

EFFECT OF CREDIT RISK MANAGEMENT ON LOAN PERFORMANCE OF DEPOSIT TAKING MICROFINANCE INSTITUTIONS IN NAIROBI COUNTY, KENYA

¹KANGETHE ELIZABETH, ²DR. OLUOCH OLUOCH, ³DR. SAMSON NYANGAU

Abstract: The success of MFIs in Kenya largely depends on the effectiveness of their credit management systems because these institutions generate most of their income from interest earned on loans extended to small and medium entrepreneurs. This study investigated on the effect of credit risk management on loan performance of deposit taking Microfinance institutions in Nairobi County, Kenya. Modern portfolio theory, agency theory and asymmetric information theory were used to inform the study. The study adopted a descriptive research design and all 13 deposit-taking microfinance institutions in Nairobi were the targeted population. A sample of 118 microfinance staffs derived from Krejcie and Morgan (1970) strategy. Both secondary and primary information was gathered. Primary information was gathered by use of structured questionnaires addressing the independent variables while the secondary information was assembled from the financial reports of the Microfinance institutions on loan performance for five years (2014 - 2018). The data gathered was analyzed using descriptive and inferential statistics. Multiple linear regressions was used to show the relationship between the variables. The study established that microfinance institutions in Nairobi asks for collateral when giving loans and they also consider the past track record of repayment of the client. Regression results revealed that a change in credit appraisals processes holding all the other factors constant leads to positive change on loans performance of microfinance institutions. The study also revealed that credit risk control has significance and positive influence on loan performance of microfinance institutions. Further it was revealed that most micro finance have accredit committee and a lender approval limit for loans. Prediction by regression model revealed that credit terms has a significance influence on loan performance of microfinance institutions. Finally the study established that a change in credit approvals while holding all the other factors constant would affect loans performance of microfinance institutions. Grounded on the study findings, it is recommended that micro-finance institutions need to enhance their methodologies of identifying risk from credit, analysis and assessment of risk arising from credits, proper monitoring of credit offered to clients and credit approval to improve on their loan portfolio. Owing to the current study findings the researcher proposes further studies on an examination of the relationship between credit risk management and loans performance in the banking industry as whole so as to compare the results and a study on the strategic credit risk management practices by banking institutions on loan performance.

Keywords: credit appraisals, credit risk control, credit terms and credit approvals.

1. INTRODUCTION

Credit creation is the main income generating activity for the banks. But this activity involves huge risks to both the lender and the borrower. When financial institutions issue loans, there is a risk of borrower default. According to Casu (2012), when banks collect deposits and on-lend them to other clients, they put clients' savings at risk. The risk of a trading partner not fulfilling his or her obligation as per the contract on due date or anytime thereafter can greatly jeopardize the smooth functioning of a bank's business. The default of small number of borrowers may result to large

losses for a financial institution which can lead to massive financial distress affecting the whole economy (Bessis, 2013). Credit Risk is the potential that a credit borrower/counter party fails to meet the obligations on agreed terms. There is always scope for the borrower to default from his commitments for one or the other reason resulting in crystallization of credit risk by the financial institution. These losses could take the form of outright default or alternatively, losses from changes in portfolio value arising from actual or perceived deterioration in credit quality (Achou & Tenguh, 2011).

Statement of the Problem

Controlling non-performance of advances is extremely basic for both the performance of an individual Microfinance foundation and the economy's financial environment. With the rise in bankruptcy rates, the probability of incurring losses due to loans non-performance has risen. Scheufler (2012), indicated that credits policies, standards and appraisal procedures enable the firm to earn financial returns. Credit management provides a leading indicator of the quality of deposit MFIs credit portfolio.

The success of MFIs in Kenya largely depends on the effectiveness of their credit management systems because these institutions generate most of their income from interest earned on loans extended to small and medium entrepreneurs. The Central Bank Annual Supervision Report, 2013 indicated high incidence of credit risk reflected in the rising levels of non-performing loans by the MFI's in the last 10 years, a situation that has adversely impacted on their profitability (CBK, 2013). This trend not only threatens the viability and sustainability of the MFI's but also hinders the achievement of the goals for which they were intended which are to provide credit to the rural unbanked population and bridge the financing gap in the mainstream financial sector.

Empirical scrutiny of previous studies outcome on effect of credit risk management on loan performance has provided inconclusive findings. Previous studies have reported mixed outcomes on the effects of credit risk management on loan performance. Kargi (2011), studied Impact of credit risk management on performance of shares and profit of Nigerian Listed Banks. Results showed that loans and advances, interest income, bank size and equity capital exert significant positive impact on performance of shares. In line with prior studies, the study also revealed a significant negative effect of loan loss provision and an insignificant positive influence on shares performance.

