THE EFFECT OF COMPETITION AND TECHNOLOGY ON GROWTH OF MICRO-FINANCE INSTITUTIONS IN KENYA

BY:

LUCY MUGADUKHA ANANGWE

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DECLARATION

I declare that this is my original work and has not been presented in any other university or college for academic purposes.

Signature: ………………………..   Date: …………………………………

Student: Lucy Anangwe

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

Signature: ………………………..   Date: …………………………………

Supervisor: Mr. Herick Ondigo

Lecturer,

Department of Finance and Accounting

School of Business

University of Nairobi

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DEDICATION

I dedicate this research Project to my family for their support during this process. I will remain forever grateful.

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LIST OF ABBREVIATIONS

AMFI-K   : Association of Microfinance Institutions in Kenya

ANOVA   : Analysis of Variance

DTMs   : Deposit Taking Microfinance Institutions

GOK   : Government of Kenya

HFI   : Housing Finance Institutions

ICT   : Information Communication Technology

KWFT   : Kenya Women Finance Trust

MFIs   : Micro Finance Institutions

NGO   : Non Governmental Organization

ROE   : Return on Equity

SMEs   : Small and Medium Size Enterprises

ABSTRACT

The micro finance industry in Kenya has experienced rapid growth over the years in an attempt to meet the large demand from the estimated 38 percent of Kenyans lacking access to financial services. The demand for micro-finance service in Kenya is high yet the industry is only able to meet about 20 percent of their demand because of lack of financial resources and the capacity to assess risk process and monitor loans. The specific focus of this study was on the effects of competition among MFIs on different outcomes as well on the effects of ICT adoption in the institutional operations. MFIs tend to have a lower outreach when faced with intense competition. Increased competition is also associated with lower loan repayment, lower financial performance and lower efficiency. It adopted a descriptive study research design to collect the required information from the population targeted after which the data collected was analyzed through quantitative methods to show the causation factor of the growth in MFIs in Kenya. The target population included the financial institutions which are members of the Association of the Microfinance Institutions in Kenya. The sample included 34 institutions which have their operations within Nairobi. The sampling procedure applied was convenience sampling method. Both Primary and Secondary sources of data were used in the study where Primary data was collected with the use of a questionnaire and the secondary data collected from the MFI's annual reports and financial statements. Both descriptive and inferential methods were used in analysis. Measures of relative position and measures of relations and associations used were correlation and regression. The significance of the results was tested by the use of correlation coefficient (R) and the coefficient of determination (R^2) as well as the F-test at 95% significance level. The study findings included that; both competition and ICT use in MFIs influence their performance thereby affecting their growth. Competition was found to have negative effects on the organizational performance while ICT adoption and application in organizational operations was found to have a positive effect on growth. Thus, the competitiveness of microfinance systems relates positively to the number of branches (networks) established in the country. Information technology contributes to the micro financial system in three different ways as follows: ICT saves the time of the customers and the employees conspicuously, ICT cuts down the expenses and ICT facilitates the network transactions. Therefore the study recommends that; to ensure competitiveness of the microfinance sector, policies should be implemented which shall ensure fair competition to the young micro finance institutions hence facilitating their growth as well that advanced information system supported by a superior mechanism control is required to make certain that an information system has achieved the required processes.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Micro-finance concept has operated for centuries in different parts of the world for example, "Notable" in Indonesia, "cheetu" in Srilanka, "tontines" in Ghana West Africa and "pasanaku" in Bolivia. One of the earliest and longest serving micro-credit organization providing small loans to rural poor dwellers with no collateral is the Irish loan Fund system initiated in the early 1700"s by Jonathan swift (Christopher & Colin, 2006). His idea began slowly in 1840s and became a widespread institution of about 300 branches all over Ireland in less than one decade. The principal purpose was to advance small loans based on some trust for short periods. The Irish loan fund attracted about 20 percent of all Irish SMEs' leading to growth of small and medium enterprises every year.

In the 1800"s various types of longer and more formal savings and credit institutions began to emerge in Europe organized primarily among the rural and urban people. These institutions were known as people's banks credit unions and savings and credit cooperative. The credit unions and cooperatives were motivated by concern to assist the rural population to break out of their dependence on money leaders and to improve their welfare (Porteous, 2006).

From 1870 the unions expanded rapidly over a large cooperative movement and quickly spread to other countries in Europe and North America and eventually supported by the cooperative movement in developed countries and donors and also to developing countries (Rhyne & Otero, 2006). In the early 1900"s various adoptions of these models began to appear in parts of rural Latin America. While the goal of such rural finance intentions was usually defined in terms of modernizing the agricultural sector, they usually had two specific objectives: first, Increase the commercialization of the rural sector and second, Increase the investment through credit. It is against such background and the second objective that this study sought to investigate the impact of competition and customer base on growth of MFI's in Kenya.

The micro finance industry in Kenya has experienced rapid growth over the years in an attempt to meet the large demand from the estimated 38 percent of Kenyans lacking access to financial services (www.kenyabureauofstatistics.com).The demand for micro-finance service in Kenya is high yet the industry is only able to meet about 20 percent of their demand because of lack of financial resources and the capacity to assess risk process and monitor loans (Okiro, 2010).

Micro financial sectors in Kenya have rapidly expanded as a source of credit for small scale businesses. An example in Kenya is K-Rep bank which is one of the largest MFI in Kenya (Munguti, 2005). Initially K-Rep focused on micro enterprise lending in Mathare slums of Nairobi. However, over the last 17 years, as lending methodologies and systems were improved, K-Rep grew to become a company with 31 branches and a presence in most districts of Kenya.

The objective of this Institution is to support SMEs' in Kenya as it transforms from a credit only institution to a regulated deposit taking institution. This transformation is characterized both by the development of a broader product offering as well as by the formalization of the shareholding structure and regulatory framework the institution adheres to (Munguti, 2005). The addition of liability products will provide secure savings to SMEs' as well as more control over funding and asset liability management for them , this thus improves the performance of SMEs' by making them to expand their businesses from saving and also acquiring huge loans.

1.1.1 Competition

With growth of the industry and saturation of markets, increased competition is documented in many countries (Porteous, 2006). Citing its benefits, economists have long favored competitive environment. Competition, in most cases, is believed to increase welfare of consumers by promoting locative and productive efficiency, i.e. lower production costs and lower prices on goods and services. It also encourages the development of new products and efficient technologies (Motta, 2004). We would, therefore, expect similar benefits of competition in microfinance market.

From the above discussion it's clear, in theory that the impact of competition on the social and financial performance of MFIs may be either positive or negative. As the outcome is not clear, this calls for an empirical investigation. Surprisingly, however, only very few studies have examined the impact of competition on the performance of MFIs. Some of them are descriptive, some use more thorough econometric techniques; some look at impact directly, some take an indirect approach; some studies use country or region-specific data, some use multi-country data; most studies look at one aspect of performance, only few take a broader perspective; and they all use different (and sometimes rather ad hoc) measures of competition.

Competition is measured at the lending group level in terms of the presence, number and proximity of competitors providing group loans. It is assumed that the higher the number and presence of competitors and the smaller the distance to the nearest MFI, the stronger the competitive environment. The empirical findings of this study provide supportive evidence for the fact that more intense competition leads to multiple borrowing and a decline in repayment rates. Although McIntosh et al. (2005) do not directly analyse the impact of competition on the performance of MFIs, their study indirectly finds evidence for the potentially negative impact of increased competition on repayment performance of MFIs.

