EFFECT OF LOAN LOSS PROVISIONING, CAPITAL ADEQUACY AND COST OF OPERATIONS ON FINANCIAL PERFORMANCE OF MICRO FINANCE INSTITUTIONS IN KAKAMEGA COUNTY, KENYA

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EFFECT OF LOAN LOSS PROVISIONING, CAPITAL ADEQUACY AND COST OF OPERATIONS ON FINANCIAL PERFORMANCE OF MICRO FINANCE INSTITUTIONS IN KAKAMEGA COUNTY, KENYA

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ABSTRACT

This study sought to investigate determinants of Micro Financial Institutions financial performance in Kakamega County, Kenya. The study adopted descriptive survey and targeted 122 senior management staff from 17 MFIs located in Kakamega County. The study used structured questionnaire as its research tool. The data collected was coded for accuracy of information at the end of every field data collection day and stored both manually and electronically. Computer software, Statistical Package for Social Sciences (SPSS) version 23 was used in data analysis. A total of 85 respondents out of the sampled 94 respondents returned completely filled questionnaires representing a response rate of 90.4%, thus good for generalizability of research findings to a wider population. From the values of unstandardized regression coefficients with standard errors in parenthesis, all the independent variables (cost of operations; β = -0.284 (0.103) at p<0.05; loan loss provision; β = 0.389 (0.107) at p<0.01; capital adequacy; β = 0.518 (0.112) at p<0.01; were significant predictors of Micro Financial Institutions ROI (dependent variable). The study concluded that capital adequacy significantly influences Micro Financial Institutions return on investment in Kakamega County, Kenya; indicating that capital adequacy issues such as, adequate capital base, relative capital and minimum capital requirements have a significant bearing on Micro Financial Institutions return on investment; The study recommended that one; MFIs should enact effective costs saving measures that can impact positively on MFIs return on investment so as to maintain a competitive edge; two, MFI ought to engage in viable loan loss provisioning such as long term debt financing, provisioning for bad debts, a priori loan loss reserve and appropriate provision expenses so as to realize an increase in return on investment; lastly, MFIs should adhere to mandatory minimum capital requirements and accrue an adequate capital base that can effectively run their loan portfolios so as to continuously realize a positive return on investment.

***Key Words**: Cost of Operations, Loan Loss Provisions, Capital Adequacy, Financial Performance*

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INTRODUCTION

The provision of financial services through Micro Finance Institutions to those with least financial ability was begun by Professor Yunus in 1972. In his wisdom, Yunus started by giving the financially less fortunate loans who would not otherwise have had such an opportunity through the mainstream banking system. His efforts evolved into the famous Grameen Bank that offered the coveted financial services to this category of people (Yunus, 2008). It is this stage that has established what is known today as the MFIs world over providing a platform for the poor to enjoy banking services. Many of these MFIs are small in size and targeting specific communities and often grow to become mainstream banks. For instance, Bangladesh has experienced a robust growth in the MFIs sector that has been the genesis of banks like the Bangladesh Rural Advancement Committee, Grameen bank and Poshika to mention but a few that have had an impact as far as reducing poverty among the poor in their country is concerned (Yunus, 2008).

The IMFs Poverty Reduction Strategy Paper (2005) estimated that people living in poverty would have been a staggering 55.4 percent in Kenya by 2001 and later estimated to have risen to more than 56 percent in 2003. In a bid to address this desperate position of affairs, Parker et al. (2000) advise that MFIs can play the financing role of people‟s economic options in addition to diversifying their incomes and overall improvement of their quality of life. Thus, achieving the objectives as spelt out by Parker et al (2000) would rather be a mere wish unless we assess the factors that would determine the financial self-sustainability of these MFIs. Mulunga (2010) in his study observed that lack of regulatory, policy framework, inadequate capital and operational expenses were the main constraints. However, the study said nothing about corporate governance practices specifically, dependency on donor funds and how to address the high operational costs.

According to Nyamsogoro (2010), it is better not to have MFIs than having unsustainable ones, indicating how important performance of MFIs is. Sri Lanka is well known for its significant improvements in human development indicators. Sri Lanka remains a low income country and that the micro finance sector in Sri Lanka has grown to enviable levels and most of the MFIs are deemed financially sustainable (Kelegama, 2011). Though finance is a prerequisite for the economic empowerment, inability to access formal finance has become a critical concern in this regard (Safiuddin, 2011).

Previous research has revealed that MFIs in Malaysia have operation self-sufficiency and have higher performance in terms of return on asset (ROA) and return on equity (ROE). All these studies used financial metrics in the measurement of performance of microfinance institutions. Accounting profitability was used as a high standard measure of financial sustainability (Cull et al., 2007). Survey conducted in Nepal, South Asia by Nepal Rastra bank (2004) revealed that only 20% of rural population has access to formal credit and the remaining relied to informal credit. The survey recommended setting up of microfinance institutions so as to fasten the rate of economic development in the country. Fast-forward to 2015, Nepal had more than 70% of rural population access to formal credit. This was made possible by increase in microfinance institutions penetration in rural areas. Consequently, there was decline in population living below poverty line from 25.2% in 2004 to 11.2% in 2015 (Yanus, 2015).