In a similar context, Smith (2014), examined the impact of credit risk management on performance of deposit money banks in Nigeria over the period, 2005 to 2011 using panel regression model. The study revealed that credit risk management has a significant impact on profitability of deposit money banks in Nigeria. Alshatti (2015), examined the effect of credit risk management on financial performance of Jordanian commercial banks. The empirical findings show positive effect of non-performing loans/gross loans ratio, a negative effect of leverage ratio and an insignificant effect of capital adequacy ratio and credit interest/credit facilities ratio on ROE and ROA.

Ndegwa (2016), studied the effect of credit risk on the financial performance of commercial banks listed at the Nairobi securities exchange. Capital adequacy ratio (CAR) was found to have positive and weak association with ROA and ROE. On the other hand, Gatuhu (2014), investigated the effect of credit risk management on financial performance of MFIs and commercial banks. While these studies handle credit risk management and financial performance, they don't address the recent adjustments of interest rate capping in commercial banks and credit rating on credit risks. Essendi (2013), aimed at establishing the effect of credit risk management on loans portfolio among Saccos in Kenya. Results indicated that formulation of the credit policy is largely done by members of the organization and regulation with moderate involvement of employees and the directors.

Since most studies have related credit risk management and financial performance of banks, the study identified methodological, conceptual, contextual and theoretical gaps. Therefore, this study sought to fill the gap and empirically add to the existing literature by specifically looking at credit appraisals, credit risk control, credit terms and credit approvals, as the independent variables and loan performance as the dependent variable. The study also aimed at using more recent data and a different study period. The use of loan performance, rather than the financial performance was a strength for this study as it broadens the empirical literature in this area. The study answered the question: What is the effect of credit risk management on loan performance of deposit taking Microfinance institutions in Nairobi County, Kenya?

Objectives

- i. To establish the effect of credit appraisals on loan performance of deposit taking Microfinance institutions in Nairobi county, Kenya
- ii. To explore the effect of credit risk control on loan performance of deposit taking Microfinance institutions in Nairobi county, Kenya
- iii. To determine the effect of credit terms on loan performance of deposit taking Microfinance institutions in Nairobi county, Kenya
- iv. To establish the effect of credit approvals on loan performance of deposit taking Microfinance institutions in Nairobi county, Kenya

2. THEORETICAL REVIEW**Modern Portfolio Theory**

Modern portfolio theory was established by Markowitz, (1952). The theory explains how risk-averse investors can construct portfolios to optimize or maximize expected return based on a given level of market risk, emphasizing that risk is an inherent part of higher reward. According to the theory, it's possible to construct an "efficient frontier" of optimal portfolios offering the maximum possible expected return for a given level of risk. The traditional portfolio approach uses two methods, namely the expert method and the credit scoring models in the expert system, the credit decision is left in the hands of the branch lending officer. Judgment, and weighting of certain factors are the most important determinants in the decision to grant loans. The traditional approach to the assessment of credit proposition of borrowers is based on the heuristics or intuition of the loan officer. Rosli, (2010), decision making is, however, not necessarily arbitrary or irrational because it is based on years of experience that enable individuals to identify solution quickly without going through an analytical process (Rosli, 2010).

The 5Cs of credit are always used by banks to assess the creditworthiness of the potential borrower. The 5Cs of credit refer to character, capacity, conditions, collateral and capital (Dev, 2009). Character assessment is performed to determine the willingness and desire of borrowers to repay debt. Capacity is described as the borrower 's capacity to borrow and also his repayment capacity. Economic conditions will also affect the borrower 's ability to repay the loan. A bank will normally ask for collateral as security against the loan. Capital requirement of the business indicates the financial net worth of the borrower. The loan officer can examine as many points as possible but must include these five Cs in addition to interest rate.

The theory is relevant to the study since Microfinance institutions have successfully applied modern portfolio theory (MPT) to market risk. Many Microfinance institutions are now using earnings at risk and value at risk models to manage their interest rate and market risk exposures . Unfortunately, however, even though credit risk remains the largest risk facing most Microfinance institutions, the practice of MPT to credit risk has lagged (Margrabe, 2011). Under the portfolio theory, traditionally banks have taken an asset-by-asset approach to credit risk management. While each bank 's method varies, in general this approach involves periodically evaluating the credit quality of loans and other credit exposures, applying a credit risk rating, and aggregating the results of this analysis to identify a portfolio 's expected losses.

Agency Theory

Agency theory was developed by Jensen and Meckling, (1976). It describes the relationship of cooperation based on managerial behavior, agency costs, and capital structure. Jensen and Meckling, (1976), divided agency theory into two major parts; the positivist agency theory and the principal-agency theory. The positivist agency theory focuses on the relationship between owners and managers generally in public organizations; while the principal-agency theory can be used more widely in the relationship of principal and agent, such as the relationship between employers and employees, sellers and buyers. To the principal, the primary goal is to maximize profits through cooperation undertaken, whereas to the agent the main concern is to maximize compensation obtained (Schaltegger & Burritt, 2010).

