit advanced) is significant in determining the access to finance. The Variable X_1 is less significant. Therefore, this study has shown that, though the two variables affect the level of financial access to individuals, the amount of credit advanced is more significant.

The expected relationship of the independent and dependent variables is a positive linear relationship. Regression analysis show a strong positive relationship between dependent variable (financial access) and independent variables Xi. The correlation coefficient showed an almost perfect correlation. This is also supported by the coefficient of determination which indicated that over 50% variation was explained by both variables.

CHAPTER FIVE

SUMMARY AND CONCLUSIONS

5.1 Introduction

This chapter reviews the key findings from data analysis and provide conclusions of this study. Section 5.2 of this chapter provides the summary of key findings from data analysis, section 5.3 provides the research conclusions, section 5.4 explains the limitations of the study and section 5.5 gives recommendations for further research.

5.2 Summary of the Study

Mshwari is the revolutionary new banking product for Mpesa customers that allow an individual to save and borrow right from a mobile phone while earning interest on money saved. The literature on Mobile technology innovations and how it has improved the access to finance by the low income earners in Kenya is not available. Specifically, few studies have been done on the contribution of mobile banking to financial access. The contribution of M-shwari services to financial access has not been researched being a new product rolled out by Safaricom Limited in November, 2012.

This study aimed to conduct a comprehensive research on the impact of M-shwari services on financial access. The study focused on households who are low income earners in Kenya. This group is critical to Kenya as the country is looking forward to become newly industrialized country by the year 2030. Therefore, this study sought to answer the following research question; what is the impact of M-shwari services on financial access in Kenya? The result expected was a strong positive correlation between M-shwari services and financial access. The main objective that the study aimed to achieve was to establish the effect of M-Shwari services on financial access in Kisii County.

The analysis covereda period of Six months, starting from March, 2013 to August, 2013. This was so because M-shwari service was rolled out by safaricom Ltd partnering with CBA ten months ago. A range of approaches and results are discussed within a unified framework; regression analysis was used to analyses the variables. To comparatively

examine the individual impact of the two major variables, namely; Amount of deposits made and amount of money borrowed; acase study in Kisii County was carried out and an instrument testing the two variables was developed and data was generated by conducting an interview with the help of questionnaires. The questionnaires were self-administered on randomly sampled respondents in Kisii County.Three hundred and Eighty Three questionnaires were administered to Mpesa Safaricom Subscribers. The target population included all safaricom Mpesa users in Kisii County. Quantitative primary data was collected using structured questionnaires. Data collected was first edited in order to check for completeness. Thereafter, it was coded and formatted before being analyzed to obtain percentages and frequency distribution tables.

The results from data analysis show that, only 61% of individuals interviewed made deposits to their Mshwari accounts. 39% did not make any deposits to the accounts and are consequently not registered for the service. The number of people registering for the service increased steadily between March 2013 and August 2013. This showed that as time goes by and awareness of the service being created, more people are accessing the service and are able to access finance and their comfort. The amount deposited to Mshwari account increased as the number of registered Mshwari users increased. This again depicts that, financial access of low income earners was significantly increased by the service of Mshwari.

Moreover, for credit advance it was found that 42% of the individuals borrowed from Mshwari accounts. 58% of the respondents did not borrow citing the reason being that they dint have the reason for borrowing and their interest was on saving little by little. The amount of loans extended to customers also increased as the number of registered Mshwari users increased. This service has put ready money at the customers' disposal, thereby increasing access to finance.

Regression analysis show a strong positive relationship between dependent variable (financial access) and independent variables Xi. The correlation coefficient showed an

almost perfect correlation. This is also supported by the coefficient of determination which indicated that over 50% variation was explained by both variables.

The study concluded thatM-shwari services had an effect on the amount of deposits made to the accounts that were opened; the services provided a door for saving little amounts of money for as low as sh. 1. This therefore, increased access to finance and financial services to low income earners who are not able to operate a bank account. Secondly, Mshwari services also had an effect on financial access through credit advances. Access to finance was improved to low income earners, because they were able to access cheap loans of which they were not able to get. This independent variable had more effect to financial access compared to amount of savings made.

5.3 Conclusions

From data analysis in chapter four, the study it is concluded that, M-shwari services had an effect on the amount of deposits made to the accounts that were opened; the services provided a door for saving little amounts of money for as low as sh. 1. This therefore, increased access to finance and financial services to low income earners who are not able to operate a bank account.

In addition, Mshwari services had an effect on financial access through credit advances. Access to finance was improved to low income earners, because they were able to access cheap loans of which they were not able to get. This independent variable had more effect to financial access compared to amount of savings made.

Finally, Individuals financial needs are depended on their age, level of education and gender. From the study, it was noted that most of the individuals who saved relatively large amount were graduates they constituted 54% of the respondents. 40% of the respondents aged between 31 – 40 years, then followed by those aged between 21 – 30 years, who were 37% of the respondents. 66% of the respondents were male while 34% were female. Financial access improved as the amount of savings increased and amount being borrowed increased.