Microfinance institutions in Uganda are always often faced with high operating costs to provide financial services to the people. As more microfinance institutions grow, they tend to become formal financial institutions. Each microfinance institution has a unique profile and operational structure that determines which types of controls are appropriate to increase financial sustainability (Mazlan, 2014). Microfinance sector in Tanzania has recently experienced tremendous growth. This is due to the increased number of firms engaging in microfinance services including commercial banks and other profit oriented firms

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(Triodos, 2011). Recent statistics shows that financial sustainability of microfinance institutions in Tanzania has improved. More than half of them are self-financed and highly efficient and effective in terms of costs and operations (Tehulu, 2013).

In Kenya, like in a number of African countries, providing financial services to poor populations in rural areas remains to be the biggest of challenges. Poor communications‟ infrastructure, inadequate literacy levels, undiversified economies, risky economic activities are main characteristics of rural Kenya (Ngema, 2011) making it unattractive to Microfinance Institutions and commercial financial institutions (Johnson et al., 2005).

Ngema (2011) has observed that the microfinance industry has relatively grown slowly, having been around for 10 years and according to Hopes et al. (2002), in the past 20 years, the sector had seen a number of MFIs open their doors in addition to the boost by both the Kenya government and international donor agencies.

Having identified the scarcity of credit as a major obstacle to economic growth, the government of Kenya, brought in the Microfinance Act that came into force on 2nd May, 2008 following the Microfinance (Deposit Taking Microfinance Institutions) regulations by the Central Bank. The Act covers Deposit Taking Microfinance Institutions as well as non-deposit taking MFIs in addition to providing for banks to establish fully owned subsidiaries to undertake MFIs business (Nderi, 2012)). The Act has paved way for a much more comprehensive and consistent regulatory environment for MFIs having been designed to promote the performance and sustainability of deposit taking MFIs in addition to protecting depositors' interests better. The Act also enables MFIs to provide more wholesome financial services to the small micro enterprises‟ Sector (Nderi, 2012).

The research findings in Mugo (2012) highlighted that financial innovation contributed to the expansion of the MFIs market share, increase in the number of clients and earnings in Kenya in addition to the study by Nderi (2012) that established that the three determinants; self-sustainability commercialization, and automation of customer products and services have a weighty effect on the revolution of MFIs in Kenya but financial issues such as cost of operations, loan loss provision, capital adequacy and asset quality have not been addressed by researchers yet could significantly impact on MFIs' performance.

Statement of the Problem

While Microfinance institutions have enhanced accessibility to basic financial services such as savings, loans, money transfer to small and medium entrepreneurs, there are inadequate studies on the overall performance of these MFIs. For instance Hudon (2015) observed that the role of donors in microfinance is rapidly growing, particularly since the emergency of social responsible and commercial investors and argued that public policy should be premeditated to facilitate the entry of new private actors without deserting the markets that could not work without public support.

More so, Sravani (2013) argues that being key drivers of economic growth today, technology, innovation and knowledge have become fundamental in the growth of MFIs -as technology brings in the ability to speed up the flow of information and capital, automate transactions, improve customer experience, control and analyze data, reduce transaction costs, and increase efficiency and customer outreach. Further, Moenga (2015) argued that that good corporate governance has been identified as a key holdup in the strengthening of MFIs financial performance.

More so, Prudent financial management practices is crucial for survival of microfinance institutions which deliver financial services to the poor households with limited access to formal financial institutions (Obamuyi, 2007). However, the financial performance of microfinance institutions has received a general global displeasure despite the fact that international and national development programs have been giving high priority on sustainable microfinance for many years.

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Consequently, some have resorted to downsizing while others have closed business. This is caused by high running costs which affect their profitability and long term survival (Wafula, 2011). As a result of the underperformance of MFIs, the poor and vulnerable are not able to access formal financial institutions and are thus left with no hope of breaking the poverty bondage (Arsyad, 2015). Several studies conducted on financial management practices on performance of MFIs have been found to have scanty information which cannot be relied on for better improvement on MFIs performance and further; most studies on financial determinants of MFI performance were not done in Africa. This limited information had subjected most MFIs to total closure and downsizing of staff (Arsyad, 2015). Therefore, this research gap motivated this study to investigate financial determinants of MFI performance in Kakamega County, Kenya.

Research Objectives

The general objective of this study was to examine the determinants of financial performance of Micro Finance Institutions in Kakamega County, Kenya. The specific objectives:-

- To evaluate the influence of cost of operations on financial performance of Micro Finance Institutions in Kakamega County, Kenya.
- To determine the effect of loan loss provisions on financial performance of Micro Finance Institutions in Kakamega County, Kenya.
- To assess the effect of capital adequacy on financial performance of Micro Finance Institutions in Kakamega County, Kenya.

Research Hypotheses

H_{01}: There is no significant relationship between cost of operations and financial performance of Micro Finance Institutions in Kakamega County.

