

**MOBILE BANKING AND FINANCIAL PERFORMANCE OF
MICROFINANCE INSTITUTIONS IN KENYA**

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DECLARATION

This research project is my original work and has not been submitted for examination in any other university.

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

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ABBREVIATIONS AND ACRONYMS

ATM:	Automated Teller Machines
CBK:	Central Bank of Kenya
MFBS:	Micro Finance Banks
CBK:	Central Bank of Kenya
ROSCAs:	Rotating Savings and Credit Associations
SMEP:	Micro Enterprise Programme
ROAA:	Return on Average Assets
EQTA:	Ratio of equity to total assets
CGAP:	Consultative Group to Assist the Poor
NPLs:	Non-performing loan
NSE:	Nairobi Securities Exchange
ANOVA:	Analysis of Variance
SPSS:	Statistical Package for Social Science

ABSTRACT

The Microfinance institutions in Kenya has experienced turbulent times following the collapse of many banks in the 1990s. In order to minimize their operational costs, these institutions banks have adopted internet banking including ATMs, mobile banking and internet banking where customer can access their accounts on their personal computers. Mobile banking offers millions of people a potential solution in emerging markets that have access to a cell phone, yet remain excluded from the financial mainstream. It can make basic financial services more accessible by minimizing time and distance to the nearest retail bank branches as well as reducing the bank's own overheads and transaction-related costs. Data on listed firms is readily available and regarded credible for use. Four microfinance institutions were used in the analysis upon which regression analysis and the SPSS analytical software were used to analyze the data. The research found that there was a significant relationship between mobile banking and financial performance of the microfinance institutions. Microfinance financial performance was also found to vary in the different years under study. Mobile banking was therefore one of the factors that influenced the value of the microfinance financial performance. Further research is therefore necessary to establish the effect of the same in other categories of even major financial institutions

CHAPTER ONE: INTRODUCTION

1.1 Background to the Study

Technology is consistently cited as one of the greatest challenges faced by microfinance institutions (MFIs) around the world. It is widely recognized that technology is invaluable for improving efficiency, accuracy, increasing outreach and reducing costs. However, many MFIs lack sufficient funds to invest in suitable backend technologies, or operate in regions where access to critical infrastructure – such as the Internet – remains scarce. Still others sink funds into poor technology investments, or simply choose not to invest, limiting their ability to grow and compete (Rosenberg, 2009, 3).

Mobile banking refers to provision and availment of banking and financial services through the help of mobile telecommunication devices. Mobile banking allows transacting of financial transactions using mobile phones and other related devices, where they are able to make transfers between bank accounts and view account balances or settle bills. The customers are able to access online banking services, while at the same time receiving full range of banking operations (Alam, 2003). According to Coeiho (2003), one of the main strategies for growth and a major focus for mobile network providers and banking industry, is the mobile banking and the potential it offers in providing various services.

Financial performance is a measure of a Bank's policies and operations in monetary terms. It is a general measure of a firm's overall financial health over a given period of time, and can be used to compare similar firms across the same industry or to compare industries or sectors in aggregation (Lee, 2003). There are many different

ways to measure a bank's financial performance. This may be reflected in the firm's return on investment, return on assets, value added, among others and is a subjective measure of how a firm can use assets from its primary mode of business and generate revenues (Schon, 2008).

Microfinance institutions are financial institution specializing in banking services for low-income groups or individuals. A microfinance institution provides account services to small-balance accounts that would not normally be accepted by traditional banks, and offers transaction services for amounts that may be smaller than the average transaction fees charged by mainstream financial institutions Otero, (1999: 8) says in essence that microfinance is 'the provision of financial services to low-income poor and very poor self-employed people' Schreiner and Colombet, (2001) on the other hand define microfinance as 'the attempt to improve access to small deposits and small loans for poor households neglected by banks.'

Independent of the definition provided to microfinance it is a general agreement in the economic field that micro financing alleviates economic development. The concept of microfinance in most instances has been used interchangeably with microcredit imploring that they have the same meaning. However microcredit and microfinance are two different concepts. In an attempt to explain the difference between microcredit and microfinance. Sinha, (1998: 2) states that, "microcredit refers to small loans, whereas microfinance is appropriate where non-governmental organizations (NGOs) and microfinance institutions (MFIs) supplement the loans with other financial services (savings, insurance, etc.)". This definition indicates that microcredit is part of microfinance since it involves providing credit to the poor.

Microfinance is an overall concept as it involves both credit and non-credit financial services such as insurance, savings, pensions and other payment services. Microfinance institutions, given the nature of their objective of ensuring that the poor are able to access financial services, operate in several models. The most commonly identified models of operations of microfinance institutions include the Rotating Savings and Credit Association (ROSCAs), the Grameen Bank and the Village Banking models.

1.1.1 Mobile Banking

Mobile banking services enabled facilitation and movement of money from the microfinance institutions to the poor members of the society in both urban and rural centres at transaction costs that are much cheaper than those offered by commercial banks, which in the process has enabled the banks to reach the unbanked resulting in tremendous growth in the banking industry (Jenkins, 2008). The easy access and availability of the mobile phone and its convenience in size and use brought additional value and created opportunities to both mobile service providers and customers, among others. Commercial banks are now able to reach many more new customers than before while at the same time providing them with banking services at their convenience anywhere in the country, while existing and new customers are enjoying the increased security and affordability of the services and devices (Jenkins, 2008).

The scope of offered services may include facilities to conduct bank and stock market transactions, administer accounts and to access customized information. The growing convergence of use for mobile services to network operators, manufacturers of these devices, content providers, financial services providers, and demand by consumers

has applied pressure on the industry in general (Karjaluo, 2002). It therefore means that the evolution of mobile banking will be following the internet banking. Mobile banking is an innovation that has progressively rendered itself in pervasive ways cutting across several financial institutions and other sectors of the economy. Mobile banking has advanced from providing mere text messaging services to that of pseudo internet banking where customers could not only view their balances and set up multiple types of alerts but also transact activities such as fund transfers, redeem loyalty coupons, deposit cheques via the mobile phone and instruct payroll based transactions (Vaidya 2011). KPMG International (2009) notes that mobile phones are being used as ideal alternative to personal computers and the challenge is for the network operators to provide services that is trustworthy and has added value for the consumers. The fast-changing competitive environment, globalization, economic changes, regulation, privatization and the like demands that microfinance are run efficiently and effectively by continuously engaging in financial innovations. A positive aspect of mobile phones is that mobile networks are available in remote areas at a low cost. The poor often have greater familiarity and trust in mobile phone companies than with normal financial institutions (Nyangosi et al. 2009).

1.1.2 Financial Performance

Financial performance is the process of measuring the results of a firm's policies and operations in monetary terms and usually measures the firm's overall financial health over a given period of time and can also be used to compare similar firms across the same industry or to compare industries or sectors in aggregation (Noveu, 1981).

Financial performance is essential to the survival of firms in the competitive and uncertain environment. Management is eager to learn how the effort of service quality

improvement is related to an organization's performance (Sousa & Voss, 2002). Financial performance ultimately reflects whether or not service quality is realized in a firm. Financial performance is conceptualized as the extent to which a firm increases sales, profits, and return on equity. These are indicators of financial performance and manifest the wellbeing of a firm collectively. Performance is the outcome of all of the organization's operations and strategies (Wheelen & Hunger, 2002). Measuring financial performance accurately is critical for accounting purposes and remains a central concern for most organizations. Performance measurement systems provide the foundation to develop strategic plans, assess an organization's completion of objectives, and remunerate managers (Ittner & Larcker, 1998). While consensual measurement of performance promotes scholarly investigations and can clarify managerial decisions.