Agency theory deals with the frequent situation when one-person (the agent) acts on behalf of another person (the principal), for example between managers and their subordinates, between shareholders and management, and between management and the wider public (Schaltegger & Wagner, 2011). It points out that in these situations the usual assumption of rational self-interest implies a potential problem of moral hazard since the agent may be motivated to take actions that are not in the principal's best interest and that this can easily occur if the agent is privy to information which is not equally available to the principal (information asymmetry). Agency Theory is concerned with identifying such problems and minimizing information asymmetries while also incurring the lowest possible cost for the involved parties.

The theory is relevant to the current study since it explains a possible mismatch of interest between shareholders, management and debt holders due to asymmetries in earning distribution in Microfinance institutions, which can result in the firm taking too much risk or not engaging in positive net value projects. Agency issues have been shown to influence managerial attitudes toward risk taking and hedging in the field of corporate risk management especially in Microfinance institutions. Consequently, agency theory implies that defined hedging policies can have important influence on firm value.

Asymmetric Information Theory

The asymmetric information theory was developed by Akerlof in 1970. The theory argues that that buyers rely on market statistics to determine the value of goods. In the debt market, information asymmetry arise when the buyer has got information regarding the market based on the underlying risks and returns on investment projects. On the other hand, the lender doesn't have enough information regarding the customer. Akerlof (1970), argues that this information asymmetry gives the seller an incentive to sell goods of less than the average market quality. The average quality of goods in the market will then reduce as will the market size. Such differences in social and private return scan be mitigated by a number of different market institutions

According to Derban (2010), when microfinance institutions are doing credit assessment proper analysis should be conducted in order to gather enough and reliable information regarding the customer either from CBK or another source. Both qualitative and quantitative techniques is critical in doing an assessment of the borrower although some few challenges can be uncounted especially in using qualitative approached since it is subjective in nature. Borrowers' attitudes are examined by use of qualitative approach that is assigned numbers. This technique is important in that it reduces the processing costs and the subjective judgments which may lead to bias.

This theory is applicable in risk identification, risk mitigation and credit appraisal. Microfinance institutions should take advantage of the information supplied to the reference bureaus during credit appraisal so that borrowers with a high debt burden exposure and defaulters are appraised and only those clients with the ability to pay and meet the repayment obligations can access credit. In credit appraisal, risk mitigation and identification information are very key. When screening various borrowers to confirm their credit worthiness, the lender searches for the information regarding the borrowers.

Conceptual Framework

A conceptual framework is a diagrammatical presentation of variables in a research. The framework demonstrates the correlation between variables that are dependent and those that are independent (Regoniel, 2015). The independent variables for the study are 5credit risk management practices. The independent variables include: credit appraisals, credit risk control, credit terms and credit approvals while the dependent variable is the loan performance.