Hermes et al. (2009) analyze the impact of formal financial development on microfinance efficiency using data for 435 MFIs over the period 1997-2007. They argue that in a more developed formal financial environment efficiency of MFIs improves due to competitive pressure. At the same time, cost reductions reduce the outreach of MFIs. In their analysis, Hermes et al. use various standard measures of financial development, such as the liquid liabilities to GDP ratio, the interest rate margin and the private credit to GDP ratio. The empirical analysis in the paper provides support for both these effects.

In a related paper, Cull et al. (2009) investigate the performance of MFIs under the pressure of competition from formal banks, measuring competitive pressure by using bank penetration variables such as the number of bank branches per capita and per square kilometre. The dataset they use consists of 342 MFIs located in 38 developing countries. Their results show that MFIs faced with high competition tend to reduce the breadth of outreach but will focus more on the depth of outreach, i.e., more loans to women borrowers and smaller loans. However, the effect on other performance indicators, such as profitability, appears to be weak.

Both Hermes et al. (2009) and Cull et al. (2009) use country-level measures of competition, rather than measures reflecting competition at the institutional level. To conclude, the recent interest for the impact of competition on the financial and social performance of MFIs has not been matched by a surge in academic research. The subject remains understudied. Moreover, measures of competition differ between studies and are sometimes rather ad hoc, making comparisons of results difficult.

1.1.2 Information Communication Technology

Investment in ICT allows offering services more efficiently and at lower cost. In addition, the growing attention on the importance of microfinance institutions in economic development is attracting participation of formal and other commercial financial institutions. These firms are expanding outreach programs and scaling up operations in rural area where the poor people reside. This is increasing competition in the microfinance sector. Increased competition has impact on mission drift.

In order to increase the customer base, microfinance institutions are increasingly investing in ICT. However, there is no empirical evidence indicating that ICT investment leads to better performance and growth (Kateeba, 2001). Investment in ICT is regarded as the most important innovation in providing quick and efficient services. Evangelista (2000) points out that the information-based characteristics of services offered by microfinance institutions make ICT very compatible. The generation and use of ICT play a vital role in service innovation activities and therefore boosting performance. Koson (2007) shows that the presence and intensity of ICT may be used to explain the higher growth experienced by the service industries in the last two decades.

In general, while growth can be achieved from capital investment, performance gains stem from the role that ICT plays as input in the production process of the firm. Sircar et al. (1998, 2000) indicated that investment in ICT has a positive effect on revenues and companies that spend more on technology tend to have higher revenues. In their study, Koch, Mayper & Wilner (2009) indicated that that billions invested in ICT have not yielded significant gains in worker productivity. They argue that ICT created the need for human to be smarter and exceedingly well paid to make the new and complex ICT to run correctly. Therefore, capital investment in ICT did not lead to lower labor costs and improved productivity.

Totolo (2005) contends that it is inappropriate to blame the investment in ICT for productivity failures. Many problems of ICT relate to the systems' integration that needs trained personal to manage the new investment. Major investment in ICT (especially in developing countries) tends to forget investment in human capital that enhances ICT penetration within the firm. Therefore, investment in ICT includes investment in human capital that compliments efficient management and operation of new technologies. For service oriented firms, evidences from prior researches suggest that investment in ICT has a positive impact on growth and performance. However, specific research on how ICT particularly affects the service industries at the firm-level is still scarce, especially for developing countries in Africa. In addition, previous studies used linear regression techniques that tend to estimate average impact and not the impact of ICT on individual growth or performance trajectories.

1.1.3 Growth of MFIs

Growth in the microfinance industry may be characterized by an increase in the breadth and depth of outreach of existing microfinance institutions, heightened competition among microfinance service providers, diversification of product and service offerings, and the presence of private and commercial funds for microfinance activities. There is little information on a standard blueprint to show us how to achieve these characteristics and to ensure the growth of the microfinance industry. To a large extent, the growth should be market driven and is yet to be achieved (Amando, 2005).

Tilman, (2006) highlighted that although microfinance activity has increased considerably in recent years, significant growth was lacking and microfinance institutions are still far from reaching a significant portion of the population that lacks access to formal financial services. Further, studies conducted in Kenya have shown that even though the microfinance sector has been growing over the past few years, majority of the individual institutions have not experienced much growth. Moreover much of growth of the microfinance institutions has been spontaneous (G.O.K, 1997). It is therefore against this background that the aim of the study is to assess effect of competition and ICT on growth of micro-finance institutions in Kenya.

1.1.4 Effect of Competition and ICT on Growth of MFIs

When researching factors affecting growth, it is necessary to first define firm growth and how growth is measured. Various indicators are used to measure growth and there doesn't seem to be any general measurement. Measuring sales growth and relative employment growth during a specific time period is the most common indicators used. Indicators such as assets, market share, profits and output are also commonly used, however not as commonly as sales and employment. Output and market share vary greatly within industries and is therefore hard to compare, total assets also depends on the industry's capital intensity and changes over time and profits is not that relevant unless measuring size over a long period of time. Therefore sales and employment are the two important indicators measuring firm's size and growth. Employment numbers is a measure that is easily accessible, since it is an important figure for governments. Sales figures are on the other hand affected by competition, inflation and exchange rates and it is difficult to compare sales figures between industries. That is why it is important to use multiple growth indicators to study firm growth (Davidsson, Delmar & Gartner 2006).

The focus of this study was on the effects of increased competition among MFIs on different outcomes. Specifically, it addresses whether or not competition leads to higher outreach in terms of the number of clients served as well as the poverty level of clients, high default rates and finally whether increased competition is associated with improved efficiency and better financial performance. MFIs tend to have a lower outreach when faced with intense competition. Increased competition is also associated with lower loan repayment, lower financial performance and lower efficiency.

For microfinance firms, investment in ICT is essential in terms of overall performance by improving productivity and reducing business costs. Productivity is defined as maximizing the use of available resources to achieve the desired impact. It compares results or outputs with the cost of producing them. Increase in productivity is achieved either through a reduction of marginal costs (costs per unit of output) or through an increase in marginal revenue (revenue per unit of output) or both. Waterfield and Duval (1996) suggest that operating cost ratio is the most important productivity measure for credit programs.

The ratio tells the institution how much result or portfolio is being produced for every unit cost or resources spent. It is represented as a percentage of total operating costs to net outstanding portfolio. The operating cost ratio is the interest a microfinance institution would have to charge to break even. The lower the operating cost ratio, the more efficient the program.

1.1.5 MFIs in Kenya

Kenya has a relatively well-developed banking and formal financial sector. This consists of: the Central Bank, Commercial Banks, Non-Bank Financial Institutions, Mortgage Finance Companies, Building Societies, Development Financial Institutions, Post Office Savings Bank, Savings and Credit Co-operative Societies as well as the Insurance Companies. These however having the mandate of serving the rapidly growing Kenyan financial market's demand have to some extend not been able to reach every citizen due to their inability to secure financial services in these institutions. The presence of MFIs in the market, though not restricted serves this neglected market share as these institutions provide favorable services to the ordinary citizen in the market towards financing the whole economy.

A number of SACCOs are increasingly getting involved in offering a limited range of banking services, through front office operations though legitimacy of their banking operations has been an issue under discussion, it is becoming clear that SACCOs offer the best opportunity for entrepreneurs to access micro finance services especially in the rural areas due to their extensive outreach and proven ability to mobilize savings for on lending to members (Aleke, 2003). Many NGOs have ventured into the area of micro finance. NGOs which had their focus on social agenda have taken upon themselves the responsibility of functioning as change agents promoting people's organizations and functioning as feeder banks linking unreached / underserved micro-entrepreneurs with the banking system. Besides, specialized NGO micro finance institutions are also providing banking services through innovative financial products and services to the poor.