H_{02}: There is no significant relationship between loan loss provisions and financial performance of Micro Finance Institutions in Kakamega County.

H_{03}: There is no significant relationship between capital adequacy and financial performance of Micro Finance Institutions in Kakamega County.

LITERATURE REVIEW

Theoretical Framework

Market Power Theory

Market power theory emanated from Bain (1951). This theory stresses that an increase in market power results to a monopoly, profits (Athanasoglou, Brissimis& Delis, 2005). The theory is based on the premise that concentration of the market is a best measure for market power since more concentrated markets exhibit superior market imperfections facilitating various entities to set prices for their products and services at levels which is less favourable to their clients or customers (Punt &Rooij, 2001). The theory also affirms that companies with a large market share and sound differentiated products and services can easily earn monopolistic profits and succeed or win against their competitors (Nkegbe&Yazidu, 2015).

Efficiency Theory

The Efficiency Structure theory asserts that bank performance is not determined by the market concentration but by bank efficiency. This theory is also made up of two distinct hypotheses, namely X-efficiency and Scale–efficiency (Olweny&Shipho, 2011).According to the X-efficiency hypothesis, a bank which operates more efficiently than its competitors can be more profitable due to lower operational costs. Such firms tend to gain larger market shares and thus higher market concentration, however it is argued that concentration alone should not lead to increased profitability (Olweny&Shipho, 2011). Athanasoglou et al. (2008) argue that with other factors held constant, the impact of concentration on profitability should be negligible. Thoraneenitiyan (2010) discusses that banks with better management and practices will be better at controlling costs and earning profits, thus “moving

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the bank closer to the best-practice, lower bound cost curve."

Agency Cost Theory

The agency cost theory arose from the seminal contributions of Jensen &Meckling (1976). Agency cost theory assumes that firm's financing structure can be used as a mechanism or vehicle by managers and investors solve the free cash flow problem. Agency theory explains that corporate form of organizations is illustrated by professional managers who have little ownership but are running business on behalf of shareholders (owners) who are extensively dispersed characterizes an archetypal principal-agent problem (Gedajlovic& Shapiro, 2002). Agency costs arises from separation of ownership and control, whereby managers maximize their own benefits or employ the firm's resources for personal gains instead of maximizing value of firm or the shareholder's wealth (Mian, Haris& Muhammad, 2012).

Signaling Theory

The signaling theory emanated from Arrow (1972;Spence1973). Signaling theory presupposes that best performing or profitable firms supply the market with positive and better information (Bini, Dainelli & Giunta, 2011). In addition, the signaling theory is one of the theories, which have a clarification for the association between profitability and capital structure (Alkhazaleh & Almsafir, 2014). This theory presupposes that a superior capital structure is an optimistic signal to market worth of the organization (Adeusi, Kolapo & Aluko, 2014). The signaling theory further postulates that majority of the profitable firms signal their competitive power through communicating new and important information to market. Thus, information is disclosed by means of specific indicators or ratios which, very often, measure specific conditions on which to enter into or renew the agency contract (Bini, Dainelli&Giunta, 2011).

Economic Model of Firm Performance

This study was based on economic model of firm performance by Santos and Brito (2012) where they posit that while there is a range of specific models, major determinants of firm-level performance include: (1) characteristic of the industry in which the firm competes; (2) the firm's position relative to its competitors; and (3) the quality or quantity of the firm's resources. These also depend on industry variables (growth,concentration, capital intensity and advertising intensity) and firm variables (firm size, diversification). Thus the typical economic model of firm performance explains that firm performance can be measured in terms of profitability, growth, market value, customers' satisfaction, employee satisfaction, environmental and social performance. From the economic model of firm performance, this study will measure MFI performance in terms of profitability (ROI), market share growth and customer retention since satisfied customers are assumed not to leave a particular MFI with quality products and service that meets customer needs.

Empirical Review

The Effect of Capital Adequacy on Performance of Micro Finance Institutions

When analyzing the determinants of bank profitability, certain factors stand out. They are bank-specific and within the scope of banks to influence using policy and decisions. These factors will differ from bank to bank and thus are appropriate when conducting a comparative study of various commercial banks with regards to performance. They include Capital adequacy, Management efficiency, Earnings and Liquidity. The CAMEL rating system is widely used, especially by regulatory bodies in the evaluation and ranking of bank safety and soundness (Altan et al., 2014). It involves reviewing different areas of a bank based on various sources of information including financial statements, budgets, financing sources and others. CAMEL is an acronym for the five bank-specific factors named above which will be analysed in detail in relation to banking

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performance (Nimalathasan, 2008). According to Buerger (2011) the CAMEL rating is the most crucial number to a bank, in terms of regulation. She states that " all bank directors should have a firm understanding of the meaning of CAMELS ratings and the profound impact these ratings have on the bank."