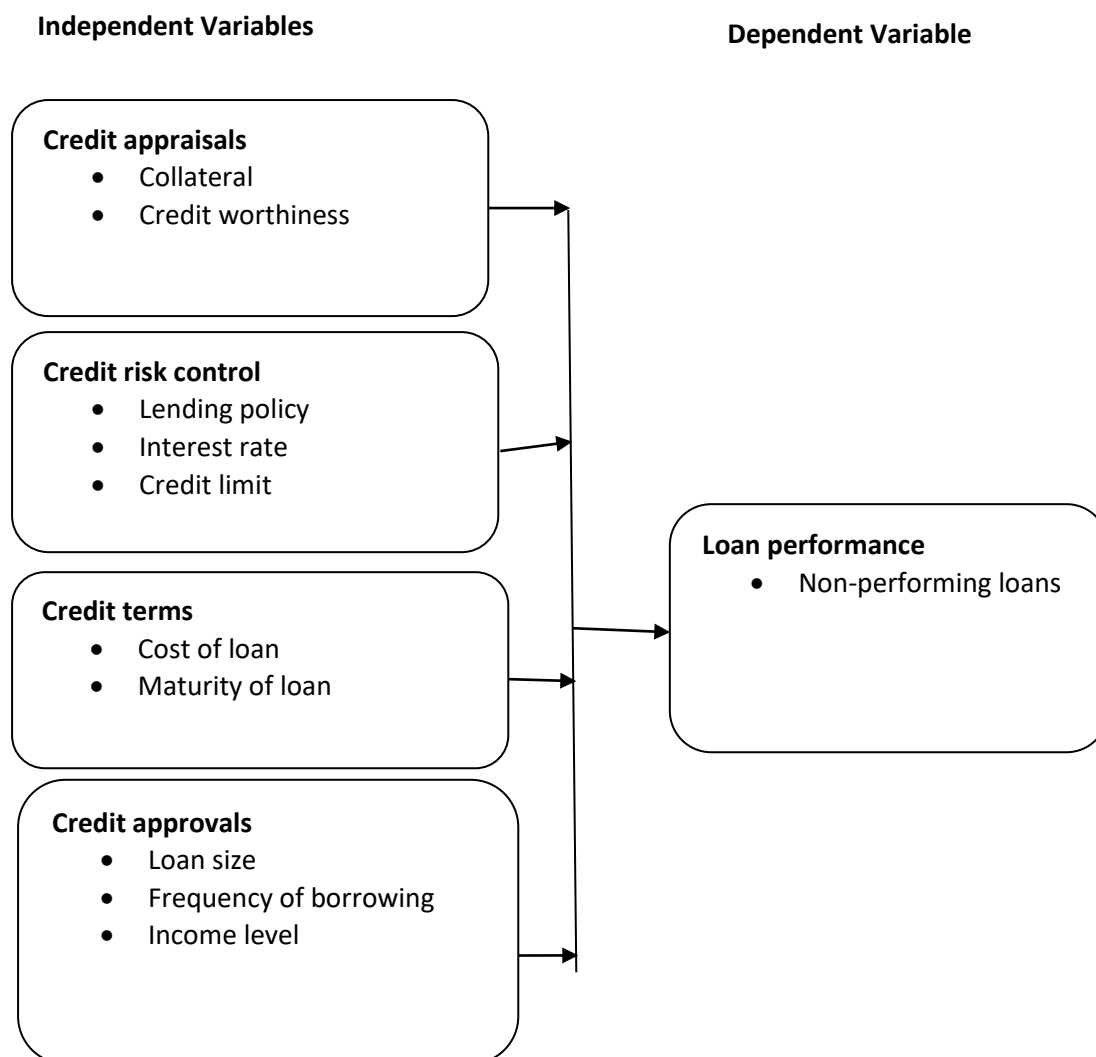


Figure 2.1: Conceptual Framework

Critique of Existing Literature

Research in developed nations has uncovered that great credit risk management may diminish performance of firms. Essendi (2013), indicated that formulation of the credit policy is largely done by members of the organization and regulation with moderate involvement of employees and the directors. The study did not relate how credit appraisals influence loan performance. Kisala (2014), noted that both non-performing loans ratio and capital adequacy ratio have negative and relatively significant effect on return on equity with NPLR having higher significant effect on ROE in comparison to CAR.

Various reviews and tests have been completed on the credit risk management Aliija, and Muhangi (2016), revealed that MFIs use client appraisal in Credit management to a great extent. Further, it established that client appraisal is a viable strategy for mitigating credit risk. On the other hand, Nguyen (2017), found that loan covenants are used to supervise and monitor borrowers, however, they have not been utilized. Out of these issues, the State Bank of Vietnamis recommended to revise and adjust the assets classification regulation and consider to grant more rights to the state-owned bad bank, Vietnamese Assets Management Company, to support credit risk management in the commercial banking sector.

Previous studies of Belwal, Tamiru and Singh, (2012), found that market failure (risk) for borrower's product, lack qualified personnel in credit risk management, unsuitable repayment period, lack of evaluating collaterals periodically and lack of giving the training to borrowers how they use the loan and, using manual system for recording and posting transactions are a major problem that affect the credit risk management performance of MFI. Suryadevara (2017), also

noted that micro-finance institutions are particularly important for startups; high growth and innovative SME's. Large institutions have comparative advantages in transactions lending's than small SME's. To the contrary, Aliija, and Muhangi (2016), noted that only few commercial banks conduct a quantitative credit scoring model. In all banks, initial screening is done by credit officer and approval done at different levels depending on the amount.

Research Gaps

Diverse research has demonstrated the relationship of credit risk management on loan performance but it has been inconclusive. Thus, the current study combines the credit appraisals, credit risk control, credit terms and credit approvals and loan performance of deposit-taking microfinance institutions in Kenya. Although, the credit risk management have come under scrutiny for a long time, there still exists high corporate failure. For example, in Kenya, there is a new wave of loss making among high profile financial institutions including chase bank and Imperial bank.

The study identified methodological, theoretical and contextual gaps, first, past researches mostly focus on the attributes of credit risk and their influence on financial performance more than paying attention to loan performance. Secondly the studies have mostly employed multiple regression in the data analysis. The current study aims at using t-statistic and p-value to test the significance of the response variable coefficients confidence level of both the dependent and the independent variable and also between variables in the study. Most of the studies have used secondary data; the current study is conducted by the use of both secondary and primary information. The current study has employed agency theory and modern portfolio theory which other studies have not used.