1.1.3 Mobile Banking and Financial Performance

Financial institutions have been in the process of significant transformation. The force behind the transformation of these institutions is innovation in information technology. Information and communication technology is at the Centre of this global change curve of mobile and internet banking in Kenya. Rapid development of information technology has made banking tasks more efficient and cheaper. Strategic management in financial institutions demand that they should have effective systems in place to counter unpredictable events that can sustain their operations while minimizing the risks involved through technological innovations. Only financial institutions that are able to adapt to their changing environment and adopt new ideas and business methods have guaranteed Survival. Some of the forces of change which have impacted the performance of financial institutions mainly include technological advancements such as use of mobile phones and the internet.

Mobile banking applications are continuously being developed and have now become banks' favourite channels for offering banking services. According to Coelho (2003), one of the main strategies for growth and a major focus for mobile network providers and the banking industry, is the mobile banking and the potential it offers in providing various services. For instance, the mobile banking applications would enable offering of real-time 2-way data transmission, banking services, among other services (Daniel, 1999). Mobile banking presents an opportunity to reduce transaction costs by replacing costly labor with less expensive, automated technology and decreasing transportation costs associated with disbursing loans and collecting payments (CGAP, 2009). A recent study by the Clinton Foundation estimates that mobile money may reduce transaction costs for MFIs by up to 80 percent.

1.1.4 Microfinance Institutions

Because of the ability of microfinance to reduce poverty alleviation and enhance economic development by providing credit and savings services to those people earning low incomes. The attention has seen development of different definitions to microfinance. Otero, (1999: 8) says in essence that microfinance is 'the provision of financial services to low-income poor and very poor self-employed people'. Schreiner and Colombet, (2001) on the other hand define microfinance as 'the attempt to improve access to small deposits and small loans for poor households neglected by banks.' Independent of the definition provided to microfinance it is a general agreement in the economic field that micro financing alleviates economic development. The money or funds that are provided by microfinance institutions in terms of credit and micro loans enables those who are poor to invest into productive activities that are bound to earn them income helping them boost their economic level

and alleviate poverty in the entire economy. Microfinance institutions therefore are an opportunity for sustainable development.

A developed Micro finance system broadens access to funds; conversely, in an undeveloped financial system, access to funds is limited and people are constrained by the availability of their own funds and have to resort to high cost informal sources such as money lenders. Access to a well-functioning financial system, by creating equal opportunities, enables economically and socially excluded people to integrate better into the economy and actively contribute to development and protects themselves against economic shocks. The financial system is expected to provide its function of transferring resources from surplus to deficit units. Inclusive finance, including safe savings, appropriately designed loans for poor and low-income households and for micro, small and medium-sized enterprises, and appropriate insurance and payments services can help people to enhance incomes, acquire capital, manage risk, and come out of poverty (Srikanth, 2013). In its primary role, the financial sector brings savers and investors together, theoretically channeling investment funds to the uses that yield the highest rate of return, thus increasing specialization and the division of labor risk is pooled, transferred, and reduced by commercial banks while liquidity and information increase through the use of progressively more sophisticated financial products and technology. Technology and innovation in financial services not only increases access to finance but also accelerates the rate of the access (Todaro & Smith, 2003).

The rapid pace of technological change in the financial sector has led to the development of new products and forms of settling payments. In Kenya, mobile phone payment platforms such as M-Pesa dramatically changed the financial

landscape by offering customers a simple efficient and cost-effective method of savings, transfer money and make payments. In addition, government regulations such as the Kenyan National Payment System have also spurred investments in technologies that facilitate the instantaneous flows of finances between institutions. Specifically the production of the real Time Gross settlement system and the production of the electronic check clearing system have improved the efficiency of the banking system (Weil, Mbiti & Mwega, 2012).

These technological changes i.e. introduction of new products like M-Pesa, agency and mobile banking, rolling of bank branches, ATMs among others have not only brought new avenues for access of financial services but also impacted on the number of people accessing these services. Notably the introduction of mobile money coupled with its high penetration has enhanced access to finance and greatly contributed to financial inclusion albeit prudentially unregulated. Mobile technology has brought new possibilities to the continent. Across urban-rural and rich-poor divides, mobile phones now connect individuals, markets and services (Aker & Mbiti, 2010).

After the coming to effect of the microfinance Act on 2nd May 2008, a number of existing micro-finance institutions applied for licenses to allow them to take deposits from members and the general public. The principal objective of the Microfinance Act is to regulate the establishment, business and operations of microfinance institutions in Kenya through licensing and supervision. In a report by Aron (2011), there are currently six Deposit-taking MFIs, whereby one is community based and the other five are nation-wide. The nation-wide DTMs are; Kenya Women Finance Trust DTM Limited, Faulu Kenya DTM Limited, Small and Micro Enterprise Programme

(SMEP), Rafiki DTM Limited and Remu DTM Limited. Uwezo DTM is a community-based DTM and will not be included in this study. In addition, given that the study is aimed at assessing the trend and movement in financial performance, the research will be carried out on nation-wide Microfinance Institutions covering a period five-years. This study will focus on Micro finance because of its attractiveness to the poor in the Community.

1.2 Problem Statement

Member of the CGAP (2009) recently identified administrative costs, especially transaction costs, as the primary cause of high MFI interest rates, particularly in rural and disconnected markets. Mobile banking presents an opportunity to reduce transaction costs by replacing costly labour with less expensive, automated technology and decreasing transportation costs associated with disbursing loans and collecting payments (CGAP, 2009). The concept of mobile banking creates a perfect opportunity to influence the financial performance of Microfinance institutions through cost reduction.

Technology has greatly advanced playing a major role in improving the standards of service delivery in the financial institution sector. Roldos (2006) argued that one major aspect of growth is the financial performance of firms in the competitive environment. M-banking is one of the newest approaches to the provision of financial services through ICT, made possible by the widespread adoption of mobile phones in developing and under-developed countries. The roll out of mobile telephony has been rapid and has extended access well beyond already connected customers in the financial sector in Kenya.

To facilitate financial deepening, the Central Bank of Kenya in 2010, allowed regulated commercial banks to operate through third party agents, subject to licensing of agents. In May 2012, the Central Bank of Kenya allowed regulated deposit taking microfinance institutions to operate not only through third party agents, but to operate agencies. Mobile network operators and financial institutions have responded rapidly to these new powers to adopt mobile and agency banking. Between 2007 and 2012, Safaricom rolled out more than forty thousand mobile payment agents nationwide. Since 2010 a total of ten banks have connected more than ten thousand six hundred bank agents. However, of the banks, two banks Equity Bank and Kenya Commercial Bank have been particularly quick to introduce agency networks across Kenya, with thousands of agents respectively. All these models are geared towards leveraging the operating costs of commercial banks.

A recent study by the Clinton Foundation estimates that mobile money may reduce transaction costs for MFIs by up to 80 percent. By the end of 2010, Almost half (47.5%) of all Kenyan adults own a mobile phone (up from 26.9% in 2006), with the rate of ownership rising to 72.8% in urban areas (up from 52.3% in 2006) and 80.4% in Nairobi (up from 63% in 2006) (Kenya Financial Survey, 2009). Further, 52% received money in 2009 compared to 16.5% in 2006.

Previous studies have revealed the potential of mobile network technologies for banking purposes (Pousttchi, 2003; Taga and Karlson, 2004; Speed facts online Research, 2001). Most of these studies were conducted in developed countries and thus may not reflect the impact on the success and growth of different business environments and in particular the MFIs in a developing country like Kenya. Many studies have been carried out locally on MFIs for example; Oriaro (2001) carried an

assessment on the suitability of a regulatory framework for operations of MFIs in Kenya. Magiri (2002) investigated relationships between credit models used by MFIs in Kenya and the attainment of outreach. Ratemo (2004) carried a study on USAID strategy for development of MFIs in Kenya and the expectations of funded institutions. Ogindo (2006) carried a study on an assessment of performance of MFIs in Kenya. Wanjohi (2008) investigated competitive strategies and positioning within a changing business environment adopted by MFIs in Kenya. Mwindi (2002) studied the relationship between interest rates charged by MFIs and performance of micro and small enterprises in Nairobi. Onzere(2013) studied the influence of mobile banking on growth of micro finance institutions in Kenya. However, there are few existing studies that have been done to find out the influence of using mobile banking on the financial performance of these MFIs. This study will seek to fill this gap by investigating the effect of mobile banking on the financial performance in Kenya and determine whether mobile banking affects Microfinance financial performance.