In Kenya, a wide range of technologies are available to enable microfinance providers to improve efficiency, track operations more accurately, increase transparency, and reach new customers. Today, Kenyan microfinance institutions (MFIs) have some of the lowest profitability indicators worldwide and highest labor costs (Aleke, 2003). Solutions that can help drive down costs are vital to enabling greater access to services. The availability of diverse information technologies is increasing rapidly across the continent, and, at the institutional level, its utilization varies from minimal use of computer equipment to biometric imaging of fingerprints to identify clients. Overall, the Kenyan microfinance sector displays positive growth, strategic developments, and appears to be driven by product innovation. Portfolios shows sustained growth rates throughout the past decade. The size of the sector over the country's GDP is also growing.

1.2 Research Problem

The delivery of financial services to the poor and low-income people has changed significantly over the recent past. The long-standing assumptions that the poor cannot be good clients of the financial institutions have been challenged by well-documented experiences (Yunus, 1996). A number of micro finance programs have demonstrated that low-income clients can use small loans productively and are willing to pay higher rates of interest for their loans. It has also been proved that the poor need saving services as much or more than credit services (Webster and McGrath, 1996). Tilman, (2006) also highlighted that although microfinance activity has increased considerably in recent years, significant growth was lacking and microfinance institutions are still far from reaching a significant portion of the population that lacks access to formal financial services.

In Kenya, there are many interventions underway attempting to break the poverty cycle with mixed results. One of the interventions yielding real results is micro-finance. Micro-finance is a development intervention that has evolved to operate on a commercially viable basis by providing banking and financial services to low-income populations. This does not withstand the fact that micro finance is quite young in Kenya and Africa in general and not well developed like in Latin America and Asia.

Though micro financial institutions have researched on various topics on micro finance in Kenya, a gap still remains on what really determines their growth into bigger micro lender institutions. Further, studies conducted in Kenya have shown that even though the microfinance sector has been growing over the past few years, majority of the individual institutions have not experienced much growth. Moreover much of growth of the microfinance institutions has been spontaneous (G.O.K, 1997).

Mugo (2010) asserted that most Micro Finance Institutions (MFIs) have innovated new services like mobile banking, business accounts, SME loans, school fee loans, financial trainings and partnerships. Other Micro Finance Institutions (MFIs) have networked their offices, opened new branches and innovated new products in a bid to grow their firms. Besides, there was strong positive correlation between financial growth and reason like addressing clients' needs, clients' retention and reducing transaction time.

According to the study done in Kenya by Maina (2011), economic factors could be contributing to the growth of MFls in Nyeri Central District including low annual turnover hence no enough funds for the high number of borrowers, low number of savers and high number of defaulters. It was also found out that all the MFls are using technology. However, most of the MFls' technology is not up to date. The challenges related to ICT included resistance to change among the employees, lack of funds to finance newer technology, and lack of technical skills to handle new technology. MFls may not fully benefit from technology when it is not up to date.

The purpose of this study was to estimate the impact of investment in ICT on performance and growth of microfinance institutions. Efficiency change (performance) was used as measure of growth. The rationale is that, while the focus of most microfinance institutions is on poverty reduction; financial self-sustainability is increasingly becoming important. Increasing competition among microfinance institutions and other commercial banks have conditioned microfinance institutions to concentrate more on expanding their customer base and increasing productive efficiency (Hermes et al., 2008; Rhyne & Otero, 2006). This study intended to address the following research question: What is the effect of competition and technology on growth of MFIs in Kenya?

1.3 Objectives of the Study

The general objective of this research is to determine the effect of competition and Information Communication Technology on growth of micro financing institutions in Kenya.

1.3.1 Specific objectives

i. To determine the effect of competition on growth of microfinance institutions in Kenya

ii. To determine effect of technology on growth of MFI's in Kenya

1.4 Value of the Study

This study aimed to contribute to this important sector by informing the MFI professionals on critical aspects of financial sustainability to enable them ensure that the MFIs become and remain sustainable. It is expected that findings of the study will help MFIs to grow in scale as well as work toward financial sustainability. The study will also generate valuable empirical literatures which will be used by the researchers and scholarly community for advancement of knowledge and basis for future research. The recommendations when operationalized will not only assist the microfinance sector but the entire financial sector. Thus this study intends to fill the existing knowledge gap by investigating the determinants of growth of MFIs in Kenya**.**

This study will benefit a number of groups among them managers of microfinance institutions who will use the study to gain an insight into factors that affect the growth of their businesses and how. This will in turn help them develop modalities to mitigate those factors that adversely affect the business and enhance those that promote growth of their microfinance institutions.

The government too will benefit from this study. The government will use the findings of this study to craft appropriate policies that would promote the growth and stability of the microfinance institutions. Further the findings will help the Kenya government's development partners, NGO's, Donor communities and other stakeholders to effectively and efficiently target their assistance to the microfinance sector. Moreover, microfinance strategists, policy makers, aspiring microfinance researchers, university and college students pursuing a career in entrepreneurship or microfinance spheres will also benefit. Also the awareness that is created on the challenges facing MFIs' would help create a good saving culture in Kenya thus leading to the creation of a strong capital base which can be invested in profitable ventures creating employment opportunities and uplifting the living standards.

CHAPTER TWO

LITERATURE REVIEW

2. 1   Introduction

This chapter discusses literature related to micro finance institutions growth. It focuses on two substantive literature aspects. First, theoretical reviews of the conceptual theories so far advanced in the field of microfinance and second, the empirical review for evidences about micro finance institutions performance in various parts of the world.

2.2 Theoretical Review

In order to review the theoretical literature related to the study, the study is informed by two theories; micro credit theory and the economic theory. These theories provide an overview of the drivers of microfinance operations and their influence towards growth.

2.2.1 Micro Credit Theory

The psychological component of the micro credit theory - known as social consciousness-Driven capitalism - has been advanced by the most ardent promoter of micro finance, Yunus (1998). His theory argues that a species of profit-making private venture that cares about the welfare of its customers can be conceived. In other words, it is possible to develop capitalist enterprises that maximize private profits subject to the fair interests of their customers**.**

The rationale of the theory is straightforward. Although altruism is not totally absent, Capitalism is founded mainly on the premise that human beings are selfish by nature. Accordingly, individuals interested in businesses are naturally motivated by the principle of profit-maximization, with little consideration for the interests of their clients. This premise is too limited to be a general model for capitalism, however, because it excludes individuals who are concerned about the welfare of their fellow human beings. A more generalized principle would assume that an entrepreneur maximizes a bundle consisting of financial return or profit and social return. This assumption creates three groups of entrepreneurs (Elahi, 2002). The first group consists of traditional capitalists who mainly maximize financial returns or profits.

The second group consists of philanthropic organizations (like traditional micro credit NGOs) and public credit agencies that mainly maximize social returns. The third group consists of entrepreneurs who combine both rates in making their investment decisions under the additional constraint that financial return cannot be negative. This group includes the microfinance enterprisers who are to be treated as socially concerned people, and microfinance, which is to be treated as a social consciousness-driven capitalistic enterprise.