5.4 Limitations of the Study

This research did not go without challenges. To begin with, is the challenge of time. Time was limited for this study. One month was not enough to collect comprehensive data. Study needed a period not less than three months. Therefore, subsequent studies in this area should dedicate more time, so as to collect more in depth data.

Secondly, the study also was faced with the challenge of finances. This made the researcher to be limited in geographical coverage. The study only covered a tiny fraction of the population. It only focused on customers who visited the retail centre in Kisii Town. This was majorly as a result of inadequate finances.

Thirdly, another limitation was on disclosing the amount of money they had deposited or borrowed. Most of the respondents were not ready to disclose the amount they had borrowed from or deposited to their accounts. We took a lot of time convincing them that we were not fraud stars.

Fourthly, the research was faced by various unexpected interferences which sometimes ended into premature discontinuation. These interferences were caused by respondents who needed to attend to their businesses; some could excuse themselves and say they were in a hurry. Some respondents opted not to respond to some questions, increasing the number of missing values. Some respondents treated us with suspicion because they thought perhaps we were spies from the government.

Fifthly, language barrier especially to the uneducated and aging above 50 years, found it hard to communicate in English. We had to interpret the questions to their native language which sometimes took a lot of time to get information from the respondents.

Finally, it was very evident that some respondents expected compensation for the information they diverged. Some even asked openly whether they would get 'something' for their information. This also posed a big challenge.

5.5 Recommendations for Further Research

To begin with, the results of this study reveal only two variables and how they affect financial access. I would recommend more research to be done on the factors that affect financial access in Kenya. This area lacks information because many researchers have shied away from this area of study.

In addition to the above, future researchers should consider widening the scope of the population. This is because, this study only concentrated in Kisii County. Therefore, future researchers should consider doing the same research topic but in different locations that were not covered in this study.

Finally, consider future researchers can consider topics which intend to analyse the effect of Mshwari services to the economic ability of Mshwari users, the effect of Mshwari services on the performance of small business and also, the effect of Mshwari services on the financial performance of the banking sector.

REFERENCES

Aduda J & Kalunda E., (2012), Financial Inclusion and Financial Sector Stability with Reference to Kenya, *Journal of Applied Finance and Banking*, Vol 2 No.6 Pg 95-120

Barako D. G., Ross T, and Brown N, (2013), Firm Specific Factors and Access to Financial Services, *Journal of Finance*, The World Bank.

Central Bank of Kenya. (2008, December 31). *The Annual Economic Report*. Retrieved June 29, 2013, from Central Bank of Kenya:http://goo.gl/BXWKG

Chibba M.,(2009), Financial Inclusion, Poverty Reduction and the Millenium Development Goals, *European Journal of Development Research*, Sinclair S, McHard F. Dobbie l.

Cooper, and Donald R, (2008).*Business Research Method*. Columbus; McGraw-Hill Companies

Demirguc-Kunk A. Beck T. and Honohan P. (2008), *Finance for all: Policies and Pitfalls in expanding Access.* Washington D.C. The World Bank.

De Soto H., (2000), *The mastery of capitalism triumphs in the west and fails everywhere else*. New York : Bantam Press Random House.

Gold smith, R. W., (1969), *Financial structure and economic development*. Yale University Press; New Haven.

Kenya, Republic of, (2011), *Kenya population census 2009*. Nairobi: Government Printer.

Kenya, Republic of, (2004), *2004- 2009 Kisii Central District Development plan*. Nairobi:Government Printer.

Krejcie, R., & Daryle, M. (1970).*Determining Sample Size for Research Activities.* Education Psychology, 607-670.

Kippra, (2001), *Legal and other constraints on Access to Financial services in Kenya.* Kippra Special report, Nairobi.

Korir G., (2012), *Factors Influencing Mobile Banking in Kenya: A Case Study of Kenya. Commercial Bank in Garissa.*MBA project; University of Nairobi.

Ledgerwood, J., (1998), *Microfinance Handbook: An institutional and financial perspective*. Washington D.C.: The World Bank.

Mbiti I. and Weil D. N., (2011), *Mobile Banking: The Impact of M-pesa in Kenya.* National Bureau of Economic research; Massachusette Avenue, Camridge.

Mugenda M. O. and Mugenda G. A., (2003), *Quantitative and Qualitative Approaches*, ACTS Press: Nairobi, Kenya

Munga, K. G., (2010), *Economic and Social Impact of Mobile Banking to the Society of Kenya*. An MBA Project, University of Nairobi.

Musara M. and Olawale F., (2012), Access to Finance in the SME Sector: A south African perspective.*a Journal of Business management*, Johannesburg: South Africa.