Summary of Literature Review

In summary the loan performance ought to be influenced by several factors as argued by various theories and past studies. Scheufler (2012), indicated that credits policies, standards and appraisal procedures enable the firm to earn financial returns. Credit management provides a leading indicator of the quality of deposit MFIs credit portfolio. Kargi (2011), studied Impact of credit risk management on performance of shares and profit of Nigerian Listed Banks. Results showed that loans and advances, interest income, bank size and equity capital exert significant positive impact on performance of shares.

In a similar context, Smith (2014), examined the impact of credit risk management on performance of deposit money banks in Nigeria over the period, 2005 to 2011 using panel regression model. The study revealed that credit risk management has a significant impact on profitability of deposit money banks in Nigeria. Alshatti (2015), examined the effect of credit risk management on financial performance of Jordanian commercial banks. The empirical findings show positive effect of non-performing loans/gross loans ratio, a negative effect of leverage ratio and an insignificant effect of capital adequacy ratio and credit interest/credit facilities ratio on ROE and ROA.

3. RESEARCH METHODOLOGY

The study adopted a descriptive research design in analyzing effect of credit risk management on loan performance of deposit taking Microfinance institutions in Nairobi County, Kenya. Descriptive research design is on most occasions used as a pre-cursor to other quantitative research designs with an overall outlook on important pointers; on which variables are worth measuring quantitatively. According to Central bank of Kenya (CBK, 2017) there are 13 deposit-taking microfinance institutions in Kenya. This study focused on all 13 microfinance institutions by 2017. The target population had 174 microfinance staffs; in this manner by utilization of Krejcie and Morgan's strategy for assurance of a sample size the possible sample acquired was made out of 118 respondents. As indicated by Central limit theorem, if the sample size is sufficiently vast ($N > 30$), the information takes after a normal distribution curve (Gilbert & Churchill, 2001). The study utilized both secondary and primary information. Primary information was gathered by methods for structured questionnaires addressing the independent variables; credit appraisals, credit risk control, credit terms and credit approvals. Secondary information was assembled from the financial reports of the Microfinance institutions on loan performance for five years (2014 - 2018). The pilot test was undertaken with the aim to test the validity of the questionnaires. Trained assistants assisted in the pilot study. The main goal of the pilot study is to perceive any potential inadequacies, exclusions and blunders in the questionnaires and dispense them earlier than it's far utilized to accumulate the real facts (Brotherton, 2008). The data gathered was analysed using descriptive and inferential statistics. The research yielded both qualitative and quantitative data. The quantitative information gathered was analyzed utilizing descriptive

statistics with the help of Statistical Package for Social Sciences (SPSS) version 21. The results were presented using tables, frequencies and rates. Multiple linear regressions was used to show the relationship between credit appraisals, credit risk control, credit terms, credit approvals and loan performance of deposit taking Microfinance institutions in Nairobi County, Kenya. The regression model is illustrated below;

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon$$

Y = Loan performance (measured by non-performing loans)

β_0 = Constant

X_1 = Credit appraisals

X_2 = Credit risk control

X_3 = Credit terms

X_4 = Credit approvals

$\beta_1 - \beta_4$ are the regression co-efficient or change introduced in Y by each independent variable.

ε is the random error term accounting for all other variables that influence loan performance but not captured in the model.

ANOVA test was conducted to determine the level of significance of the variance by the use of a one-Way ANOVA in order to determine the existence of significant variations between the variables.

4. REGRESSION ANALYSIS

The study conducted a multiple regression analysis to test the influence among the study predictor variables made possible through the use of statistical package for social sciences by coding, entering and computing the measurements of the multiple regressions. The model summary is as shown in Table 4.1

Table 4.1 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.855053	0.731115	0.719425	1.354381

The model fit in this study was evaluated by the coefficient of determination. The adjusted R^2 , also called the coefficient of multiple determinations, is the percent of the variance in the dependent explained uniquely or jointly by the independent variables. The model had an average adjusted coefficient of determination (R^2) of 0.731 which implied that 73.1% of the variations on loans performance at microfinance institutions are explained by the independent variables focused on this study thus; credit appraisal, credit risk control, credit terms and credit approvals. The study further tested the significance of the model using the ANOVA technique. The study results are as tabulated in Table 4.2.

Table 4.2 ANOVA Results

Model		Sum of Squares	df	Mean Square	F	Sig.
	Regression	473.833	4	118.4583	62.53857	.000
1	Residual	174.263	92	1.894163		
	Total	648.096	96			

As shown in the ANOVA statistics, the regression model from the study findings was established to be valid at ($F = 62.54$, $P < 0.05$). The implication of this is that the independent variables are good predictors of loans performance.

Additionally, the study used the coefficient table to determine the study model among the independent and dependent variables. The study results are as shown in Table 4.3.