2.2.2 The Economic Theory

The economic theory treats microfinance institutions (MFIs) as infant industries, while the psychological theory differentiates microfinance entrepreneurs from traditional money lenders by portraying them as "social consciousness driven people." According to Remenyi (2000), the gist of the economic argument is that success in any business venture, including MFIs, is determined by the entrepreneurs' ability to deliver appropriate services and profitably. At best, some MFIs cover their operating costs while some of the better known among them are able to cover in part the subsidized cost of capital employed. This situation suggests that the MFIs will not become financially viable in the long run. One solution to this problem is to treat MFIs as infant industries, so that micro-lending businesses can be subsidized during their initial stages of operation. This subsidization would be beneficial to both the economy and society because this will help micro lenders realize economies of scale and the productivity fillip that comes with profitability.

The logic goes as follows: Over time, as clients of MFIs, micro entrepreneurs will establish their economic contracts with banks, retailers, government employees, and suppliers of production inputs, which will improve their skills dealing with money management, contractual obligations, and resource management. These skills should reduce the cost of transaction, disseminate information, and increase the micro entrepreneurs' ability to assess effectively available information to make sound business decisions. In this respect, society benefits from what is, in effect, a productive process leading to the creation of public goods as spin-offs from the growth of microfinance.

To the extent that these public goods have value, they are a legitimate basis on which to provide subsidies to MFIs while the transition to widespread outreach to poor households is ongoing (Remenyi, 2000). The Wealth of Nation says little about the psychological aspect of the theory. In Kenya like in many other countries, approaches to the regulation of MFI are complicated by the fact that many institutions are involved in providing MF services under different legal structures.

The present a challenge in identifying an appropriate regulating approach, which is conducive to the development of the sector while providing adequate facility to the MFI activities. The tiered approach recommended for Kenya recognizes the inappropriateness of the existing banking legalization for the regulation of specialized activities of MFI and the diversity of the institutions engaged in the less regulated sector. However MFI operating as banking institutions, SACCOs and Kenya Post Office Saving Bank are already regulated by the act of parliament that specifies their different supervisory authority

2.3 Determinants of Growth of MFI'S

Microfinance institutions are affected by internal factors such as lack of leverage, liquidity and risk management challenges, distribution challenges and human resource challenges.

2.3.1 Operation Capital

Microfinance is a capital-intensive activity, and MFIs require sustained injections of capital for on-lending (Moussa, 2007). Most MFIs need to make intensive investments in promoting new and poor clients. Alarcon (2008) indicates that the most important constraint for MFIs not to expand their outreach is the limited sources of funds. Brugger (2004) notes that MFIs, like any other financial institution, must have a minimum amount of its own capital for reducing the risks of its lenders and depositors and that the costs of doing business are high relative to the value of loans and deposits involved. Smaller MFIs struggle to cover the high operational costs and diversify their product offerings in order to compete with larger microfinance providers (Gupta, 2008). A microfinance intermediary will not only need to manage funds provided by the government or donors for the credit operations, it will also need to transform maturities, volumes and risks. Incoming deposits have to be matched with outgoing loans. Cautious risk management must ensure the safety of deposits. At the same time, liquid deposits will require higher standards of liquidity management to ensure accessibility (Deshpande, 2007; Fiebig, Hannig & Wisniwski, 1999).

2.3.2 Accessibility to the Customers

The primary clientele of MFIs consists almost by definition those who face severe barriers to access financial products from conventional financial institutions. According to Cracknell (2005), branches should be located in areas that allow the institution to provide accessible, frequent and convenient services to its customers. Gupta (2008), states that African MFIs struggle with the primary condition for success; sound leadership. White and Campion (2001), state that higher management capabilities are required and staffs need to be sufficiently motivated to meet challenges. Appropriate incentive structures and control measures need to be developed. MFI and bank leaders need both the vision and the managerial capacity to find a business model that can create efficiencies in the particular context, plan for its execution, know the risks, chart a path that overcomes the major challenges and stay the course.

2.3.3 Competition

While the aforementioned determinants generally facilitate growth, there are also factors that hinder potential growth (Davidson, 1989). Such factors are titled as growth barriers. It is argued that firms are more likely to face entry barriers and growth barriers compared to their large counterparts. Commonly addressed barriers for MFIs are the institutional barriers. Institutional barriers are mainly discussed with the focus on firms' interaction with government, including legalization, taxation, and government support amongst others.

Based on consistent results from both theoretical and empirical data, Davidson and Henrekson (2002) strongly argue that certain institutions intentionally discriminate against the growth of MFIs which in turn act as a growth barrier. It is not difficult to imagine that MFIs would have a tough period when they face unfavorable tax system, discriminatory regulations and complicated laws which other financial institutions can easily address. This therefore places the MFIs on a stiff competition in the financial market due to their small sized financial value of operation.

2.4 Empirical Reviews

This section re-examine literature related to the subject of the study which is based on global view narrowing to the local view. The review entails studies that have been conducted in relation to Microfinance institutions' growth and its determinants with aspects from different regions to give an overview of the situation in different parts of the world.

2.4.1 International Evidence

Craig (1997) studying on the management of growth of microfinance institutions, a study which provided microfinance practitioners with ideas and suggestions to assist them with the challenging task of managing growth illustrated that as microfinance institutions mature and as their local microfinance industry becomes more competitive, competition factor among other issues become increasingly relevant. The study observed that many microfinance institutions experience cycles of growth followed by periods of consolidation where they are forced to solve operational challenges such as decline in portfolio quality, client desertion, untrained and burned-out staff, and administrative challenges including loan processing and information systems. In addition, many smaller credit programs never experience growth because they lack the resources; technical and or financial and a commitment to the financial systems approach.

Navajas et al. (2003) study on Lending Technologies, Competition and Consolidation in the Market for Microfinance in Bolivian microfinance market, focused on two major MFIs, BancoSol and Caja Los Andes and BancoSol, which together covered around 40 percent of the total market. In particular, this study described the impact of the entry of Caja de Los Andes on BancoSol's performance and behaviour, as well as on the behaviour of BancoSol's clients. The results of their analysis showed that the impact of competition is ambiguous. On the one hand, it leads to innovation thereby allowing MFIs to expand outreach. On the other hand, however, it reduces the ability of lenders to cross-subsidize less profitable smaller loans.

Amando, (2005) in his speech at the National Capital Region Stakeholders' Forum on Stimulating the growth of microfinance institutions in the Philippines addressed that growth in the microfinance industry may be characterized by an increase in the breadth and depth of outreach of existing microfinance institutions, heightened competition among microfinance service providers, diversification of product and service offerings, and the presence of private and commercial funds for microfinance activities.

Olivares-Polanco (2005), using anecdotal and descriptive evidence from CGAP (2001), investigated the effect of competition in the microfinance business. Olivares-Polanco used a concentration index, measured as the market share held by the four largest MFIs in a country. Higher concentration was considered to be associated with a lower competitive environment. The analysis mainly focused on outreach (measured by average loan size) .The findings were that increased competition resulted in lower outreach.

2.4.2 Local Evidence

The Kenyan microfinance has shown resiliency despite local droughts and high inflation rates that afflicted the nation around 2008 and 2009. With the Kenyan government and the Central Bank of Kenya emphasizing financial access as a key to modernizing the economy, the sector has been strengthened by progressive policies and innovative approaches to delivering financial services.

According to an evaluation study on microfinance programmes in Kenya Supported through the Dutch co-financing programme, (Hospes 2002) concludes that the impact of the financial service provision by Kenya Women Finance Trust (KWFT) at the enterprise level is positive in many respects: Enterprise size and employment generation, both the quantitative and qualitative assessment show that the provision of loans by KWFT has helped women to keep them going even in the most difficult times, as well as contribute to providing continued employment to the women and their families, and to increase the number of employees in their business, either on temporary or permanent basis.