Capital Ratio: Capital is the amount of own funds that a bank has to fund its activities and can be used as a safeguard in case of unfavourable changes in the environment (Athanasoglou et al., 2008). Ongore and Kusa (2013) explain that enough capital is necessary for liquidity purposes as bank deposits can be susceptible to bank runs. Capital adequacy is thus, an indication of a bank's capital strength in terms of insolvency risk. Capital adequacy ratio (CAR) is commonly expressed by the sum of Tier I Capital and Tier II Capital as a percentage of a bank's risk weighted assets (Swarnapali, 2014). Capitalization is another indicator of capital adequacy measured by the ratio of shareholders' equity to total assets of a bank (Onuonga, 2014). This shows the extent to which a bank's assets are financed by the owners' funds (Obamuyi, 2013).

Earnings: Profit maximization is the main objective for most financial lending organizations, including micro finance institutions, and is often viewed as an indicator of sound performance. Nimalathasan (2008) explains that earnings are a reflection of a bank's ability to continue conducting business in the present and future. Thus the earnings or profits element in the CAMEL rating system examines the quality of a bank's profitability as well as the sustainability of profits and potential for future growth (Altan et al., 2014). A bank with high earnings is able to increase its own capital base, finance expansion ventures and pay attractive dividends to its shareholders as well as build the bank's provisions or reserves. Profitable banks can absorb loan losses, reward shareholders and inspire public confidence which is essential for their continued success. Effective and efficient asset and liability management is important for banks to start enjoying good returns (Muhmad&Hashim, 2015).

The Effect of Loan Loss Provision on Performance of Micro Finance Institutions

To begin with, Miller and Noulas (1997) suggest that the more financial institutions being more exposed to high risk loans increases the accumulation of unpaid loans and decreases the profitability. This suggests that decline in loan loss provisions are in many instances the primary catalyst for increases in profit margins. Furthermore, Thakor (1987) also suggested that the level of loan loss provisions is an indication of a bank's asset quality and signals changes in the future performance.

Fadzlan and Parman (2009) in their paper on the specialization and other determinants of non-commercial banks financial institutions profitability in Malaysia revealed that Loan Loss Provision had a negative relationship with bank profitability and was statistically significant indicating that financial lending institutions with higher proportion of riskier loans tend to exhibit lower profitability levels. The finding is consistent with earlier studies by Barret al.(2002) which have found negative relationship between problem loans and bank performance efficiency. Thus past researches (Barr et al.2002) suggest that banks approaching failure tend to have low cost efficiency and experiencing high ratios of problem loans and that failing banks tend to be located far from the best practice frontiers. Therefore, serious banking problems have arisen from the failure of financial institutions to recognize impaired assets and create reserves for writing off these assets.

The Effects of Cost of Operations on Performance of Micro Finance Institutions

According to Frederick (2014), costs of operations are controllable expenses which can only have a positive impact on performance of commercial banks when they are managed well. Operating costs of a bank are usually expressed as a percentage of profits and are known to have a negative relationship with bank performance

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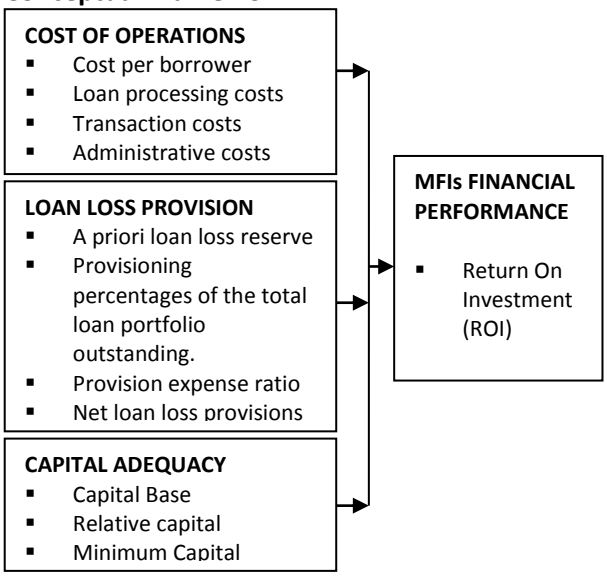
(Swarnapali, 2014), however improved management of these expenses can increase efficiency and lead to higher profits. This percentage is also widely known as a measure of efficiency in financial performance literature as well as from the efficiency theory (Onuonga, 2014). Thoraneenitiyan (2010) discusses that banks with better management and practices will be better at controlling costs and earning profits, thus "moving the bank closer to the bestpractice, lower bound cost curve." Flamini et al. (2009) explain that although the impact of operation costs on earnings may seem obvious, meaning that high expenses lead to reduced profits; this may not always be the case. The rationale for this is that higher costs may imply higher volume of banking activities and in turn higher revenues. In less competitive markets, where banks enjoy market power, costs can be passed on to customers and this would then create a positive correlation between overheads costs and profitability.

Conceptual Framework



Independent Variables Dependent Variable

Figure 1: Conceptual Framework

Source: Author (2019)

METHODOLOGY

In this study, the researcher used descriptive research survey design. Descriptive research involves collecting data that answers questions about the participants of the study. The target population consisted of the 17 registered MFIs in Kakamega County by the year 2017. The data analysis in this study involved the use of descriptive and inferential statistics in order to help the researcher establish the relationship between the 3 independent variables (cost of operations, loan loss provision, capital adequacy) and the dependent variables (MFI performance). The linear and multiple regression plus correlation analyses was based on the association between two (or more) variables. SPSS version 23 is the analysis computer software that was used to compute statistical data.