1.3 Objective of the Study

The objective of this study seeks to establish the effect of mobile banking on the financial performance of micro finance institutions in Kenya

1.4 Value of the Study

Mobile Technology is critical for any financial systems in an economy. Some of the outright benefits of Mobile technology are increase access to financial services, reduced cost of operation, improved efficiency and convenience.

Findings from this study will be of relevance to the government and regulatory bodies, Micro finance institutions, researchers and scholars, as well as the public in

general. The findings of this study will be important to the following stakeholders as follows:

The study will inform the government and regulatory authorities on the impact of increasing rollout of the various mobile technologies on access of financial services which in turn inform regulatory and policy formulation.

The study will also be of great significance to investors who may have an interest of investing in microfinance institutions in Kenya. These investors include donors, government, commercial banks etc.

The study will contribute to the growth in scholarly understanding and knowledge on the impact of mobile technology on the performance of microfinance institutions as well as recommend areas of further research in mobile technology

The general public may wish to read the study to further their knowledge in the area of Mobile banking and Micro finance.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter will review the key theory on which the importance of financial performance of MFIs is based. The specific areas covered here are theories framework, critical review, empirical review and summary.

2.2 Theoretical Review

2.2.1 Conventional Theory of Financial Deepening

The theory was proposed by Shaw (1973) and highlights the importance of credit access on growth of SMEs. The theory is based on the view that financial deepening is a necessary pre-condition for economic growth. It rests on premises that financial deepening enhances credit access which offers the necessary financing to firms in the economy and hence economic growth. This theory contends that well-functioning financial sector promotes overall economic efficiency, create and expand liquidity, mobilize savings, enhance capital accumulation, transfer resources from traditional (non-growth) sectors to the more modern growth inducing sectors, and also promote a competent entrepreneur response in these modern sectors of the economy (Shaw,1973, and Mohan, 2006).

Supporting the same view Srikanth (2013) argues that Inclusive finance, including safe savings, appropriately designed loans for poor and low-income households and for micro, small and medium-sized enterprises, and appropriate insurance and payments services can help people to enhance incomes, acquire capital, manage risk, and come out of poverty. Furthermore, access to financial services contributes to higher production and social protection, as the financial sector – through stored

savings, credit and insurance – serves as a measure of crisis mitigation as postulate by the works of McKinnon (1973).

2.2.2 Endogenous Growth Theory

This model demonstrates how economic growth performance is related to financial development, technology, innovations and income distribution (Caporale and Pittis, 1999). Greenwood and Jovanovic (1990) consider a model that allows examining the relation between growth and income distribution, as well as between financial structure and economic development. This theory claims that financial deepening follows economic growth as a result of increased demand for financial services which in turn affects inflation and general interest rates. This theory also suggests that financial intermediation has a positive effect on steady-state growth and that government intervention in the financial system has a negative effect on economic growth and so is inflation and interest rates. King and Levine (1993) identify innovation as the engine of growth.

They argue that an efficient allocation of funds from financial intermediaries to entrepreneurs is able to lower the cost of investing in productivity enhancement and stimulates economic growth. Financial intermediaries and securities markets enable particular entrepreneurs to undertake innovative activity, which affects growth through productivity enhancement. Financial systems can influence the decision of entrepreneurs to invest in productivity enhancing activities by evaluating entrepreneurs, pooling resources, diversifying risk and valuing the expected profits from innovative activities. Therefore, financial markets help the efficient allocation of resources which increase the probability of successful innovation

2.2.3 Economic Theory

Economic theory suggests that financial markets and intermediaries exist mainly because of two types of market frictions: information costs and transaction costs. These frictions lead to the development of financial intermediaries and financial markets, which perform multiple functions. These functions include assisting in the trading, hedging, diversification, and pooling of risk; providing insurance services; allocating savings and resources to the appropriate investment projects; monitoring managers and promoting corporate control and governance; mobilizing savings efficiently; and facilitating the exchange of goods and services. Economic theory proposes that a strong institutional environment exists to alleviate information and transaction costs. According to Economic outlook (2011), financial intermediation and financial markets contribute directly to increased economic growth and aggregate economic welfare through their effect on capital accumulation (the rate of investment) and on technological innovation. First, greater financial development leads to greater mobilization of savings and its allocation to the highest-return investment projects.

This increased accumulation of capital enhances economic growth as well as allocating capital to the right investment projects and promoting sound corporate governance. In addition financial development increases the rate of technological innovation and productivity growth, further enhancing economic growth and social welfare. Access to financial markets not only beneficial to both consumers and producers but also reduces poverty as the poor have access to banking services and credit. Access to credit allows consumers to smooth consumption over time by borrowing and/or lending; in addition, it stabilizes consumer welfare in the presence of temporary shocks to wages and income (Levine, 1998).

2.2.4 Grameen Bank Model of Bangladesh

The Grameen Bank (GB) is based on the voluntary formation of small groups of five people to provide mutual, morally binding group guarantees in lieu of the collateral required by conventional banks. Women were initially given equal access to the schemes, and proved to be not only reliable borrowers but also astute entrepreneurs as well. GB has successfully reversed conventional banking practices by removing collateral requirements and has developed a banking system based on mutual trust, accountability, participation and creativity.

According to Professor Yunus the founder of the Grameen Bank , credit is seen as a cutting edge tool for affecting those inequalities that confine the poor to a poverty cycle and for releasing the inherent capacities in people. Thus, it restores some sort of social power which has been denied to the poor because they lack collateral. Professor Muhammad Yunus argued that the conventional banking system is anti-poor, anti-women and anti-illiterate and thus, has contributed to maintaining the status quo between the rich and poor. Thus microcredit issued to small groups, is purported to enable them the opportunity to purchase equipment and other inputs and engage in micro enterprises of their choice.

2.2.5 Village Banking Model of FINCA

The village banking institution, Foundation for International Community Assistance (FINCA) implements a village banking model in its effort to create financially-sustainable solidarity groups. FINCA trains small community groups in a 22-module program to form Community Credit Enterprises (CCE). These small enterprises, or companies, permit members to buy shares as shareholders and generate capital to

offer sustainable credit and business models. The village banking model was first developed during the 1980s in Bolivia by John Hatch.

2.2.6 The SKS and Non-Banking Finance Company (NBFC) Model in India

In India, NBFCs has emerged as a nearest substitute for those MFIs who want to go the for-profit route. The NBFC route is increasingly being chosen by profit driven MFIs. These institutions get their capital most often from the capital market and believe that, since the poor are bankable and lending to them can be commercially viable it is not necessary to depend on low cost funds to lend to them. Secondly, pioneers of this model believe that, since the amounts required are huge, the financial markets are the only way to mobilize resources. This would mean mobilizing debt at market rates of interest. These institutions make use of debts and mezzanine assets. They accept investment from the capital markets, complimented by borrowings from commercial banks and in turn the money is used for the financing of micro projects and activities of the poor that ends up pushing the poor further below the poverty line.