Mugo (2010) study on the effects of financial innovation on the growth of Micro Finance Institutions (MFIs) in Kenya, sought answers to the two research questions namely; which financial innovations were adopted by Micro Finance Institutions in Kenya, and how these affected the growth of MFIs in Kenya. The research findings showed that most MFIs have innovated new services like mobile banking, business accounts, SME loans, school fee loans, financial trainings and partnerships. Other MFIs have networked their offices, opened new branches and innovated new products in a bid to grow their firms. Besides, there was strong positive correlation between financial growth and reason like addressing clients' needs, clients' retention and reducing transaction time.

The research concluded that financial innovation by MFIs lead to an aggregate growth of firm in various dimensions like number of products, market share, loan sales and the overall profitability. The research findings indicated that financial innovations were a crucial growth strategy adopted by various Micro Finance Institutions.

According to the study conducted on the Factors Influencing the growth of MFI in Kenya by Munyiri (2010), over 70% of the MFIs were donor dependent and over 40% would not do without borrowings from other financial institutions. The study revealed that, a significant proportion of microfinance institutions were not certain when they would start the process of complying with the microfinance institutions regulatory framework that is currently in force in Kenya. Over 60% of the clients' dropout was necessitated by the microfinance institutions' products and services inability to satisfy clients' needs. Need to purchase urgent business stock stood out as the most prevalent unmet need. Over 70% of the MFIs had undergraduate degree as the lowest education level for their senior managers. About75% had their managers having gone through micro-financing trainings and leadership development programs. However, lack of credit facilities for managers wishing to further their studies was conspicuous.

An evaluation of the impact of internet and mobile banking in Kenya 2010 revealed that, the introduction of e-banking to the Kenyan financial institutions have witnessed many changes. Customers now have access to fast, efficient and convenient banking services Okiro (2010). Okiro further discovered that, most financial institutions in Kenya are investing large sums of money in information and communication technology (ICT). A study on evaluation of e-commerce models in Kenya revealed that the use of ICT for the reorganization of internal administration transactions, communications, inter relationships and for easy information flow and transfer has been offering considerable opportunity to increase the capacity of the MFIs in Kenya (Kipkech & Muganda, 2010). Intranets allow different departments to share databases of common customers and to pool skills and capacities of their members for problem solving. This allows an organization focus mostly on customer problems hence giving more weights on customer services.

Maina (2011) studied on the factors influencing the growth of MFI's in Nyeri Central District. This research study was conducted in order to study the factors that are responsible for the growth of microfinance institutions. The study sought to establish the economic factors influencing the growth microfinance institutions in Nyeri Central District, to find out how growth in information and communications technology has impacted on the growth of microfinance institutions in Nyeri Central District, to find out the marketing strategies employed by microfinance institutions and how these strategies have impacted on growth of the institutions and to establish how the management structures adopted by the micro finance institutions in Nyeri Central District have influenced growth of these institutions. The findings showed that economic factors could be contributing to the growth of MFls in Nyeri Central District including low annual turnover hence no enough funds for the high number of borrowers, low number of savers and high number of defaulters. It was also found out that all the MFls are using technology. However, most of the MFls' technology is not up to date. The challenges related to ICT include resistance to change among the employees, lack of funds to finance newer technology, and lack of technical skills to handle new technology. MFls may not fully benefit from technology when it is not up to date.

2.5   Summary of Literature Review

From literature reviewed the information available indicates that the number of micro finance institutions in Kenya is gradually increasing and dominant market players are growing, most microfinance institutions however register slow growth and further the reasons for this with respect to Kenya are not conclusive. Despite their success so far microfinance institutions only reach a fraction of the estimated underlying demand. There is huge latent demand for micro-credit around the country. Even though micro-finance bodies are meant to serve those who have been left out of the formal banking system, there is a growing concern that many Kenyans still lack credit facilities. This is because despite the growing number of microfinance institutions in Kenya, their outreach is constrained especially in rural areas, the study therefore seeks to establish the factors affecting their growth.

Most studies have focused on the small and micro enterprises growth to show how successful they have been after receiving micro-credit, few have tried to analyze the factors affecting the growth of microfinance institutions themselves. Although microfinance activity has grown considerably in recent years, it is still far from reaching a significant portion of the population that lacks access to formal financial services. Microfinance institutions despite their success over the past few years, have only grown to reach a fraction of the estimated underlying demand, extensive study is yet to be done on factors affecting their growth.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents a detailed descriptions of the methodology used in the study. It includes research design, description of the study area, target population, sample population, sampling procedure, data collection methods and data analysis methods.

3.2 Research Design

A descriptive study research design was employed to investigate the effect of competition and ICT on growth of MFIs in Kenya. Descriptive studies are usually the best methods for collecting information that will demonstrate relationships and describe the world as it exists. These types of studies are often done before an experiment to know what specific things to manipulate and include in an experiment. According to Shields (2003), a descriptive study is a research strategy, an empirical inquiry that investigates a phenomenon within its real-life context. It aims at describing the effect causation in order to find underlying principles characteristics of a group and focuses its attention on the objectives of the study (Shields, 2013). In this study, a descriptive survey was employed to collect the required information from the population targeted after which the data collected was analyzed through quantitative methods to show the causation factor of the growth in MFIs in Kenya.

3.3 Population

The target population for this study included the financial institutions which are members of the Association of the Microfinance Institutions in Kenya (AMFI-K). AMFI-K membership ranges from large, mature banks to relatively smaller MFIs, Deposit taking Microfinance Institutions, Sacco's, developmental institutions, wholesalers and retailers as well as micro-insurance providers. As at 2013, the membership stood at 62 micro financial institutions which offer the micro finance services in the country.

3.4 Sample

Owing to the widespread distribution of the targeted institutions all over the country, the study sampled the institutions which are within and near Nairobi for ease of data collection. The sampling procedure applied was convenience sampling method which involves selection based on availability (ease of access) of the population units. This was applied to select 34 micro financial institutions which are based within Nairobi and were able to give response to the study.

3.5 Data Collection

Both Primary and Secondary sources of data were used to ensure that the study is accurate and reliable. Primary data was collected with the use of a questionnaire that aims at collecting information regarding the influence of ICT on growth of MFIs. The questionnaire was designed to include both open and closed questions to allow for the respondents' deeper explanation of their views.

The questionnaire tool was handled to the field by the researcher which was through drop and pick method to allow the respondents to fill the questionnaires at their free time. Secondary data were collected from the bank's annual reports and financial statements which were used to evaluate the effect of competition and ICT on the bank's performance. The secondary data was collected in areas of; the company's saturation of markets, sales turnover ratio, and investment on advertisements per annum.

3.6 Data Analysis

Both descriptive and inferential methods were used this include; measures of central tendency (mean, median, mode), measures of dispersion (range, variance, standard deviation,), measures of relative position and measures of relations and associations, correlation and regression.

3.6.1 Analytical Model

A Multiple hierarchical regression model was used in this study. According to Mogull and Robert (2004), a multiple hierarchical regression allows simultaneous investigation of the effect of two or more variables. The model was employed so as to establish the relationship between the growth of the MFIs and competition and ICT infrastructure. The dependent variable of the study was the growth while the independent/predictor variables were the ICT level and competition. The significance of each independent variable was tested at a confidence level of 95%. The equation representing the algebraic expression of multiple regression model of the form below was applied;

Growth $= f$ (competition and ICT)

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \epsilon$$

Where Y= Growth of the MFIs as measured by ROE

β_0= Constant which defines the growth capacity without inclusion of independent variables

β_1= coefficient for individual influence of competition on growth of MFIs

β_2= coefficient for individual influence of ICT on growth of MFIs

X_1 = saturation/Concentration of MFIs (Measuring competition)

X_2 = Growth of investment in IT

ϵ= Standard Error

3.6.2 Test of Significance

The significance of the model was tested by the use of correlation coefficient (R) and the coefficient of determination (R^2) at 95% significance level. Analysis of Variance (F-test) was also conducted to test the significance and reliability of the developed model.

