CREDIT RISK MANAGEMENT AND LOAN PERFORMANCE IN MICROFINANCE BANKS IN KENYA

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Abstract

The concept of micro-finance in Kenya is one of the most developed in the sub-Saharan Africa. However, given the importance of credit risk in microfinance functioning, the efficiency of microfinance risk management which includes techniques, methods, processes, procedures, activities and incentives is expected to significantly influence its loan performance. This study therefore sought to determine the relationship between credit risk management and loan performance in microfinance banks (MFBs) in Kenya. A descriptive research design was adopted. The target population comprised twelve MFBs and a sample size of sixty (60) respondents obtained by purposively sampling five respondents from each of the twelve MFBs. Data collection was done using questionnaires and analyzed using SPSS where descriptive and inferential statistics were conducted. The study found a positive and statistically significant relationship between credit risk environment, credit appraisal process, credit administration, measurement and monitoring, internal control over credit risk and loan performance in the microfinance banks. The senior management in the MFBs should develop policies and procedures, establish overall credit limits, have a system for monitoring the condition of individual credits and an independent internal control system for conducting ongoing assessment of the bank's credit risk management process.

Keywords: credit risk management, environment, appraisal process, microfinance banks, loan performance

INTRODUCTION

Risk management is recognized in today's business world as an integral part of good management practice. It entails the systematic application of management policies, procedures and practices to the tasks of identifying, analyzing, assessing, treating and monitoring risk (Haneef, et al., 2012). Credit risk management is defined as identification, measurement, monitoring and control of risk arising from the possibility of default in loan repayments (Coyle, 2000).There are various approaches available for MFBs in Kenya to manage credit risk. Ekka et al. (2011) indicated that MFBs may apply certain conventional risk management approaches to mitigate credit risk. Such approaches include setting loan limits to mitigate risk exposure especially from new clients that have no collateral, Standardized loan terms, zero tolerance to delinquency and group-based lending. Fuser and Meier (1999) had earlier on mentioned the same approaches of credit risk management as including credit limits, taking collateral, loan selling, syndicated loans, credit insurance, and securitization and credit derivatives. Boston Consulting Group (BCG), 2001 found that the sole determining success factors are not the technical development but the ability to understand risk strategically and also the ability to handle and control risk.

Credit extended to borrowers may be at the risk of default such that whereas banks extend credit on the understanding that borrowers will repay their loans, some borrowers usually default and as a result, banks income decrease due to the need to provision for the loans. Every financial institution bears a degree of risk when the institution lends to business and consumers and hence experiences some loan losses when certain borrowers fail to repay their loans as agreed. Such unpaid loans are referred to as non-performing loans (Kithinji, 2010).The standard most widely accepted international measure of portfolio quality (loan performance) in banking is Portfolio at Risk (PAR) beyond a specified number of days. It shows the portion of the portfolio that is contaminated by arrears and therefore at risk of not being repaid, the older the delinquency, the less likely that the loan will be repaid. Portfolio at Risk (PaR) is calculated by dividing the outstanding balance of all loans with arrears by the outstanding gross portfolio as of a certain date (Stauffenberg, et al., 2003). CBK Prudential Guidelines (2006) defines non-performing loan as a loan that is no longer generating income. The guidelines state that loans are non-performing when: principal or interest is due and unpaid for 90 days or more; or interest payments for 90 days or more have been re-financed, or rolled-over into a new loan. Non-performing loans are one of the main reasons that cause insolvency of the financial institutions and ultimately hurt the whole economy (Hou, 2007). According to Kangogo (2014), it is necessary to control non-performing loans for the economic growth in the country, otherwise the

resources can be jammed in unprofitable projects and sectors which not only damages the financial stability but also the economic growth.

A study on the effect of credit risk management on loan portfolio quality of tier one commercial banks in Kenya concluded that credit risk management influences the level of nonperforming assets which affects loan portfolio quality thus affecting the general performance of the bank (Onuko, et al., 2015). A study by Haneef *et al.*, (2012) concluded that non-performing loans are increasing due to lack of risk management which threatens the profitability of banks. In view of the foregoing, there is therefore a need for banks to adopt appropriate credit risk management techniques to minimize incidences of loan defaults to enhance loan performance as past studies have revealed that loan performance is a critical element for good financial performance of banks.

Statement of the Problem

The concept of micro-finance in Kenya is one of the most developed in the sub-Saharan Africa. As such there is much interest in the knowledge regarding sustainability of the continuous growth and development of this concept of financing (Kipkemboi, 2013). According to Kipsang (2014) growth of microfinance sector in Kenya is exposed to various risks which originate from both the internal and external environment and specifically, financial risks which threaten their financial viability and long-term sustainability. As a result well run microfinance institutions (MFI's) make better use of scarce funds by providing better financial services and reaching more poor clients. Credit policies and procedures are designed to guide lending and ensure prudent lending operations. Recently, receiving loans has become an issue of concern for small businesses (Otieno&Nyagol, 2016).