2.3. Determinants of Financial Performance

MFIs financial performance could be affected by a number of determining factors. In most literatures MFIs profitability usually expressed as a function of internal and external determinants. Muriu,(2011) also point out that the determinants of MFIs profitability can be divided into two main categories namely the internal determinants which are management controllable and the external determinants, which are beyond the control of management. Empirical literatures in relations to determinants of MFIs financial performance are very limited. The previous studies done in the area highly depended up on theory of retail banking financial performance by assuming that MFIs

also provide banking service to the poor. The following paragraphs present the empirical studies in connection with determinants of MFIs financial performance. Now let us see the first classification of MFIs financial performance determinant.

2.3.1. Determinants of Financial Performance

The determinants of MFIs financial performance are those management controllable factors which account for the inter-firm differences in profitability, given the external environment.

2.3.2 Portfolio Quality

Portfolio indicates to total funds available for the MFI to use as loans to its clients. Portfolio quality is a measure of how well or how best the institution is able to protect this portfolio against all forms of risks. The loan portfolio is by far an MFI's largest asset (Nelson, 2011) and, in addition, the quality of that asset and therefore, the risk it poses for the institution can be quite difficult to measure. Portfolio quality is a critical area of performance analysis, since the largest source of risk for any financial institution resides in its loan portfolio. For microfinance institutions, whose loans are typically not backed by bankable collateral, the quality of the portfolio is absolutely crucial (American Development Bank, 2003 cited in AEMFI, 2013) Portfolio quality is a vital area of analysis, since it is the largest source of risk for any financial institution. Therefore, as much as possible, MFI's must try to maintain the quality of their portfolios. For this study, portfolio quality is measured as portfolio at risk over 30 days (PAR >30 days).

According to Muriu, (2011) empirical study on determinants of profitability of African MFIs, under the study "what explains the low profitability of MFIs in Africa" tried to find the factors contributing to profitability of MFIs. He used Generalized

Method of Moments (GMM) system using an unbalanced panel dataset comprising of 210 MFIs across 32 countries operating from 1997 to 2008. The proxies for profitability were both ROA and ROE. Credit risk measured by the sum of the level of loans past due 30 days or more (PAR>30) and still accruing interest is negatively and significantly related to MFI profitability. This study therefore finds evidence to support the conjecture that increased exposure to credit risk is normally associated with lower MFI profitability. The other study which is undertaken by Lafortune et al, (2006) Overview of the Outreach and Financial Performance of Microfinance Institutions in Africa by taking 163 MFIs from 25 countries show that MFIs around the world continue to demonstrate low PAR > 30 days, with a global average of 5.2 percent but African MFIs maintain relatively high portfolio quality, with an average PAR > 30 days of 4.0 percent, performing better than their counterparts in South Asia (5.1 percent), LAC (5.6 percent), and East Asia (5.9 percent). When MFIs are faced with poor portfolio quality, they may write off the loans from their books or refinance the loans by extending the term, changing the payment schedule, or both. The result shows that loan at risk is negatively correlated with MFIs financial performance.

2.3.3 Capital asset Ratio

The capital to assets ratio is a simple measure of the solvency of MFIs. This ratio helps an MFI assess its ability to meet its obligations and absorb unexpected loss. The determination of an acceptable capital to asset ratio level is generally based on a MFIs assessment of its expected losses as well as its financial strength and ability to absorb such losses. Expected losses should generally be covered through provisioning by the MFI's accounting policies, which removes expected losses from both assets and equity. Thus, the ratio measures the amount of capital required to cover additional unexpected losses to ensure that the MFI is well capitalized for potential shocks.

As a proxy for the MFIs capital, this study used the ratio of equity to assets. MFI with higher capital to asset ratios are considered relatively safer compared to institutions with lower ratios. Given that MFI with low capital ratios are also riskier in comparison with better capitalized financial institutions. According to retail banking research which is done by Dietrich and Wanzried, (2009) what determines the Profitability of Commercial Banks? New Evidence from Switzerland. The study try to explain determinants of bank profitability by classifying in to Bank specific, macroeconomic and institutionalized factors and use unbalanced panel data from 1999 to 2006 from 453 banks and use linear regression method. The study conclude that the capital ratio, which is defined as equity over total assets, has a positive and significant effect on bank profitability in Switzerland as measured by the return on average assets ROAA.

Similar study in the banking sector by Vong and Chan, (2010) Detrminants of Bank profitability in Macacao, which covers the data set 15-year period from 1993 to 2007, with a sample of five different banks which account for about 75% of the total asset and the same percentage of loans in the banking sector as at the end of 2007. In this study, the performance of a bank is measured by its return on assets (ROA). The ROA, defined as net income divided by total assets, and reflects how well a bank's management is in using the bank's real investment resources to generate profits. Panel regression techniques are used to analyze the internal determinants as well as the external determinants and generalized least squares (GLS) estimation technique. And the result shows that Capital asset ratio has significant impact on bank

profitability meaning the positive coefficient estimate for the ratio of equity to total assets (EQTA) indicates an efficient management of banks' capital structure.

According to Muriu, (2011) study that is determinants of profitability of MFIs, Based on a panel data set of 210 microfinance institutions Muriu conclude that capital adequacy has robust and significant positive association with MFI profitability. This is depicted by the relatively high coefficient of the equity to assets ratio across the specifications this effect remains so even after the inclusion of the external factors. Intuitively, this is an indication that well capitalized MFIs are more flexible in dealing with problems arising from unexpected losses and are confronted with a reduced cost of funding or lower external funding.

2.3.4 Operational Efficiency

Operational Efficiency is performance measure that shows how well MFIs is streamlining its operations and takes in to account the cost of the input and/or the price of output. Efficiency in expense management should ensure a more effective use of MFIs loan able resources, which may enhance MFIs profitability. Higher ratios of operating expenses to gross loan portfolio show a less efficient management. Operational efficiency in managing the operating expenses is another dimension for management quality. The performance of management is often expressed qualitatively through subjective evaluation of management systems, organizational discipline, control systems, quality of staff, and others (Ongore and Gemechu, 2013).

According to the study Nimal Sanderatne, 2003 cited by Dissanayake, (2012) a study on determinants of financial viability, defined that the operational efficiency and low administration costs have an important bearing. Besides, a study on financial performances, the study declared that, many MFIs are not considered sustainable. By

stating the fact, the researcher confirmed that the operational efficiency is inevitable to attract funds. Dissanayake (2012), Operating efficiency is proxied by operating expense ratio which is adjusted operating expense divided by adjusted average gross loan portfolio and concludes that Operating Expense Ratio, are statistically significant predictor variables in determining Return on Assets Ratio. In line with this idea Muriu, (2011) conclude that inefficiency in the management of operating expenses to significantly decrease MFI profitability.

2.3.5 Gearing Ratio / Debt to Equity Ratio

The debt to equity ratio is calculated by dividing total liability by total equity. Total debt includes everything the MFI owes to others, including deposits, borrowings, account payable and other liability accounts. The debt/equity ratio is the simplest and best-known measure of capital adequacy because it measures the overall leverage of the MFIs (AEMFI, 2012). The debt to equity ratio is a common measure used to assess a firm's leverage, or in other words the extent to which it relies on debt as a source of financing (Lislevand, 2012). Microfinance institutions that employ higher debt in their capital structure are more profitable, and highly leveraged microfinance institutions are more profitable, (Muriu, 2011). Besides, a higher debt ratio can enhance the rate of return on equity capital during good economic times (Muriu, 2011). Moreover, it also appears that NGO type of microfinance institutions rely more on debt financing relative to other type of microfinance institutions, perhaps because many are not regulated to mobilize deposits. The significant correlation between performance and gearing ratio is an indication that perhaps more debt relative to equity is used to finance microfinance activities and that long term borrowings impact

positively on profitability by accelerating MFIs growth than it would have been without debt financing (Muriu, 2011).