CHAPTER FOUR

DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

This chapter entails presentation, analysis and interpretations of study findings. The main objective of the study was to establish the effect of ICT and Competition on growth of microfinance institutions in Kenya. Data was collected from 34 microfinance institutions which are involved in microfinance business activities. The primary data was collected using semi-structured questionnaire while the secondary data was collected from the financial statements of the Micro finance institutions studied for a period of five years (2008-2012). The findings of the study are presented in form of charts and tables.

4.2 Background Information

Figure 4.1 Micro finance Sector Segments
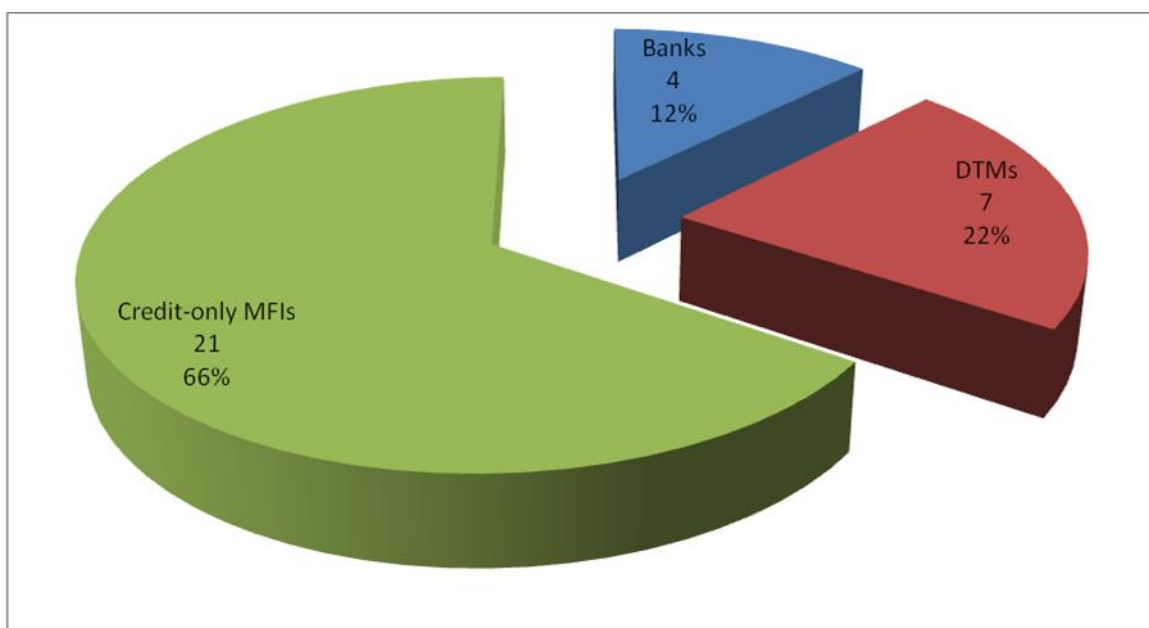
As the figure indicates, the relative market share of the different segments remained stable for the period studied, with the 4 Banks, 7 DTMs and 21 Credit-only MFIs respectively accounting for 12%, 22% and 66% of the sector.

In terms of relative growth in total assets, DTMs are leading in 2012 with 32%, followed by Credit-only MFIs (26%) and Banks (20%). Total assets of the sector register a stable growth over the past 5 years amounting to KES 298.4 billion in 2012. Without the banks, total assets of the sector registered at KES 43.8 billion in 2012 and report a 30.4% annual growth. The sector remains dominated by the banks, in particular Equity Bank which represents 72% of the sector's total assets as table 4.1 indicates;

Table 4.1 Size of MFI Sector as at December 2012

	Total Assets (Billion)	Percentage Growth
DTMs	32.6	31.8%
Credit-only MFIs	11.2	26.4%
Banks	254.5	20.0%
Total	**298.4**	**21.4%**
Total Without Banks	**43.8**	**30.4%**

4.3 Effect of Competition on Growth of MFIs in Kenya

The study aimed to determine the effect of competition on the growth of MFIs in Kenya. To evaluate this, the study collected information on the number of branches the microfinance institutions have in Kenya and the returns on equity for these institutions. The correlation between the two variables was conducted to evaluate the association between the variables.

4.3.1 Market Saturation

Table 4.2 Number of Branches of MFIs

The Number of Branches of MFIs in Kenya	Frequency	Percentage
Less than 10	9	29.4
10-20	16	47.1
Above 20	8	23.5
Total	34	100.0

Source: Research Findings

The table indicates that, 47.1% (n=16) of the MFIs have 10-20 branches in different parts of the country, 23.5% (n=8) have more than 20 branches for their operations in the country while 29.4% (n=9) have less than 10 branches across the country. This therefore indicates that, most of the MFIs in Kenya have between 10 and 20 networks of operations (branches) across the country and can meet a significant number of clients requiring financial services at a small scale. Having most of the MFIs under this category implies high levels of competition as these branches are established in major towns which are the scramble points for other financial institutions.

4.3.2 Correlation between Competition and Growth of MFIs

Table 4.3 Correlation Analysis for Competition and Growth of MFIs

		Growth of MFIs
Competition	Pearson Correlation	-.871
	Sig. (2-tailed)	.008

Source: Research Findings

The association between the level of competition and MFIs' growth was tested at 5% level with a 2-tailed test. The results indicate that, the two variables are negatively and strongly correlated as given by the correlation value of -0.871. The association was also found to be significant as the p-value indicates (0.008< 0.025).

4.4 The Effect of Information Communication Technology on Growth of MFIs in Kenya

The second objective of the study was to establish the effect of ICT on growth of microfinance institutions in Kenya. In order to fulfill this objective, the study established the trends in various financial paradigms within microfinance institutions in Kenya. The study findings are illustrated in the following subsections.

4.4.1 ICT investment over total assets

Table 4.4 ICT investment over total assets

	Frequency	Percent
0-20%	2	5.9
21-40%	5	14.7
41-60%	7	20.6
61-80%	16	47.1
81-100%	4	11.8
Total	34	100.0

Source: Research Findings

According to the findings in table 4.3 the MFIs' percentage investment in ICT over net assets rages 61-80% as most (47.1%, n=16) of the organizations indicated. 20.6% were those which reported that they invest 40-60% in ICT over their total assets, 14.7% invested 21-40%, and 11.8% invested up to 100% while 5.9% had their total percentage of ICT investment up to 20%. This indicates that, investing in ICT in MFIs has been of high attention to their management as they recognize its importance in their organizational performance.

4.4.2 Cost Incurred for ICT investment by MFIs in Kenya

Table 4.5 ICT investment cost

		Frequency	Percent
Valid	High	16	47.1
	Moderate	12	35.3
	Low	6	17.6
	Total	34	100.0

Source: Research Findings

On rating the ICT investment cost in their organizations, majority, 47.1% of the respondents indicated that, their companies had been incurring high costs in ICT investment towards operations, 35.3% indicated that their organizations were incurring moderate expenses on ICT investment while 17.6% indicated that their companies had been incurring considerably low costs in ICT investment for their operations. Thus, MFIs in Kenya has been incurring high expenses in ICT investment towards their operations which also contribute to their operation efficiency.