Regression Model

$Y = \beta_0+\beta_1X_1+\beta_2X_2+\beta_3X_3+ e$

Y = Performance of MFIs in Kakamega County

β_0 = Constant

X_1 = Cost of operations

X_2 = Loan loss provision

X_3= Capital adequacy

$\{\beta 1-\beta_3\}$ = Beta coefficients

e = the error term

FINDINGS AND DISCUSSION

The study investigated the influence of determinants of Micro Financial Institutions performance in Kakamega County, Kenya. Descriptive statistics were summarized in form of frequencies, percentages, means and standard deviation which summarized respondents perceived responses to each of the statements on the study variables using likert scale of values ranging from 5 to 1; that is; 5=strongly agree, 4=agree, 3= Uncertain, 2=disagree and 1= strongly disagree. Descriptive statistics are further, summations of responses based on independent variables (cost of operations, loan loss provision, capital adequacy) on the dependent variable (Micro Financial Institutions performance in Kakamega County, Kenya). The results were presented in table form

showing frequencies of responses according to each statement and its corresponding percentage score in brackets.

Cost of Operations

This section analyzed and presented data relating to the first objective of the study; the influence of cost of operations on Micro Financial Institutions performance in Kakamega County, Kenya. The researcher was interested in knowing the influence of MFI's cost of operations issues such as; increase or decrease in cost per borrower, loan processing costs, MFI transaction costs, operating expenses, administration costs on Micro Financial Institutions performance in Kakamega County. Respondents were asked seven questions and their responses summarized in table 1.

Table 1: Descriptive Statistics; Cost of Operations

	Frequency and Percentage (%)						
Statement on Cost of Operations	**5**	**4**	**3**	**2**	**1**	**Mean**	**Std.Dev**
1.Decrease in cost per borrower affects the profit margin of the MFI	22(25.9)	44(51.7)	7(8.2)	6(7.1)	6(7.1)	3.82	.915
2.Loan processing cost affects MFI ROI	12(14.1)	50(58.9)	3(3.5)	15(17.6)	5(5.9)	3.58	.817
3.The MFI transaction cost affects MFI's ROI	24(28.2)	32(37.7)	11(12.9)	13(15.3)	5(5.9)	3.67	.909
4.Increase in cost per borrower affects customer retention	34(40.0)	39(45.9)	3(3.5)	4(4.7)	5(5.9)	4.09	.976
5. Operating expenses affects MFI market share growth	14(16.5)	48(56.4)	6(7.1)	13(15.3)	4(4.7)	3.65	.877
6.Administration costs generally influences MFI ROI	13(15.3)	49(57.7)	3(3.5)	16(18.8)	4(4.7)	3.60	.904
7.Generally, cost of operation affects MFI performance	23(27.1)	45(52.9)	4(4.7)	8(9.4)	5(5.9)	3.86	.911
Valid N (listwise) 85							
Grand mean = 3.753							

On overall, most respondents agreed (52.9%) and strongly agreed (27.1%) that, generally, cost of operation affects MFI performance. This implies that MFI that engage in lower operation costs could experience high financial performance as measured by ROI in this study. However, these observations contradict Naceur (2003) in Tunisia and Guru et al. (2002) in Malaysia who found contradictory results concluding that expenses may have a positive impact on profits and suggesting that some financial lending institutions can transfer high operating costs to depositors and borrowers and also that expenditure on salaries and wages may be justified when higher profits are achieved (Onuonga, 2014).

Loan Loss Provisions

This section analyzed and presented data relating to the second objective of the study; the influence of loan loss provisions on Micro Financial Institutions performance in Kakamega County, Kenya. Respondents were asked seven questions and their responses summarized in table 2.

Table 2: Descriptive statistics; Loan Loss Provision

	Frequency and Percentage (%)

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Statement on Loan Loss Provision	5	4	3	2	1	Mean	Std.Dev
1.Increase in leveraging loans affects the profit margin of the MFI	20(23.5)	32(37.6)	14(16.5)	10(11.8)	9(10.6)	3.52	.969
2.Long term debt financing extended to borrowers affects the ROI of MFI	4(4.7)	51(60.0`)	11(12.9)	13(15.3)	6(7.1)	3.40	.937
3.Provisioning for bad debts affects MFI's ROI	24(28.2)	41(48.3)	9(10.6)	4(4.7)	7(8.2)	3.84	.943
4.A priori loan loss reserve influence market share growth	17(20.0)	47(55.3)	5(5.9)	7(8.2)	9(10.6)	3.36	.901
5.Provisioning percentages of the total loan portfolio outstanding affects MFI's customer retention	16(18.8)	39(45.9)	13(15.3)	14(16.5)	3(3.5)	3.60	.882
6.Provision expense expressed as Loan Loss Provisioning Expenses over Average Gross Portfolio affects MFI ROI	15(17.6)	41(48.3)	11(12.9)	12(14.1)	6(7.1)	3.55	.950
7. Generally loan loss provisioning affects MFI's overall performance	24(28.2)	44(51.8)	3(3.5)	8(9.4)	6(7.1)	3.85	.858
Valid N (listwise) 85							
Grand mean = 3.589							