According to Nelson, (2011) study entitled that performance of assessment of micro finance institution in the Ashaiman municipality, its result show that the Rural Bank recorded debt/equity ratio of 50.89 in 2007 but increased to 54.05 in 2008. It increased further to 61.65 in 2009 and to 77.35 in 2010 showing an average of 60.99%; Depicting that most of its operations are financed by debt instruments and, should probably be regulated. The Savings and Loans recorded a rapid increase from 0.30 in 2007 to 0.8 in 2008. It again increased sharply to 2.97 in 2009 and to 4.89 in 2010 with an average of 2.24. The sharp increment may signify that Savings and Loans of approaching its borrowing limit which in turn will force it to curtail growth. The Credit Union's debt/equity decreased throughout the study period from 0.89 to 0.61 to 0.45 to 0.77 respectively. Implying that, more equity is used to finance business than debt. It indicates what proportion of equity and debt the company is using to finance its assets. This is very much connected to where the MFI is located in its life cycle. Traditionally, the funding structure follows a certain pattern over the life cycle of an MFI. Start ups are characterized by a larger dependency on donations, usually in the form of equity grants, whereas the more mature MFI's tend to display higher debt leverage through borrowing and even evolve into a formal institution or a regulated niche bank. Some MFI's even access capital markets by issuing bonds or by going public (IPO) (Jorgensen, 2011). Dissanayake, (2012) point out that debt/equity is a statistically insignificant predictor variable for the model at 5% level of significance. Besides the expected direction of the coefficient of the corresponding models are not as per the predicted direction of the researcher.

2.3.6 Size of Microfinance (Total Asset)

Another factor that can affect the financial performance of an MFI is its size. The size of an MFI is measured by the value of its assets (Hermes et al, 2008). According to Cull et al, (2007) the size of an MFI is significantly positively linked to its financial performance. This variable is included to capture the economies or diseconomies of scale. There is consensus in academic literature that economies of scale and synergies arise up to a certain level of size. Beyond that level, financial organizations become too complex to manage and diseconomies of scale arise. The effect of size could therefore be nonlinear (Amdemikael, 2012). Natural logarithm of total asset of MFIs is used as a proxy of size. The study observed that since the dependent variable in the model (ROA) can be deflated by total assets it would be appropriate to log total assets before including it in the model.

It is argued that failure to become profitable in microfinance is partly due to lack of scale economies Muriu, (2011) this implies that profitable MFIs in Africa have a greater control of the domestic market, and therefore lending rates may remain high while deposit rates remain lower since larger MFIs may be perceived to be safer, therefore this high interest rate spread translates to and sustains higher profits margins. Cull et al, (2007) point out that size of MFIs and financial performance has significantly related but loan size is negatively related financial performance meaning Controlling for other relevant factors, institutions that make smaller loans are not necessarily less profitable. But the result find that larger loan sizes are associated with lower average costs for both individual-based lenders and solidarity group lenders. Since larger loan size is often taken to imply less outreach to the poor, the result could have negative implications.

2.3.7 Age of Micro Finance Institutions

There is a thought that as MFIs mature, and thus acquire experience in their sector; they increase their likelihood of attaining financial sustainability. This can be explained by the fact that MFIs gradually improve their control over all operations related to issuance of microcredit. In other case, MFIs that have considerable experience in the microfinance sector have diligently applied credit risk management and general efficient management techniques to attain financial sustainability (Ayayi, 2010). According to Cull et al, (2007) Sustainability could relate to the age of MFI. The age refers to the period that an MFI has been in operation since its initial inception. Studies indicate that the MFIs age relates to the financial performance. Jorgensen, (2011) states that Age, is grouping by new (1 to 4 years), young (5-8 years) or mature (more than 8 years). The number of years is calculated as the difference between the year they started their microfinance operations and the year of data submitted by the institutions. Therefore the result shows that Age (new) this dummy variable is significant with a positive sign. Implies that if an MFI is new its ROA is 0.03642 higher than the ROA of mature MFIs, it is no longer maturity and experience that provides profitability as in many industries. This indicates that new MFIs entering the industry have different set of goals and operational set of skills leading to profitability. The study undertaken by Dietich and wanzenried (2009) in the banking industry, that is determinants of profitability in commercial bank show that, larger banks are slightly less profitable than medium sized banks, with the coefficients being significant at the 10% level. This gives some indication that larger banks cannot benefit from higher product and loan diversification possibilities and even face scale inefficiencies.

2.4 Empirical Literature Review

A number of studies and research have been carried out in different markets with respect to financial performance of microfinance institutions. According to Kereta (2007), the micro finance institutions participation in several developing economies is escalating from time to time. Kereta (2007) refers to financial performance as financial sustainability and he states that there are two kinds of financial sustainability namely: operational self-sustainability and financial self-sustainability. Operational self-sustainability is when the operating income is sufficient enough to cover operational costs like salaries, supplies, loan losses, and other administrative costs. And financial self-sustainability (also referred to as high standard measure) is when MFIs can also cover the costs of funds and other forms of subsidies received when they are valued at market prices.

Kereta (2007) carried out a study on data collected from 26 MFIs in Ethiopia for a seven year period ranging from 2001 to 2007 (both years inclusive). Operational sustainability examination, as a component of financial sustainability measurement, revealed that MFIs as an industry were operationally sustainable measured by return on asset and return on equity. It also identified that the industry's profit performance was improving over time. A notable reduction in the dependency ratio over the years (i.e. from 63% in 2001 to 31% in 2007) in the MFI industry also indicated that MFIs can be self-sustainable, profitable, and meet their social missions. Loans financed from donated capital were also noted to have reduced from 42.5% in 2001 to 11.1% in 2007. Non-performing loan (NPLs) to loan outstanding ratio can also be an alternative indicator for measuring profit quality, which has an effect on financial sustainability

of MFIs. Using this indicator the study found out that MFI financial sustainability is in a comfort zone with average NPLs ratio of 3.2 percent from 2005 to 2007.

The study further recorded that less default rate is critical for financial sustainability and from the representative sample MFIs; the default rate is notably very low for most of them though it shows steady growth. For instance, in one microfinance in period 2001 and 2002 it was 0% but in 2003, 2004 and 2005 it steadily grew to 6.9%, 3.2% and 7.6% respectively. Similarly, in another Microfinance the default rate has increased on average from 2001 (default rate of 2%) to 2005 (default rate of 5%) by 39%. At the time of the study, the low default rate was deemed to be encouraging in terms of supporting the financial sustainability of the institutions. However, the growth trend of the default rate might endanger their financial sustainability. The study showed that the main causes of the default risk included improper selection, ineffective repayment enforcement mechanism, absence of effective group pressure or collateral, negligence of clients, crop failure in rural areas, sickness of the borrower or family member; and bankruptcy in the business of clients.

According to a recent Consultative Group to Assist the Poor (CGAP) survey which involved 152 MFIs, it was realized that Sub-Saharan Africa, South Asia and East Asia and the Pacific have the greatest number of MFIs using manual systems and spread sheets (roughly 20%). Banks and Rural Banks reported to mostly using manual systems (roughly 10%). The remaining systems are off-the-shelf or custom built. This lack of branch network can potentially increase costs for MFIs (CGAP, 2009)

2.5 Summary of Study Gap

Considerable research has been carried on mobile banking, mobile money and MFIs. However, a clear picture of the relationship between mobile banking and financial performance of MFIs has not emerged from previous studies. Limited and contradictory findings have resulted from the different units of analysis, different measures of growth, limited theory base and reliance on cross-sectional methods. The existing body of knowledge is not sufficient enough to explain the influence of mobile banking on the financial performance of micro finance institutions.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter set out various stages and phases that were followed in completing the study outlining for the collection, measurement and analysis of data. The research methodology seeks to determine the procedure that was used to ascertain the results of the study.