4.4.3 Annual Investment on ICT

Table 4.6 Average annual investment on ICT

	Minimum	Maximum	Mean	Std. Deviation
Average annual investment on ICT	150,000.00	35,000,000.00	6.3618E6	9.19821E6

Source: Research Findings

The average ICT investment per annum for the MFIs in Kenya ranges from 150000 Kshs to 35,000,000 Kshs which on average is 6,361,800 Kshs with a standard deviation of 9,198,210 Kshs. This deviation however has been explained by the period under which the organization has been under operation which also contributes to its ability to invest more in ICT and other marketing tools.

4.4.4 Correlation between ICT Investment and Growth of MFIs

Table 4.7 Correlation Analysis for ICT Investment and Growth of MFIs

		Growth of MFIs
Investment in ICT	Pearson Correlation	.980[**]
	Sig. (2-tailed)	.011

Source: Research Findings

The correlation test results as presented in table 4.6 indicate that, there is a strong correlation between investment in ICT and growth of MFIs. The association is also positive as the correlation value is 0.980. The significant value for the association is 0.011 which is a value less than 0.25 testing at 5% level with a 2-tailed test, thus the association between the variables is strong and statistically significant.

4.5 Regression Analysis

The researcher performed a regression analysis to establish the association between the independent variables with the dependent variable.

The regression model was as follows:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + €$$

Where:

Y= Growth of the MFIs as measured by ROE

β_0= Constant which defines the growth capacity without inclusion of independent variables

β_1= coefficient for individual influence of competition on growth of MFIs

β_2= coefficient for individual influence of ICT on growth of MFIs

X_1 = saturation/Concentration of MFIs (Measuring competition)

X_2 = Growth of investment in IT

$\in$ Standard Error

Analysis in table 4.8 shows that the coefficient of determination (R2) equals 88.1 which imply that the percentage variation in the dependent variable (Growth of MFIs) is explained by the independent variables (Competition and ICT).

Table 4.8 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.892[a]	.881	.870	18.11531

a. Predictors: (Constant), Competition, ICT

Source: Research Findings

The independent variables (competition and ICT), explain 88.1% of the variation in the growth of MFIs in Kenya as represented by the R Square. This therefore means that other factors not studied in this research contribute 11.9% of the variability in the growth of MFIs.

Findings in the table also illustrate that, the study results are 87.0% reliable as indicated by the Adjusted R Square value. This shows that, had the study been conducted using entire population rather than a sample, the results would have been 13.0% different from the current finding which is not a significant difference that can result to disagreeing set of findings.

Table 4.9 ANOVA for the Relationship between Competition, ICT and Growth

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	1983.322	6	330.554	3.7011	.013[a]
Residual	2411.412	27	89.312		
Total	3929.734	33			

a. Predictors: (Constant), Competition, ICT

b. Dependent Variable: Growth of MFIs

Source: Research Findings

From the table, the significance value is .013 which is less than 0.025. Therefore the model is statistically significant in predicting growth of MFIs. The F critical at 5% level of significance is 3.23. Since F calculated is greater than the F critical (value = 3.7011), this shows that the overall model was significant.

Table 4.10 Coefficients of Regression Equation

Model	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
1 (Constant)	2.518	.140		1.7213	.001
Competition	-.089	.049	-.155	-1.092	.006
ICT	.051	.058	.041	.138	.013

Dependent Variable: Growth of MFIs

Source: Research Findings

The coefficients in table 4.10 answer the regression equation relating the depended and the independent variables. Testing the significance of the coefficients at 95% significance level, the table indicates that all the variables had a significance value less than 0.05 thus confirming the significance of the results. Also, from the table, competition has a negative coefficient while ICT has a positive coefficient indicating that, competition has a negative effect on the depended variable whereas investments in ICT has a positive effect on growth. Based on these coefficients, the regression model therefore becomes;

$$Y = \beta_0 + \beta_1 X1 + \beta_2 X2 + \epsilon$$

Growth of MFIs = 2.518 - 0.089 Competition + 0.051 ICT

Thus, the model indicates that, holding the predictor variables constant, MFIs' growth would be 2.518. Also, a unit growth in competition would result to 0.089 times decline in growth of MFIs while a unit increase in ICT adoption would result to a 0.051 times increase in growth of MFIs. This therefore shows that, competition and growth are inversely related unlike ICT investments and growth which are positively related.

4.6 Interpretation of the Findings

In line with the findings obtained in this study, a correlation coefficient of 0.892 was obtained which according to the Pearson correlation scale is in the interval 0.7- 1.0 indicating presence of a strong correlation. The reliability of the results was confirmed as the R Square was obtained to have a high percentage showing that these variables can be relied on to explain the variability in the dependent variable. Thus, it is apparent that the level of competition in the microfinance sector and the ICT application in their operations associates positively with the growth of these institutions. Thus, the more investments towards competition addressing and ICT application, the better the returns of the institution's financial portfolio.

The analysis of variance table (F-test) results indicated that the obtained model is statistically significant and therefore can be relied to explain the interrelationships between growth and its determinants (competition and ICT). This therefore explains that, the level at which an organization sets its innovativeness through technological measures to curb competition determines its competitiveness.

From the model regression developed, a unit growth in competition would result to 0.089 times decline in growth of MFIs while a unit increase in ICT adoption would result to a 0.051 times increase in growth of MFIs. There is therefore an inverse relationship between competition and growth whereas a positive relationship exists between ICT adoption and growth. The level at which competition affects growth is greater than that of ICT adoption. Thus, based on these, microfinance institutions should be geared up towards address competition pressures through establishments of more branches and ICT investments which contribute positively to their growth.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter presents a summary of the research findings presented in chapter four above. The conclusion drawn from the findings of the study are also presented in this chapter. Besides, the chapter presents recommendations and areas for further study.

5.2 Summary

The main objective of the study was to establish the effect of competition and Information Communication Technology on growth of micro financing institutions in Kenya. In order to fulfill the main objective, the study established the relationships between the two paradigms within microfinance institutions in Kenya. The regression results indicated the relationship between competition and information communication technology and the growth of MFIs.

The study findings illustrated that, 47.1% of MFIs have between 10 and 20 branches in different parts of the country, 23.5% have more than 20 branches and 29.4% have less than 10 branches across the country. This gives the MFIs' banking networks across the nation which implies their competitiveness with other financial institutions. The association between the level of competition as indicated by the networking of the banks through saturation and MFIs' growth was tested at 5% level with a 2-tailed test. The findings revealed that, the two variables are negatively and strongly correlated with a correlation of -0.871. This association was also found to be significant as the p-value indicates at 5% level.

The study found out that ICT investments in most MFIs rages 61-80% over their total assets. This indicates that, investing in ICT in MFIs has been of high attention to their management as they recognize its importance in their organizational performance. On rating the ICT investment cost in Micro Finance Institutions, the study results indicated that, 47.1% of the MFIs in Kenya incur high costs in ICT investment towards operations, 35.3% incur moderate costs while 17.6% were found to incur low costs in ICT investment for their operations. This therefore indicates that, MFIs in Kenya incur high expenses in ICT investment towards their operations which also contribute to their operation efficiency.

Testing the correlation between investment in ICT and MFIs' growth, the study found out that, there is a strong and positive association between investment in ICT and growth of MFIs. The significant value for the association is 0.011 testing at 5% level with a 2-tailed test, thus the association between the variables is strong and statistically significant.