In summary, most respondents agreed (51.8%) and strongly agreed (28.2%) that generally loan loss provisioning affects MFI's overall performance. This implies that high loan loss provisioning rates could possibly reduce MFI's ROI. This assertion is supported by Miller and Noulas (1997) who suggested that the more financial institutions being more exposed to high risk loans increases the accumulation of unpaid loans and decreases the profitability. This suggests that decline in loan loss provisions are in many instances the primary catalyst for increases in profit margins; and Thakor (1987) also suggested that the level of loan loss provisions is an indication of a bank's asset quality and signals changes in the future financial performance.

Capital Adequacy

This section analyzed and presented data relating to objective three of the study; the influence of capital adequacy on Micro Financial Institutions performance in Kakamega County, Kenya. Respondents were asked seven questions and their responses summarized in table 3.

Table 3: Descriptive Statistics; Capital Adequacy

	Frequency and Percentage (%)						
Statement on Capital Adequacy	**5**	**4**	**3**	**2**	**1**	**Mean**	**Std.Dev**
1.The MFI has adequate Capital base	20(23.5)	54(63.5)	2(2.4)	6(7.1)	3(3.5)	3.96	0.932
2.There is a positive	12(14.1)	46(54.1)	3(3.5)	19(22.4)	5(5.9)	3.48	0.961

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relationship between Capital adequacy and MFI ROI							
3.The relative capital the MFI has affects its performance levels	4(4.7)	54(63.5)	4(4.7)	17(20.0)	6(7.1)	3.89	0.981
4.There is a strong relationship between type of capital and MFI market share	12(14.1)	53(62.3)	2(2.4)	13(15.3)	5(5.9)	3.64	0.989
5.Minimum capital requirements influence MFI ROI	13(15.3)	52(61.2)	4(4.7)	13(15.3)	3(3.5)	3.69	0.924
6.MFI's relative capital affects customer retention	11(12.9)	51(60.0)	7(8.2)	10(11.8)	6(7.1)	3.60	0.982
7.Generally, Capital Adequacy influences MFI performance	9(10.6)	49(57.6)	6(7.1)	13(15.3)	8(9.4)	3.45	0.960
Valid N (listwise) 85							
Grand mean = 3.601							

On overall, majority of respondents agreed (57.6) and strongly agreed (10.6%) that generally, capital adequacy influences MFI financial performance. This is supported by to Zhang and Dong (2011) assertion that well-capitalized banks are safer, have greater creditworthiness and gain from reduced funding costs which all positively affect the performance of commercial banks. Nouaili et al. (2015) adds that a highly capitalized financial institution has a lesser need for debt financing thus reducing its cost of debt. Onuonga (2014) further reinforces that financial institution with high capitalization are able to meet the regulator's capital requirements and then issue the excess funds as loans.

Inferential Analysis

Normality was tested using histograms with normal curve. Linearity was tested in order to check the actual strength of all relationships. This was necessary so as to identify any departures from linearity which were bound to affect correlation. Linear models predicted values which fall in straight line by having a constant unit of change (slope) of the dependent variable for a constant unit change of the independent variable. Linearity of the variables was tested using Pearson's product moment correlation coefficient. Since several items in the questionnaire measured the construct, the summation scores of the items in the questionnaire for the construct were computed and used in correlation analysis (Jahangir and Lawrence 2008). Correlation analysis in table 4 below showed that all independent variables in the study were significant at $p<0.01$ level, hence the study met this assumption.

Table 4: Correlation analysis

		Cost of Operations	Loan Loss Provisions	Capital Adequacy	Return On Investment
Cost of Operations	Pearson Correlation	1			
	Sig. (2-tailed)				
	N	85			
Loan Loss Provisions	Pearson Correlation	.623**	1		

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	Sig. (2-tailed)	.000			
	N	85	85		
Capital Adequacy	Pearson Correlation	.736**	.739**	1	
	Sig. (2-tailed)	.000	.000		
	N	85	85	85	
Return On Investment	Pearson Correlation	.740**	.737**	.675**	1
	Sig. (2-tailed)	.000	.000	.000	
	N	85	85	85	85

Multicollinearity was tested by analyzing correlations between all pairs of independent variables (cost of operations, loan loss provision, capital adequacy) Hair et al.,(2006) asserts that if correlation coefficient, (r) is close to 1 or -1, then there is multicollinearity but if (r) is not above 0.8, then there is no multicollinearity In this study (table 4; correlation analysis), the highest correlation coefficient was 0.739, hence below the threshold of 0.8, therefore, multicollinearity assumption was checked and met.

Linear Regression Results

Influence of cost of operations on Micro Financial Institutions performance.