3.2 Research Design

An Explanatory research design was adopted to establish the impact of mobile banking on the financial performance of microfinance institutions in Kenya. Explanatory research is a research conducted in order to explain any behavior in the market. It could be done through using questionnaires, group discussions, interviews, random sampling, etc. This is the plan and structure of investigations to be conceived so as to obtain answers to research questions kerlinger (2008)

3.3 Target Population

For the purpose of this study, the research population was composed of MFIs in Kenya that have adopted mobile banking and in particular concentrated on the four main MFIs namely, Kenya Women Finance trust, Rafiki Microfinance, Faulu Kenya and Small and Micro enterprises Program. Polit and Hungler (1999) refer to the population as an aggregate or totality of all the objects, subjects or members that conform to a set of specifications or an entire group of persons or elements that have at least one thing in common. A research population is also known as a well-defined collection of individuals or objects known to have similar characteristics

3.4 Data Collection

The study used secondary data from various sources including information reports from the microfinance institutions involved in the research and other published reports from regulatory authorities. Data collection entails gathering information to address the research question at hand. For the purpose of this study, secondary data, which refers to the information obtained from articles, books, newspapers, internet and magazines (Ireru, 2006), was collected. This data was used for generation of information and as Cooper & Schindler (2003) explain, secondary data is a useful quantitative technique for evaluating historical or contemporary confidential or public records, report, government documents and opinions.

3.6 Data Analysis

Data collected was quantitative in nature from secondary sources. Analysis was done quantitatively and qualitatively by use of SPSS. Data analysis used Microsoft excel, percentages, tabulations, means and other central tendencies. The information was presented by use of bar charts, graphs and pie charts. The dependent variable was financial performance and independent variable mobile banking (money moved and number of users of mobile banking). The financial performance of MFIs was measured when the independent variable is 0 and then projected to develop the expected ROA for the deposit taking period.

$$Y = B_0 + B_1X_1 + B_2X_2 + \epsilon$$

Where Y = Financial Performance of commercial microfinance Institutions (ROA)

X1 = Yearly value moved through mobile banking

X2 = Number of users of mobile banking

ϵ = Error term

B_0 =Constant

B_1 =Coefficient of X_1

B_2 =Coefficient of X_2

X_1 =YMM (Yearly value moved)

X_2 =NBU (Number of users of mobile banking)

CHAPTER FOUR: DATA ANALYSIS RESULTS AND DISCUSSIONS

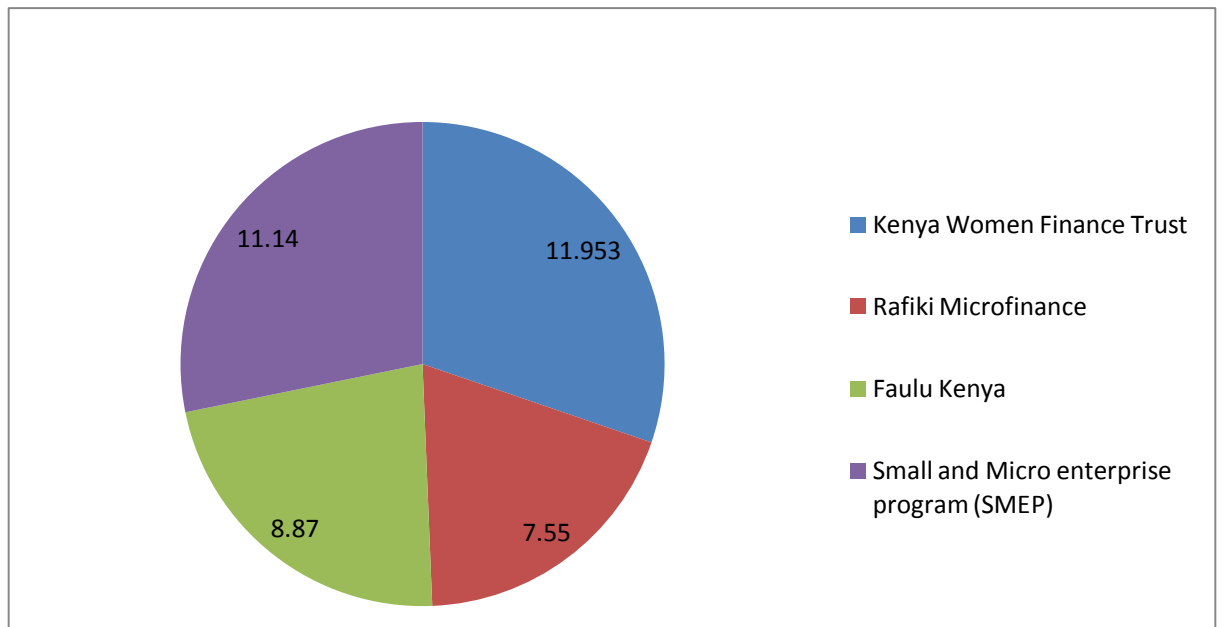
4.1 Introduction

This chapter presents analysis and findings of the study as set out in the research objective and research methodology. The study findings are presented on the effects of mobile banking on the financial performance of microfinance institutions in Kenya. The data was gathered exclusively from the secondary source which included the records at Central Bank of Kenya (CBK).

4.2 Number of Mobile Banking Users

The study sought to establish the developments in the average number of mobile banking users in millions among the four microfinance institutions between the year 2012 to 2014. The findings were as shown in the figure 4.1 below .

Figure 4.1 Number of Mobile Banking Users



Source: (Research Findings, 2015)

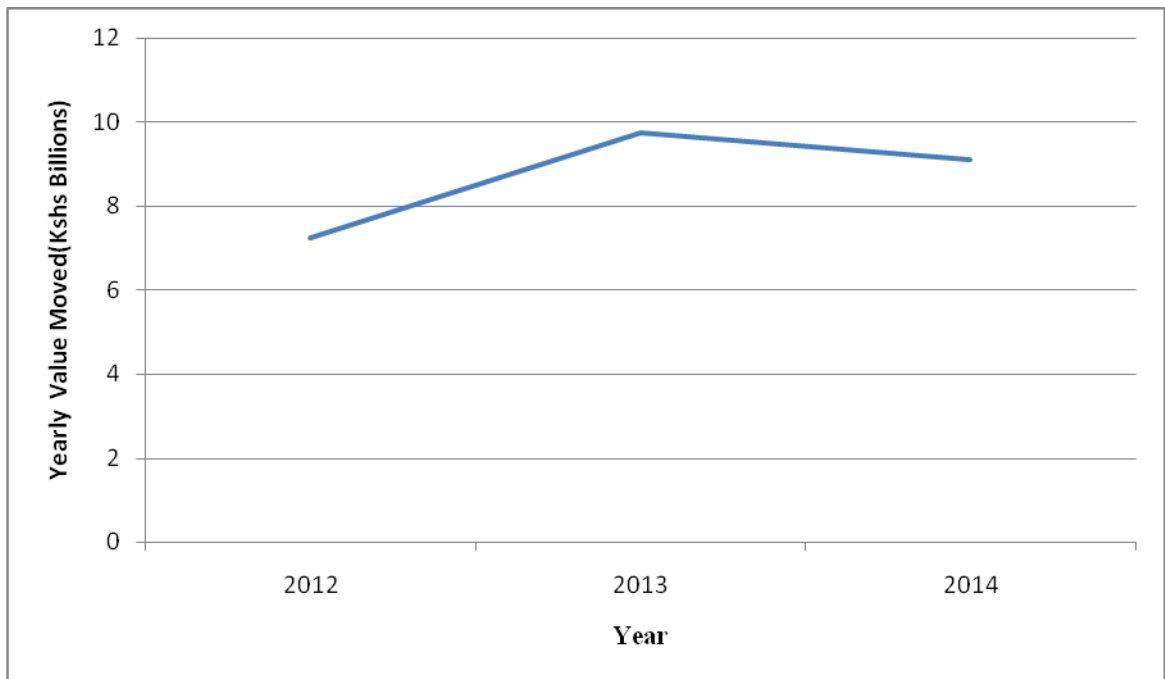
From the research findings the number of users of mobile banking in Kenya women Finance Trust increased from the year 2012, 2013 and 2014 from 8.76, 12.1 and 15 million respectively. This averaged 11.953 within the three years.