The regression test findings indicated that, holding other factors constant, the independent variables of the study (competition and ICT), contributes to 88.1% of the variation in the growth of MFIs in Kenya. Findings also illustrate that, the regression model developed in the study is statistically significant in predicting growth of MFIs. The model coefficients were found to be significant testing at a 5% level. Further, findings indicated that, competition has a negative coefficient while ICT has a positive coefficient indicating that, competition has a negative effect on the depended variable whereas investments in ICT has a positive effect on growth.

From the model developed, the findings indicated that, holding the predictor variables constant, MFIs' growth would be 2.518 whereas a unit increase in competition would result to 0.089 times decline in growth of MFIs while a unit increase in ICT adoption would result to a 0.051 times increase in growth of MFIs. Thus, these findings indicated that competition and growth are inversely related unlike ICT investments and growth which are positively related.

5.3 Conclusion

The study obtained significant results which answered the research questions that the study sought to answer thus meeting its objective. Based on these findings therefore, the researcher makes conclusions which are as presented below;

As in other industries, the degree of competition in the micro-financial sector can matter for the efficiency of the production of financial services, the quality of financial products and the degree of innovation in the sector. From the findings, increased competition in the sector leads to lower costs and enhanced efficiency. The competitiveness of microfinance systems relates positively to the number of branches (networks) established in the country.

While greater concentration is generally associated with less favorable prices for customers, higher measured profitability, and reduced firm access to credit, these findings are frequently not healthy to including other measures of micro financial competition.

Information communication technology has been of great essence in the micro financial system. The findings then proved that Information technology contributes to the micro financial system in three different ways as follows: ICT saves the time of the customers and the employees conspicuously, ICT cuts down the expenses and ICT facilitates the network transactions.

Utilization of information communication technology has been magnificently increased in service industries, particularly, the banking industry, which by using Information Technology related products such as internet banking, electronic payments, security investments, information exchanges, financial organizations can deliver high quality services to client with less effort and consequently increased performance and growth.

Relationship concerning Information technology and banks' performance has two encouraging outcomes; Firstly, Information technology can bring down the operational costs of the MFIs (the cost advantage) where internet technology facilitates and speeds up MFIs procedures to accomplish standardized and low value-added transactions such as bill payments and balance inquiries processes via online network. Consequently, this technology helps MFIs concentrating their capitals on exceptional, high-value added transactions such as personal trust services and investment banking via branches. The second encouraging outcome is that Information Technology can promote transactions between customers within the same network (the network effect).

5.4 Recommendations

With reference to the findings and conclusions made in this study, the researcher makes policy recommendations which can be adopted for betterment of the micro-financial sector's performance. These include the following;

Our results on the competition influence on growth suggest that competition policy in the financial sector is more complicated than perhaps thought. In part, this may be because financial services industries have been undergoing rapid changes, triggered by deregulation and technological advances. Thus, to ensure competitiveness of the sector, policies should be implemented which shall ensure fair competition to the young micro finance institutions hence facilitating their growth. Therefore, developing proper competitiveness tests and methodologies will remain an important area of research and policy focus.

There are always potentials of crisis which make micro financial institutions endure an insufficiency; thus, advanced information system supported by a superior mechanism control is required to make certain that an information system has achieved the required processes.

5.5 Limitations of the Study

The study concentrated on a number of MFIs in Kenya which have their operations specifically in Nairobi. This however limited the findings to Nairobi County and therefore not suitable to be generalized to all counties in Kenya.

Not all the institutions approached during data collection were able to respond positively to the request due to internal restrictions of their management among other unwilling personnel to give the information. Others took too long to respond which the researcher was not able to accommodate in the findings.

Although the researcher ensured to the respondents that their confidence and privacy will be maintained, some respondents were not free to give some information due to fear and confidentiality.

5.6 Suggestions for Further Research

More research is clearly needed on the topic of microfinance institutions' concentration and competition which shall cover a significant number of microfinance institutions in different regions of the country.

One useful direction for future research is likely to be additional focus on developing (young) micro financial institutions and their problems of credit availability, their contribution to economic growth, and financial stability.

Along these lines, more detailed analyses of how regulatory and supervisory policies influence their performance and overall economic performance may provide policymakers with considerably improved information for formulating the sector policies.

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APPENDICES

Appendix I: List of Micro Finance Institutions in Kenya as at December 2013

AAR Credit Services	One Africa Capita Ltd
Bimas	Pamoja Women Development Programme
Century DTM	Juhudi Kilimo Co.Ltd
ECLOF Kenya	Fusion Capital Ltd
Equity Bank	Canyon Rural Credit Ltd
Faulu DTM	ADOK TIMO
Jamii Bora Bank	Molyn Credit Ltd
Jitegemea CS	Renewable Energy Technology Assistance Programme(RETAP)
Kadet	Yehu Microfinance Trust
Postbank	Rupia Ltd
K-REP Bank	Taifa Options Microfinance
KWFT DTM	Select Management Services Ltd
Micro-Africa	Greenland Fedha Ltd
Musoni	Youth Initiatives – Kenya (YIKE)
Opportunity Kenya	Ngao Credit Ltd
PAWDEP	Indo Africa Finance
Platinum Credit	Springboard Capital

Rafiki DTM	Mini Savings & Loans Ltd
Remu DTM	KEEF- Kenya Entrepreneurship Empowerment Foundation
Samchi Credit	Women Enterprise Solutions
SISDO	Focus Capital Limited
SMEP DTM	Samchi Credit Limited
Springboard Capital	Fountain Credit Services Ltd
Sumac Credit	Milango Financial Services
U&I	Nationwide Credit Kenya Ltd
Cooperative Bank	Fort Credit Limited
Kenya Post Office Savings Bank	Unaitas Sacco Society ltd.
OIKOCREDIT	Microensure Advisory Services
MESPT	Stromme Microfinance East Africa Ltd
Women Enterprise Fund	K-rep Development Agency
Blue Limited	

Source: AMFI-K (2013)

Appendix II: Introduction Letter

UNIVERSITY OF NAIROBI
SCHOOL OF BUSINESS
MSC FINANCE PROGRAMME

Telephone: 020-2059162
Telegrams: "Varsity", Nairobi
Telex: 22095 Varsity

P.O. Box 30197
Nairobi, Kenya

DATE..20./.8./.14.

TO WHOM IT MAY CONCERN

The bearer of this letter ... LUCY...... MUGABUKHA.... ANANGWE

Registration No....b.63./.75.6.47./2012.....................

Is a bona fide continuing student in the Master of Science in Finance (MSC) degree program in this University.

He/she is required to submit as part of his/her coursework assessment a research project report on a management problem. We would like the students to do their projects on real problems affecting firms in Kenya. We would, therefore, appreciate your assistance to enable him/her collect data in your organization.

The results of the report will be used solely for academic purposes and a copy of the same will be availed to the interviewed organizations on request.

Thank you.

20 AUG 2014

PATRICK NYABUTO
MBA ADMINISTRATOR
SCHOOL OF BUSINESS

Appendix III: QUESTIONAIRE

SECTION 1: Background Information

1. Name of institution _____

SECTION 2: Effect of Technology on Growth of MFIs

2. What is the percentage of investment in ICT over total Net assets in your organization?

   0 - 20% ☐   21 - 40% ☐   41 - 60% ☐   61 - 80% ☐

   81 - 100% ☐

3. Which other roles does technology play in your organization in regard to its growth?

   _____

   _____

   _____

   _____

   _____

4. On average, how much does your organization invest on ICT annually?

   _____

5. How do you rate the ICT investment cost as incurred by your organization?

Very High ☐   High ☐   Moderate ☐   Low ☐

Very Low ☐

Thank you for your response