This tested objective one of the study. The results were presented in table 5.The model summary in table 5 shows that R squared (R^2) = 0.547 implying that 54.7% of variation in the dependent variable (Micro Financial Institutions performance) was explained by the independent variable (cost of operations). This therefore means that other latent variables not in the model contribute 45.3% of Micro Financial Institutions performance in Kakamega County, Kenya.

Table 5: Direct Influence of Cost of operations on Micro Financial Institutions performance

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.740[a]	.547	.542	.77661	.547	100.246	1	83	.000

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	60.460	1	60.460	100.246	.000[a]
	Residual	50.059	83	.603		
	Total	110.519	84			

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.665	.090		7.367	.000
	Cost of Operations	-.773	.077	-.740	-10.012	.000

a. Dependent Variable: ROI

Further, regression results using unstandardized beta coefficients showed that there exists a negative but significant effect of cost of operations on Micro Financial Institutions performance in Kakamega County, Kenya. (β=-0.773 (0.077); significant at p<.01). This implied that a single

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increase in Micro Financial Institutions cost of operations led to 0.773 decrease in Micro Financial Institutions performance in Kakamega County, Kenya. The simple linear regression equation for direct influence of cost of operations on Micro Financial Institutions performance in Kakamega County, Kenya was;

(i) $Y= 0.665 - 0.773X_1$ Where:

Y = Micro Financial Institutions performance in Kakamega County

X_1 = Cost of operations

Influence of Loan loss provisions on Micro Financial Institutions performance.

This tested objective two of the study. The results were presented in table 6. The model summary in table 6 showed that R squared (R^2) = 0.543 implying that 54.3% of variation in the dependent variable (Micro Financial Institutions performance) was explained by the independent variable (loan loss provisions). This therefore meant that other confounding variables not in the model contribute 45.7% of Micro Financial Institutions performance in Kakamega County, Kenya.

Table 6: Direct influence of Loan loss provision on Micro Financial Institutions performance

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.737[a]	.543	.537	.78031	.543	98.512	1	83	.000

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	59.982	1	59.982	98.512	.000[a]
	Residual	50.537	83	.609		
	Total	110.519	84			

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	.695	.118		8.438	.000
	Loan Loss Provision	.833	.084	.737	9.925	.000

a. Dependent Variable: ROI

Further, regression results using unstandardized beta coefficients showed that there exists a positive and significant effect of loan loss provision on Micro Financial Institutions performance in Kakamega County, Kenya (β= 0.833 (0.084); significant at p<.01). This implied that a single increase in loan loss provision led to 0.833 increase in Micro Financial Institutions performance in Kakamega County, Kenya The simple linear regression equation for direct influence of loan loss provision on Micro Financial Institutions performance in Kakamega County, Kenya was;

(ii) $Y= 0.695 + 0.833X_2$

Where:

Y = Micro Financial Institutions performance in Kakamega County

X_2 = Loan loss provision

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Influence of Capital adequacy on Micro Financial Institutions performance.

This tested objective three of the study. The results were presented in table 7. The model summary in table 7 showed that R squared (R^2) = 0.456 implying that 45.6% of variation in the dependent variable (Micro Financial Institutions performance) was explained by the independent variable (capital adequacy). This therefore meant that other confounding variables not in the model contribute 54.4% of Micro Financial Institutions performance in Kakamega County, Kenya.

Further, regression results using unstandardized beta coefficients show that there exists a positive and significant effect of capital adequacy on Micro Financial Institutions performance in Kakamega County (β=0.704 (0.084); significant at p<.01). This implied that a single increase in capital adequacy led to 0.704 increase in Micro Financial Institutions performance in Kakamega County. The simple linear regression equation for direct influence of capital adequacy on Micro Financial Institutions performance in Kakamega County, Kenya, was;

(iii) $Y= 0.899 + 0.704X_3$

Where:

Y = Micro Financial Institutions performance in Kakamega County

X_3 = Capital adequacy

Table 7: Direct influence of Capital adequacy on Micro Financial Institutions performance

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics: R Square Change	F Change	df1	df2	Sig. F Change
1	.675[a]	.456	.449	.85115	.456	69.553	1	83	.000

ANOVA[b]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	50.389	1	50.389	69.553	.000[a]
	Residual	60.130	83	.724		
	Total	110.519	84			

Coefficients[a]

Model		Unstandardized Coefficients: B	Unstandardized Coefficients: Std. Error	Standardized Coefficients: Beta	t	Sig.
1	(Constant)	.899	.304		2.960	.004
	Capital Adequacy	.704	.084	.675	8.340	.000

a. Dependent Variable: ROI

Multiple Regression Results

Multiple regression analysis was computed because regression model assumptions of normality, linearity and multicollinearity were fulfilled. Multiple regression analysis was computed to assess the combined effect of the four independent variables (cost of operations, loan loss provision, capital adequacy) on Micro Financial Institutions performance in Kakamega County, Kenya.