Number of users of mobile banking in Rafiki Microfinance increased from the year 2012, 2013 and 2014 from 4.87, 7.98 and 9.8 million respectively. This averaged 7.55 million within the three years. Number of users of mobile banking in Faulu Kenya increased from the year 2012, 2013 and 2014 from 4.56, 10.98 and 11.09 million respectively. This averaged 8.876 million within the three years. Number of users of mobile banking in SMEP increased from the year 2012, 2013 and 2014 from 10.24, 12.98 and then reduced to 10.02 million respectively. This averaged 11.14 million within the three years. These findings show that as time lapsed, the number of mobile banking users increased.

4.3 Yearly Value Moved Through Mobile Banking

The study sought to establish the Yearly Money value moved through mobile banking during the study period. The findings were as indicated in the figure 4.2 below.

Figure 4.2 Yearly Money Value Moved



Source: (Research Findings, 2015)

From the research findings the amount moved in Kenya women Finance Trust increased from the year 2012, 2013 and 2014 from 10.24, 13.43 and 14.34 billion Kenya shillings respectively. This averaged 12.67 billion Kenya shillings within the three years.

Number of users of mobile banking in Rafiki Microfinance increased from the year 2012, 2013 and 2014 from 4.39, 6.45 and 7.95 billion Kenya shillings respectively. This averaged 6.2633 billion shillings within the three years. Number of users of mobile banking in Faulu Kenya increased from the year 2012, 2013 and 2014 from 11.90, 12.09 and 4.01 billion shillings respectively. This averaged 9.333 billion shillings within the three years. Number of users of mobile banking in SMEP

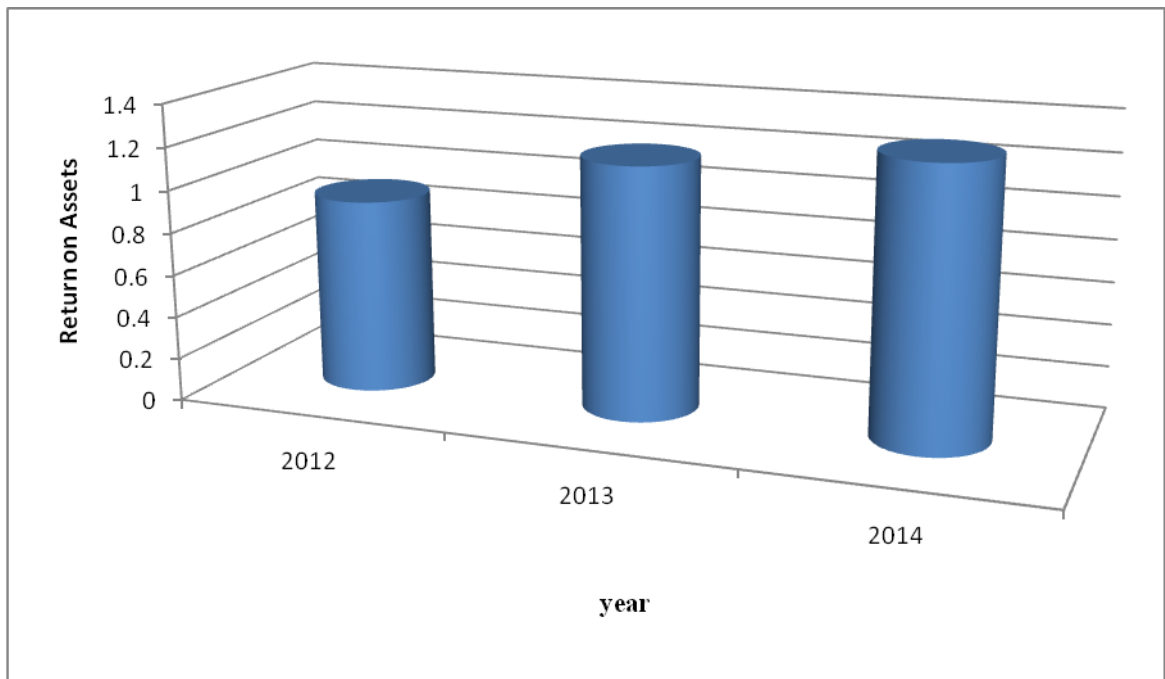
increased from the year 2012, 2013 and 2014 from 2.45, 7.02 and then increased to 10.12 million respectively. This averaged 6.53 billion shillings within the three years. These findings show that as time lapsed, the amount moved increased.

During the year 2014, the number of companies offering mobile money transfer had increased to six, namely; Safaricom (M-Pesa), Airtel Networks (Airtel Money), Essar Telcom (Yu Cash), Orange Telkom (Orange Money), Mobile Pay (Tangaza) and Mobikash (Mobikash).

4.4 Financial Performance of Microfinance Institution

The study analyzed the consolidated financial performance of the four microfinance institution during the study period. The findings were as shown in the figure 4.3 below:

Figure 4.3 Return on Assets



Source: (Research Findings, 2015)

From the study findings in figure 4.3 above, the study established that the microfinance institutions return on Assets was 0.915 in the year 2012, 1.17 in 2013 and 1.29 in 2014. This could be attributed to many factors beyond this study as the performance of microfinance institution a function of more variables including the macroeconomic variables besides the mobile banking effects being looked at in this study.

4.3 Regression Analysis

In order to establish the relationship between the mobile banking and the financial performance of the microfinance institution in Kenya, the study conducted a multiple regression analysis. The findings were as shown in the table 4.1 below:

Table 4.1 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.826 ^a	.682	.611	.58610

a. Predictors: (Constant), NBU, YMM

Source :(Research Findings,2015)

Coefficient of determination explains the extent to which changes in the dependent variable (financial performance of microfinance Institutions in Kenya) can be explained by the change in the independent variables or the percentage of variation in the dependent variable (financial performance of microfinance institution in Kenya) that is explained by all the two independent variables (Yearly value moved, number of mobile banking users). The two independent variables that were studied, explain only 68.2% of the changes in the financial performance of microfinance institutions in Kenya as represented by the R².

Table 4.2 ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	6.620	2	3.310	9.636	.006 ^a
	Residual	3.092	9	.344		
	Total	9.712	11			

a. Predictors: (Constant), NBU, YMM

b. Dependent Variable: ROA

The probability value of 0.006 indicates that the regression was significant in predicting how mobile banking impacts the financial growth of the microfinance sector in Kenya. The F critical at 5% level of significance was 0.344 since F

calculated is less than the F critical (value = 2.371), this shows that the overall model was insignificant.

Table 4.3 Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.707	.599		-1.181	.268
	YMM	.216	.062	.870	3.468	.007
	NBU	-.022	.077	-.070	-.279	.787

a. Dependent Variable: ROA

The researcher conducted a regression analysis so as to determine the relationship between mobile banking and financial performance of microfinance institutions in Kenya. The

regression equation ($Y = \beta_0 + \beta_1X_1 + \beta_2X_2$) was:

$$Y = -0.707 + 0.216X_1 - 0.022X_2$$

Whereby Y = financial performance of microfinance institutions in Kenya;

X1= Number of mobile banking users in microfinance institutions;

X2 = Yearly Value moved.

According to the regression equation established, taking all factors (number of mobile banking users and total value moved through mobile banking) constant at zero, the financial performance of the banking sector will be -70.7%. The data findings analyzed also shows that taking all other independent variables at zero, a unit increase in number of users will lead to a 0.022 increase in financial performance of the microfinance institution. A unit increase in the amount of money moved through

mobile banking will lead to a 0.216 increase in the financial performance of the microfinance institution.