Table 4.3 Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	4.732	0.346		13.6763	.000
Credit appraisals	0.485	0.121	0.446	4.008264	.000
1 Credit risk control	0.374	0.079	0.326	4.734177	.000
Credit terms	0.293	0.103	0.145	2.84466	.005
Credit approvals	0.107	0.041	0.042	2.609756	.012

The generated output as per the SPSS is as presented in Table 4.8 above, thus the equation is as shown below:

$$Y = 4.732 + 0.485X_1 + 0.374X_2 + 0.293X_3 + 0.107X_4$$

As shown from the regression model found above, a change in credit appraisals processes holding all the other factors constant would positively change loans performance of microfinance institutions by a factor of 0.485. Regression results also revealed that credit risk control has significance and positive influence on loan performance of microfinance institutions as indicated by $\beta_1=0.374$, $p=0.000$. The implication is that an increase in the credit risk control would lead to an increase in loan performance of microfinance institutions by $\beta_1=0.374$. Credit terms has a significance influence on loan performance of microfinance institutions as indicated by $\beta_1=0.293$, $p=0.005$ while a change in credit approvals while holding all the other factors constant would affect loans performance of microfinance institutions by a factor of 0.107. This findings was in line with Kithinji (2010) who concluded that the credit risk management practices in this investigation are highly substantial predictors of quality of loans portfolio among commercial banks in Kenya.

5. DISCUSSION OF THE FINDINGS

The study targeted a sample size of 118 respondents across all microfinance institution from which the researcher was able to fill in and return 97 questionnaires making a response rate of 82.2% this response rate was satisfactory to make conclusions (Mugenda & Mugenda, 1999). The study established that majority (45.4%) of the respondents held an undergraduate degree and most had worked in their institutions for 6 to 8 years. From the regression model, the study found out that credit risk management (credit appraisal, credit risk control, credit terms and credit approvals) has an effect on loans performance at microfinance institutions. The study found out that the intercept was 4.732 for all variables. The four independent variables that were studied explain a substantial 73.1% of loans performance of microfinance institutions as represented by R squared (0.731). This therefore means that the four independent variables contributes 73.1% of loans performance of microfinance institutions while other factors and random variations not studied in this research contributes a measly 16.9% of the of loans performance of microfinance institutions.

The study established that microfinance institutions asks for collateral and considers the past track record of repayment. The microfinance institution checks the credit worthiness, character of loan applicants and the repayment capacity of the borrower. The bank also ensures that the capital and interest income is relatively secured. The results are in line with Mureithi (2010) who found that most of the organizations get their funds from foreign donors, and existing credit policy is the most important factor in establishing a credit control policy. Regression results revealed that a change in credit appraisals processes holding all the other factors constant would positively change loans performance of microfinance institutions.

Regression results revealed that credit risk control has significance and positive influence on loan performance of microfinance institutions. This was in line with Schaltegger and Wagner (2011) who stated that effective management of credit risk is a critical component of a comprehensive approach to risk management and essential to the long-term success of any banking organizations. Further the study established that the lending policy of the microfinance is strictly followed and the lending interest rates are well harmonized. The credit limit of the customers are not exceeded, hefty penalties are charged on loan defaulters and management report to board of direct directors on non-performing loans. Management also participate in loan portfolio hedging against risk.

Most microfinance has an internal credit rating system, a loan classification procedure and limits on the amount of loan one can get. Further it was revealed that most micro finance have accredit committee and a lender approval limit for loans. Prediction by regression model revealed that credit terms has a significance influence on loan performance of microfinance institutions. This findings agrees with Atieno (2012) that there exist a significant relationship between financial performance of Micro Finance Institutions and credit standards, credit terms and conditions and financial performance.

Finally the study established that a change in credit approvals while holding all the other factors constant would affect loans performance of microfinance institutions. This findings was in line with Kithinji (2010) who concluded that the credit risk management practices in this investigation are highly substantial predictors of quality of loans portfolio among commercial banks in Kenya. The results also revealed that the institution periodically monitor projects financed and the bank checks the income level of the borrower. Further, it was revealed that frequency of borrowing of the borrower is monitored, capacity of the loan applicants is considered and the business plan is analyst to identify the risk exposure.