Ndebbio J., (2004), *Financial Deepening, Economic Growth and Development: Evidence from selected sub- Saharan African Countries,* African Economic Consortium (AERC), Nairobi, Kenya

Ngai P. and Kumssa A., (2004), *Research Design, Data Collection and Analysis: A training Manual.*United Nations Centre for Regional Development.

Ngechu, M. (2004).*Understanding the Research Process and Methods: An Introduction to Research Methods.*Nairobi: Acts Press.

Njenga A. K., (2009), *Mobile Phone Banking: Usage Experiences.* Research Paper; Catholic University of Eastern Africa.

Peachey, S., (2004), *Comment Government of Kenya Stakeholders forum on financial sector Reforms.*Mombasa.

Peachey S. and Roe A., (2004), *Access to Finance; a study for the World saving Bank Institute*.Oxford Policy Management. Brussels.

Richardson B., (2008), *Enhancing customer segmentation processes and optimizing Adoption Techniques to support efforts to bank the "unbanked", Mobile Banking and Financial Services.African Conference,* Johannesburg, South Africa.

Sanz F. P., (2011), *Access to Finance through mobile financial services*. IESE Business School.

Serrao M., Sequeira A. H. And Hans B. V. (2012), *Designing a Methodology to Investigate Accessibility and Impact of Financial Inclusion*, Retrieved on July 22nd 2013, from http://ssrn.Com/abstract=2025521.

APPENDICES

QUESTIONNAIRE

Instructions: Please respond to the following questions and where applicable, mark the relevant box with a tick (√).

Confidentiality: The responses you provide will be strictly confidential. No reference will be made to any individual(s) in the report of the study.

PART A: BACKGROUND INFORMATION

Respondents Profile

1. What is your gender?

   [   ] Male   [   ] Female

2. In which of the following age brackets do you belong?

   [   ] Below 20 years   [   ] 21-30 years   [   ] 31-40 years [   ] 41-50 years

   [   ] Above 50 years

3. What is your education level (state the highest level?)

   [   ] O level   [   ] Certificate   [   ]   Diploma

   [   ] Undergraduate   [   ] Post Graduate   [   ] others
(specify)

4. Are you a registered M-Pesa user?

   Yes [   ]   No [   ]

5. Have you used M-shwari services in the past six months?

   Yes [   ]   No [   ]

PART B: EFFECT OF DEPOSITS

1. Do you make deposits to your M-Shwari Account?

    Yes [   ]   No [   ]

2. If yes, how often do you make deposits to your M-shwari account?

    Weekly [   ]   Monthly   [   ]

    Quarterly [   ]   Any other (specify)………………………………..

3. Approximately, how much have you deposited within a period of the last six months in your M-Shwari account? (Tick the appropriate Bracket)

    Amount in Shs.

    100 – 5000   [ ]

    5001- 10,000   [ ]

    10,001-15,000   [ ]

    15,001–20,000   [ ]

    20,001 – 25,000   [ ]

    25,001 – 30,000   [ ]

    30,001 – 40,000   [ ]

    40,001 – 50,000   [ ]

    50,001 – 60,000   [ ]

4. Have your deposits increased for the last six months?

    Yes [   ]   No [   ]

5.   From (4) above, if yes, by how much?

Kindly specify the amount…………………………………………………………...

6. For how long do the deposits remain in the account before you withdraw?

    Kindly specify the period…………………………………………………………….

PART C: EFFECT OF CREDIT ADVANCES.

7. Have you ever borrowed from M-Shwari?

    Yes [   ]   No [   ]

8. How often do you borrow from M-Shwari?

    Weekly [   ]   Monthly [   ]

    Quarterly [   ]   Any other (specify) ………………

9. Approximately, how much have you borrowed within a period of six months? (Tick the appropriate Bracket)

    Amount in Shs.

    100 – 2,500   [ ]

    2,501- 5,000   [ ]

    5,001-7,500   [ ]

    7,501–10,000   [ ]

    10,001 – 12,500   [ ]

    12,501 – 15,000   [ ]

    15,001 – 17,500   [ ]

    17,501 – 20,000   [ ]

10. Have loan limit increased for the last six months?

Yes [   ]   No [   ]

11. From (10) above, if yes, by how much has it increased?

    Kindly Specify……………………………………………………………………

12. Why have you preferred to borrow from M-Shwari?

    …………………………………………………………………………………………
    …………………………………………………………………………………………

PART D: GENERAL INFORMATION

1. If you are not a user of M-shwari service, what has limited you from using the
    service?..
    ....
    ....

2. Which other service do you use to access finance? (Can tick more than one)

    Bank [   ]   SACCOs [   ]   Merry-Go-Round [   ]

    Any other (specify)……………………………..

3.   What has led to the choice? (Explain in your own words)

…………………………………………………………………………………………………
…………………………………………………………………………………………………

4. What would you want to be improved on M-shwari services in order to increase
    access to finance?

…………………………………………………………………………………………………
…………………………………………………………………………………………………
…………………………………………………………………………………………………

THANK YOU FOR YOUR RESPONSE