This notwithstanding, the study shows that there is a weak positive insignificant correlation between mobile banking and financial performance of financial institutions Kenya. Therefore, it can be deduced that mobile banking has an impact on the financial performance of micro financial institution although not significant.

4.6 Interpretation of Findings

From the research findings the number of users of mobile banking in Kenya women Finance Trust averaged 11.953, Rafiki Microfinance 7.55 million Faulu Kenya 8.876 million SMEP averaged 11.14 million within the three years. These findings show that as time lapsed, the number of mobile banking users increased.

From the research findings the amount moved in Kenya women Finance Trust averaged 12.67 billion Kenya shillings within the three years, Rafiki Microfinance 6.2633 billion shillings Faulu Kenya 9.333 billion shilling and SMEP averaged 6.53 billion shillings within the three years. These findings show that as time lapsed, the amount moved increased.

During the year 2014, the number of companies offering mobile money transfer had increased to six, namely; Safaricom (M-Pesa), Airtel Networks (Airtel Money), Essar Telcom (Yu Cash), Orange Telkom (Orange Money), Mobile Pay (Tangaza) and Mobikash (Mobikash).

The study established that the microfinance institutions return on Assets was 0.915 in the year 2012, 1.17 in 2013 and 1.29 in 2014. This could be attributed to many factors

beyond this study as the performance of microfinance institution a function of more variables including the macroeconomic variables besides the mobile banking effects being looked at in this study.

In order to establish the relationship between the mobile banking and the financial performance of the microfinance institution in Kenya, the study conducted a multiple regression analysis. Coefficient of determination explains the extent to which changes in the dependent variable (financial performance of microfinance Institutions in Kenya) can be explained by the change in the independent variables or the percentage of variation in the dependent variable (financial performance of microfinance institution in Kenya) that is explained by all the two independent variables (Yearly value moved, number of mobile banking users). The two independent variables that were studied, explain only 67.2% of the changes in the financial performance of microfinance institutions in Kenya as represented by the R².

From the findings presented above, it is evident that as the number of mobile banking users increased, the monthly amount moved through mobile banking increased. This was largely because the financial performance of microfinance institution is a function of many other variables not looked at in this study. From the findings, the performance of microfinance institution measured by return on Assets.

These findings are consistent with the argument by Al-Jabri (2012) who studied mobile banking adoption by looking at the application of diffusion of innovation theory and established that with better mobile banking support and provision of variety of services, the more useful customers perceive mobile banking to be and to increase their level of adoption. The increase in the number of users shows confidence

among mobile banking users. This shows that microfinance institutions took keen interest in ensuring minimal risk exposure for their customers. As Al- Jabri (2012) suggested, banks must seek to reduce risk perceived by their customers by offering specific guarantees protecting them and taking their complaints seriously and urgently.

CHAPTER FIVE: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presented the summary of key data findings, conclusions drawn from the findings highlighted and policy recommendations that were made. The conclusions and recommendations drawn were in quest of addressing research objectives of establishing the effect of mobile banking on the financial performance in microfinance Institutions in Kenya.

5.2 Summary

Financial institutions in Kenya have adopted mobile services to provide crucial banking services to customers in Kenya. The results show that as the monthly value moved through mobile banking increases, the profitability of the microfinance institution increase. The research shows that mobile banking to a larger extent impacts the financial performance of microfinance institution in Kenya in that it helps reduce unnecessary cost, increase efficiency and improves on service delivery to customers.

This could however be explained that although there is a relationship between mobile banking and financial performance of microfinance institutions in Kenya, the relationship is somehow weak. This was well explained by the F critical at 5% level of significance which was 0.963 falling below the F critical (value = 2.371). In addition, the R squared value was extremely at 68% showing that the effect of mobile banking on the financial performance of the microfinance institution. However, the study concludes that mobile banking is being used to improve financial operations. The microfinance institutions have put in place measures become more competitive by keeping pace with the technological developments. It can also be noted from the

findings on the number of users that the numbers keep increasing from one year to another. This shows that customers are appreciating and embracing mobile banking. This could be attributed to the advantages offered by mobile banking which include convenience and flexibility.

5.3 Conclusions

From the research findings presented in chapter four and above summary of findings, the study concludes that there is a positive relationship between mobile banking and financial performance of financial institutions in Kenya. This could be attributed to the trends recorded in the two variables where the monthly transfers maintained a positive growth rate while financial performance of microfinance

5.4 Recommendations

From the above conclusion, the study recommends that policy makers consider mobile banking in their formulation of policies because of the technological developments and the expected switch from physical branch networks to technologically supported banking services. This is because the relationship may not be direct but an indirect one resulting from the convenience that the mobile banking services offers to microfinance institutions.

The study recommends the regulatory authorities to strengthen the governance and internal control structures; integrate of MFIs into the formal financial sector; offer specialized equity funds to help compensate for the lack of private sector representation on MFI boards.

Investors are highly recommended to explore mobile banking technology options when putting up their investments in Microfinance institutions. This will help in the penetration of the market and enhance customer base which will eventually have a higher return on their investments

The study further recommends scholarly exploration on the impact of mobile banking on Microfinance performance and other financial institutions to promote mobile banking technology and other technology related innovations

Simple measures to evaluate SME performance is still a critical area that requires dedicated attention. Financial measures adopted by larger businesses have not been widely adopted by SMEs. Book keeping is erratic, yet it which could be a source of useful information on business turnover, employee information and business growth. Other practical tools may have to be thought of to bridge the gap that exists when looking for data on SMEs. In this respect, the service from Safaricom ‘Lipa na M-Pesa’ could have a built in function to undertake simple analyses like total income and total expenditure in a given time.

5.5 Limitations of the Study

A limitation was regarded as a factor that was present and contributed to the researcher getting either inadequate information or if otherwise the response given would have been totally different from what the researcher expected. The main limitations of this study were:

The data used was secondary data generated for other purposes hence may not accurately predict the relationship among the variables. The measures used may keep

on varying from one year to another subject to the prevailing condition. In addition, changes in the macroeconomic environment could have affected the profitability of such microfinance institutions.

Another limitation for the study included the short period which mobile banking has been in existence which could not give a long trend for analysis. Mobile banking was only introduced in Kenya by March 2007. It has only been 9 years since the launch which may not give a clear picture of the relationship as not all microfinance institution have embraced it.

5.6 Suggestions for Further Studies

The study suggests that further research be conducted on the relationship between mobile banking and financial performance in other countries within the East African Community. This study only concentrated on Kenya yet mobile banking has been adopted in most countries in Africa.

The study further suggests that another study be conducted on the impact of mobile banking on financial deepening in Kenya. The Central Bank statistics show that as a result of mobile banking, there is an increase in the level of financial deepening in Kenya of up to about 85%. A study needs to be carried out to ascertain the effectiveness of mobile banking in financial deepening.

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APPENDICES

Appendix 1: Data Capture Form

Investment Micro financial Institution	Years	Firm performance (Return on Assets)	Yearly value moved through mobile taking(Kenya shillings in billions)	No of users of mobile banking (Millions)
Kenya Woman Finance Trust	2014	1.90	14.34	15.00
	2013	1.818	13.43	12.10
	2012	0.93	10.24	8.76
Rafiki Microfinance	2014	0.42	7.98	9.80
	2013	0.32	6.45	7.98
	2012	0.25	4.39	4.87
Faulu Kenya	2014	2.60	4.01	11.09
	2013	2.46	12.09	10.98
	2012	2.38	11.90	4.56
Small and Micro enterprise program (SMEP)	2014	0.23	10.12	10.20
	2013	0.12	7.02	12.98
	2012	0.10	2.45	10.24