6. CONCLUSION

The study concludes that collateral are key requirement by microfinance institutions when issues loans to customers. Past track record of repayment of the client, credit worthiness of the customer, character of loan applicant and the repayment capacity of the borrower are some of the key things microfinance institutions consider when issuing loans. Micro-finances ensures that the capital and interest income is relatively secured and a change in credit appraisals processes leads to positive change on loans performance of microfinance institutions. Study also concludes that credit risk control has significance and positive influence on loan performance of microfinance institutions. Lending policy of the microfinance is strictly followed and the lending interest rates are well harmonized. The credit limit of the customers are not exceeded, hefty penalties are charged on loan defaulters and management report to board of direct directors on non-performing loans. Management also participate in loan portfolio hedging against risk

Microfinance institution in Nairobi has an internal credit rating system which are used to assign grades borrowers based on creditworthiness. Institution also have a loan classification procedure and limits on the amount of loan one can get. They also have accredit committee and a lender approval limit for loans. Study also concludes that credit terms has a significance influence on loan performance of microfinance institutions. Frequency of borrowing of the borrower in microfinance institutions is monitored, capacity of the loan applicants is considered and the business plan is analyst to identify the risk exposure. A change in credit approvals while holding all the other factors constant positively affect loans performance of microfinance institutions. The institutions also periodically monitor projects financed and the microfinance checks the income level of the borrower.

7. RECOMMENDATIONS FOR STUDY

Grounded on the study findings, it is recommended that micro-finance institutions need to enhance their methodologies of identifying risk from credit, analysis and assessment of risk arising from credits, proper monitoring of credit offered to clients and credit approval to improve on their loan portfolio.

The study recommends that micro-finance institutions should put in place a credit risk management team whose mandate will be to establish well defined credit control policy and guidelines that are within the corporation's range of implementation.

It is recommended that micro-finance institutions should use the services provided by Credit Reference Bureaus for the purpose of determining the credit worthiness of borrowers as a means of minimizing bad loans. Credit Reference Bureaus help lenders make faster and more accurate credit decisions.

It is recommended that MFIs needs to invest on debt collections and this will entail hiring qualified and experienced debt collectors, lawyers so as to increase litigation of defaulters and auctioneers. It is also recommended that management should organize regular trainings in areas like credit management, risk management and financial analysis. This would sharpen the knowledge and skills of credit officers so as to improve on the quality of credit appraisals.

Suggestions for Further Study

Owing to the current study findings the researcher proposes further studies on an examination of the relationship between credit risk management and loans performance in the banking industry as whole so as to compare the results and a study on the strategic credit risk management practices by banking institutions on loan performance.

REFERENCES

- [1] Achou, F.T.& Tenguh, C.N. (2012). Bank performance and credit risk management, Master Degree Project in Finance of University of Skovde, Spring Term, 1-38
- [2] Aduda, J., & Kalunda, E. (2012). Financial inclusion and financial sector stability. *Journal of Applied Finance and Banking*, 95-120.
- [3] Akerlof, G. (1970). The market for lemons: Qualitative uncertainty and the market mechanism. *Quarterly Journal of Economics*, 84(3).
- [4] Akbar, M. & Baig, H. (2010). Reaction of Stock Prices to Dividend Announcement and Market Efficiency in Pakistan, *The Lahore Journal of Economics*, (15), 17- 41
- [5] Aliija, R., & Muhangi, B. W. (2016). The Effect of Loan Appraisal Process Management on Credit Performance in Microfinance Institutions (MFIs): A Case of MFIs in Uganda.
- [6] Alshatti, E. I. (2015). Credit risk measurement: Developments over the last 20 years. *Journal of Banking & Finance* 21, 1721 -1742
- [7] Asante, Y. A. (2016). *Assessing Credit Management Practices in Savings & Loans Companies: A Case Study of First Allied Savings & Loans Ltd, Ski* (Doctoral dissertation).
- [8] Atieno, R. (2012). Formal and informal institutions' lending policies and access to credit by small-scale enterprises in Kenya: An empirical assessment.
- [9] Auronen, L. (2013). "Asymmetric information: theory and applications", *paper presented at the Seminar of Strategy and International Business*, Helsinki University of Technology, Helsinki, May.
- [10] Batra, S. (2013). *Developing the Asian Markets for Non-Performing Assets*; Developments in India, 3rd Forum on Asian Insolvency Reform, Seoul, Korea.
- [11] Belwal, R., Tamiru, M., & Singh, G. (2012). Microfinance and sustained economic improvement: Women small-scale entrepreneurs in Ethiopia. *Journal of International Development*, 24, S84-S99.
- [12] Bessis, M.B. (2013). Bank loan-loss provisions and the income-smoothing hypothesis: an empirical analysis, 1976-1984, *Journal of Financial Services Research*, vol 1, no 4, pp 301-18.
- [13] Bowman, E. H. (2012). Risk seeking by troubled firms. *Sloan Management Review*, 23(4), 33-42
- [14] Caprio, J.N., & Klingebiel, R. (2015). Effect of Non-Performing Assets on Operational Efficiency of Central-Cooperative Banks, *Indian Economic Panorama*,16(3): 33-39.
- [15] Casu, B.P. (2012). Productivity change in European banking: A comparison of parametric and non-parametric approaches. *Journal of Banking and Finance* 28, 2521-2540.
- [16] Cherotich, M. C. (2011). *Role of microfinance institutions in financial deepening in Kenya*. Nairobi.
- [17] Dasah, K. K.& Agyei, P. (2012). Return-on-equity ratio can show how efficient banks are. *Malaysian Institute of Economic Research*