A number of studies have been done locally and internationally in relation to credit risk management and loan performance. Walsh (2010) carried out an assessment of the credit management process of credit unions. The study found that credit unions are deficient in the credit control department. A study conducted by Ahlberg and Anderson (2012) on credit risk, Credit Assessment, Basel III, Small Business Finance in 95 small and large banks in Sweden found out that most banks had a well-developed credit process where building a mutual trust relationship with the customer is crucial. A study by Iqbal and Mirakhor (2007) found out that strong risk management practices can help MFIs reduce their exposure to credit risk and enhance their ability to compete well in the industry. In his study, Simiyu (2008), established that majority of the institutions used Credit Metrix to measure the credit migration and default risk. The findings showed that the microfinance institutions are faced with the challenge of strict operational regulations from the Central Bank of Kenya. Chege (2010) concluded that credit risk

management practices enhance profitability of the MFI. Kombo et al., (2010) asserted that strategic risk, credit risk and liquidity risk are the most frequent risks; whereas reputation and subsidy dependence risks occur at a very low incidence for Micro Finance Institutions (MFIs) located in Kisii area. Kiplimo and Kalio (2012) established that there was a strong relationship between client appraisals and loan performance in MFIs. Mwithi (2012) found that there was a positive correlation between credit risk assessment and management of microfinance institutions in Nyeri County. Kisala (2014) in his study found a significant relationship between loan performance and credit risk management in MFIs in Nairobi, Kenya. Further, a study by Kipkemboi (2013) revealed a positive relationship between credit risk management practices and financial performance of MFIs. Njenga (2014) denoted a positive relationship between the variables under study in her determination on the effect of credit management practices on loan performance in deposit taking MFIs in Kenya. Otieno and Nyagol (2016) concluded the existence of a significant relationship between credit risk management and financial performance of MFBs.

However, these studies do not cover credit risk management and loan performance in microfinance banks in Kenya. These credit risk management aspects include credit risk environment, credit appraisal process, credit administration, measurement and monitoring and internal controls. This study will therefore seek to bridge the literature gap in the vital area of credit risk management in microfinance banks in Kenya.

General Research Objective

The main objective of this study was to investigate the relationship between credit risk management and loan performance in Microfinance Banks in Kenya.

Specific Research Objectives

i. To determine the relationship between credit risk environment setting and loan performance in Microfinance Banks in Kenya
ii. To establish the relationship between credit appraisal process and loan performance in Microfinance Banks in Kenya
iii. To determine the relationship between credit administration, measurement and monitoring and loan performance in Microfinance Banks in Kenya
iv. To determine the relationship between internal controls over credit risk and loan performance in Microfinance Banks in Kenya

Research Questions

i.   What is the relationship between Credit risk environment and loan performance in microfinance banks in Kenya?

ii.   What is the relationship between Credit appraisal process and loan performance in Microfinance Banks in Kenya?

iii.   What is the relationship between Credit administration, measurement and monitoring and loan performance in Microfinance Banks in Kenya?

iv.   What is the relationship between internal control over credit risk and loan performance in Microfinance banks in Kenya?

THEORETICAL REVIEW

Asymmetric Information Theory

This is also referred to as the theory of imperfect information. Asymmetric information refers to situations, in which some agent in a trade possesses information while other agents involved in the same trade do not. Information asymmetry arises when the borrower has much better information about his financial state than the lender. According to Auronen (2003), it may be difficult to distinguish between good and bad borrowers. The lender has difficulty knowing whether it is likely the borrower will default. The lender may try to overcome this problem by looking at past credit history and evidence of income/cash flow. However, this only gives limited information. According to the theory, the person that possesses more information on a particular item to be transacted (the borrower) is in a position to negotiate appropriate terms for the transaction than the other party (the lender). The party that knows less about the same specific item to be transacted is therefore in a position of making either right or wrong decision concerning the transaction. Adverse selection occurs where the less informed party (the lender) makes a wrong decision and ends up lending to a borrower whom he would not have lent to if he had more information. According to Kipyego (2013), the adverse selection problem signals that when lenders cannot distinguish between good and bad borrowers, all borrowers are charged a normal interest rate that reflects their pooled experience. If this rate is higher than worthy borrowers deserve, it will push some good borrowers out of the borrowing market, forcing in turn to banks charging even higher rates to the remaining borrowers