Table 8: Multiple Regression Results

Model Summary

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Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.854[a]	.729	.716	.61151	.729	53.886	3	81	.000

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	80.603	3	20.151	53.886	.000[a]
	Residual	29.916	81	.374		
	Total	110.519	84			

a. Predictors: (Constant), Capital Adequacy, Loan Loss Provision, Cost of Operations

b. Dependent Variable: ROI

From table 8, model 1 showed combined regression results for influence of three independent variables (cost of operations, loan loss provision, capital adequacy, quality) on the dependent variable (Micro Financial Institutions performance in Kakamega County, Kenya. The result showed R^2 = 0. 729; which a good model, thus the model explains 72.9% of the variations in Micro Financial Institutions performance in Kakamega County, Kenya. The F statistic is 53.886 significant at p<0.01. This implied that the independent variables in the study model were indeed different from each other and therefore influence the dependent variable (Micro Financial Institutions performance in Kakamega County, Kenya.) in varied ways, thus confirming the relevance of running multiple regressions.

Table 8: Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	.486	.099		4.887	.000
	Cost of Operations	-.284	.103	-.272	-2.757	.007
	Loan Loss Provision	.389	.107	.344	3.643	.000
	Capital Adequacy	.518	.112	.458	4.630	.000

a. Dependent Variable: ROI

From the values of unstandardized regression coefficients with standard errors in parenthesis in Table 8, all the four independent variables (cost of operations;β = -0.284 (0.103) at p<0.05; loan loss provision; β = 0.389 (0.107) at p<0.01; capital adequacy; β = 0.518 (0.112) at p<0.01; were significant. Therefore, the multiple regression equation for overall influence of the four significant independent variables (cost of operations, loan loss provision, capital adequacy) on Micro Financial Institutions performance in Kakamega County, Kenya.is;

(vi) $\mathbf{Y = 0.486 - 0.284X_1 + 0.389X_2 + 0.518X_3}$

Where;

Y= Micro Financial Institutions performance in Kakamega County.

X_1= Cost of operations

X_2= Loan loss provision

X_3= Capital adequacy

Testing Null Hypotheses

H_{01}: There is no significant relationship between cost of operations and Micro Financial Institutions performance in Kakamega County, Kenya.

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H_A: There exists significant relationship between cost of operations and Micro Financial Institutions performance in Kakamega County, Kenya.

T-test statistics results: (t = -2.757; p=0.007< 0.05)

Verdict: The null hypothesis **H_{01}** was rejected.
Results interpretation: H_A: There exists significant relationship between cost of operations and Micro Financial Institutions performance in Kakamega County, Kenya.

H_{02}: There is no significant relationship between loan loss provisions and Micro Financial Institutions performance in Kakamega County, Kenya.

H_A: There exists significant relationship between loan loss provisions and Micro Financial Institutions performance in Kakamega County, Kenya.

T-test statistics results: (t = 3.643; p=0.000< 0.01)

Verdict: The null hypothesis **H_{02}** was rejected.
Results interpretation: H_A: There exists significant relationship between loan loss provisions and Micro Financial Institutions performance in Kakamega County, Kenya.

H_{03}: There is no significant relationship between capital adequacy and Micro Financial Institutions performance in Kakamega County, Kenya.

H_A: There exists significant relationship between capital adequacy and Micro Financial Institutions performance in Kakamega County, Kenya.

T-test statistics results: (t = 4.630; p=0.000< 0.01)

Verdict: The null hypothesis **H_{02}** was rejected.
Results interpretation: H_A: There exists significant relationship between capital adequacy and Micro Financial Institutions performance in Kakamega County, Kenya.

CONCLUSIONS

The study results revealed that there exists a negative but significant effect of cost of operations on Micro Financial Institutions return on investment in Kakamega County, Kenya; implying that increase in MFI's cost of operations issues such as; increase in cost per borrower, loan processing costs, transaction costs, operating expenses, and administration costs can reduce MFI's return on investment.

Secondly, the study showed that loan loss provisioning positively and significantly influences Micro Financial Institutions return on investment in Kakamega County, Kenya; denoting that loan loss provisions such as increase in leveraging loans, long term debt financing, provisioning for bad debts, a priori loan loss reserve and provision expenses positively influence Micro Financial Institutions return on investment.

Lastly, the study showed that capital adequacy positively and significantly influences Micro Financial Institutions return on investment in Kakamega County, Kenya; indicating that capital adequacy issues such as, adequate capital base, relative capital and minimum capital requirements have a significant bearing on Micro Financial Institutions return on investment.

RECOMMENDATIONS

MFIs should enact effective costs saving measures that can impact positively on MFIs return on investment so as to maintain a competitive edge.

MFI ought to engage in viable loan loss provisioning such as long term debt financing, provisioning for bad debts, a priori loan loss reserve and appropriate provision expenses so as to realize an increase in return on investment.

MFIs should adhere to mandatory minimum capital requirements and accrue an adequate capital base that can effectively run their loan portfolios so as to continuously realize a positive return on investment.

Areas for Further Research

A panel study can be done using time series data from established MFIs countrywide so as compare results with cross sectional data.

A comparative study can target MFI customers so as to assess what determines their attraction to MFI loans as compared to commercial bank loans

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