- [18] Dev, D. (2009). Illicit financial flows from developing countries: 2002-2006.
- [19] Dixon, R., (2012). Loan officers and loan 'delinquency 'in microfinance: A *Zambian case*. In *Accounting forum* (Vol. 31, No. 1, pp. 47-71). Elsevier.
- [20] Gakure, R. W., & Ngugi, J. K. (2012). Effect of Credit Risk Management Techniques On The Performance Of Unsecured Bank Loans Employed Commercial Banks in Kenya. *International journal of business and social research*, 2(4), 221-236.
- [21] Gatuhu, M. T. (2014). The effect of foreign exchange rate fluctuation on the financial performance of listed companies in Kenya. Master's in Business Administration project, University of Nairobi.
- [22] Haneef, S.Y. (2012). Impact of risk management on non-performing loans and profitability of banking sector of Pakistan. *International Journal of Business and Social Science*, 3(7).
- [23] Jensen, M. C. & Meckling, W. H. (1976). Theory of the firm: managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*, Vol. 3, pp. 305-36
- [24] Kisala, P. (2014). The effect of credit risk management practices on loan performance in microfinance institutions in Nairobi, Kenya.
- [25] Kithinji, A. M. (2010). Credit risk management and profitability of commercial banks in Kenya.
- [26] Kithinji, A. M. (2010). Credit risk management and profitability of commercial banks in Kenya.
- [27] Margrabe, K. (2011). The incidence of secured debt: evidence from the small business community. *Journal of Financial and Quantitative Analysis*, 24, 379-94.
- [28] Markowitz, H.M. (1952). "Portfolio Selection". *The Journal of Finance*. 7 (1): 77-91
- [29] Moti, H. O., & Masinde, J. S., (2012). Effectiveness of credit management system on loan performance: empirical evidence from micro finance sector in Kenya. *International Journal of Business, Humanities and Technology*, 2(6), 99-108.
- [30] Muganga, D. (2010). *The role of regulation and supervision of microfinance institutions: evidence from South Africa and its implications on the development of non-deposit taking Microfinance regulation in Kenya*. Nairobi.
- [31] Mureithi, A. W. (2010). *Relationship between credit appraisal process and the level of non-performing loans of the women enterprise fund loans offered through financial intermediaries in Kenya* (Doctoral dissertation, University of Nairobi, Kenya).
- [32] Ndegwa, S. M. (2016). The effect of credit risk on the financial performance of commercial banks listed at the Nairobi securities exchange.
- [33] Ndulu, J. K. (2016). A case for a microfinance regulatory framework in Kenya.
- [34] Ngugi, V. W., & Kerongo, F. (2014). Effects of micro-financing on growth of small and micro enterprises in Mombasa County. *International Journal of Scientific Engineering and Research (IJSER)*, 2(4), 138-142.
- [35] Nguyen, L. (2017). Credit risk control for loan products in commercial banks. Case: BIDV.
- [36] Njoku, J.E. & Odii, M.A (2011). Determinants of Loan Repayment Under the Special Emergency Loan Scheme (SEALS) in Nigeria: A Case Study of Imo State, *African Review of Money, Finance and Banking*, (4) 39-52
- [37] Padilla J.A. & Pagano M. (2012). Sharing Default Information as a Borrower Discipline Device", *European Economic Review*, 44(10), p. 1951-1980.
- [38] Puxty, H.E. (2011). Informational Asymmetries, Financial Structure, and Financial Intermediation, *Journal of Finance, American Finance Association*, vol. 32(2), pages 371-87.
- [39] Rosli, A., (2010). Risk reporting: An exploratory study on risk management disclosure in Malaysian annual reports. *Managerial Auditing Journal*, 24(1), 39-57.

- [40] Schaltegger, A.K., & Wagner, S. (2011). Effect of working capital management on firm profitability: Empirical evidence from India. *Global Business Review*, 12(1),159 –173
- [41] Schaltegger, S. & Burritt, R.L. (2010). ‘Sustainability accounting for companies. Catchphrase or decision support for business leaders?’ *Journal of World Business*, 45(4), 375–84
- [42] Scheufler, N.B. (2012). Effectiveness of Credit Risk Management and Its Impact on Financial Performance of Banks in Bangladesh: *An Empirical Investigation*.
- [43] Smith, M.G. (2014). Measuring Association between Working Capital and return on Investment. *South African Journal of Business Management*, 28(1), 44-60.