According to Onuko*et al.*, (2015), if borrowers could provide true and complete information regarding their financial status to the lenders at the time of seeking for credit, then lenders (banks) could be at a better position of making informed credit decisions thereby reducing the risks associated with credit. When credit risk is reduced, level of NPA is reduced hence a good portfolio quality for the financial institutions. Similarly, if banks could make

additional efforts to ensure they obtain all relevant information on credit applicants during the credit appraisal process, the credit risk associated with such applicants could be reduced. For this reason, the theory is relevant for the study.This theory was significant in this study since it inferred that lack of a sound credit appraisal process would result to increased credit risk due to inability/failure of the microfinance bank to obtain all relevant information on credit applicants leading to the possibility of granting credit to undeserving borrowers. This would in turn lead to deterioration in loan performance. The reverse of this is true implying a positive relationship between sound credit appraisal and loan performance. This study focused on credit administration, measurement and monitoring which is very significant sound credit appraisal process in microfinance.

The Agency Theory

Agency theory is the study of the agency relationship and the issues that arise from this, particularly the dilemma that the principal and agent, while nominally working toward the same goal, may not always share the same interests. The literature on agency theory largely focuses on methods and systems and their consequences that arise to try to align the interests of the principal and agent (Delves & Patrick, 2000). An agency relationship is one in which one or more persons (the principal) engage another person (the agent) to perform some service on their behalf which involves delegating some decision making authority to the agent. Perhaps the most recognizable form of agency relationship is that of employer and employee. Other examples include lender (principal) and borrower (agent); constituents (principal) and elected representative (agent); or shareholders (principal) and CEO.

According to the agency theory, a firm consists of a nexus of contracts between the owners of economic resources (the principals) and managers (the agents) who are charged with using and controlling those resources (Jensen &Meckling, 1976). The theory posits that agents have more information than principals and that this information asymmetry adversely affects the principals' ability to monitor whether or not their interests are being properly served by agents. As such, the theory describes firms as necessary structures to maintain contracts, and through firms, it is possible to exercise control which minimizes opportunistic behavior of agents (Abdel-Khalik, 1993). According to the theory, in order to harmonize the interests of the agent and the principal, a comprehensive contract is written to address the interest of both the agent and the principal. The agent-principal relationship is strengthened more by the principal employing an expert and systems (auditors and control systems) to monitor the agent (Jussi& Petri, 2004). Further the theory recognizes that any incomplete information about the relationship, interests or work performance of the agent described could be adverse and a moral hazard. Moral hazard

and adverse selection impact on the output of the agent in two ways; not possessing the requisite knowledge about what should be done and not doing exactly what the agent is appointed to do. The agency theory therefore works on the assumption that principals and agents act rationally and use contracting to maximize their wealth (Jensen &Meckling, 1976).

This theory was applicable to this study simply because internal control is one of many mechanisms used in business to address the agency problem by reducing agency costs that affects the overall performance of the relationship as well as the benefits of the principal (Payne, 2003). Internal control enhances the provision of additional information to the principal (shareholder) about the behavior of the agent (management) and therefore reduces information asymmetry and lowers investor risk and low revenue. In this study, independent ongoing credit risk assessment and early remedial action on deteriorating credits which is handled by the principals and agents as posited by this theory was evaluated by the study making the theory very relevant.

EMPIRICAL REVIEW

Credit Risk Environment

A study was carried out by Addae-Korankye (2014) on the causes and control of loan default/delinquency in microfinance institutions in Ghana. The study found that the causes of loan default included high interest rate, inadequate loan sizes, poor appraisal, lack of monitoring and improper client selection. Measures to control default were found to include training before and after disbursement, reasonable interest rate, monitoring of clients, and proper loan appraisal. It was recommended among others that MFIs should have clear and effective credit policies and procedures and must be regularly reviewed. It was concluded that the government and hence Bank of Ghana should regularly monitor and supervise the MFIs so as to ensure safety of clients' deposits and customers' confidence.

Haneef *et al.*, (2012) did a study to investigate the impact of risk management on non-performing loan and profitability of banking sector of Pakistan. Five banks were selected for data collection and the data was secondary in nature. The result of this study revealed that there was no proper mechanism for risk management in banking sector of Pakistan. Study also concluded that non-performing loans are increasing due to lack of risk management which threatens the profitability of banks. They further concluded that risk management encompasses risk identification, assessment, measurement, monitoring and controlling all risks inherent in the business of banking; the basic principles relating to risk management that are applicable to every financial institution, irrespective of its size and complexity.

Mwithi (2012) conducted a study to determine the relationship between credit risk management practices and the level of non-performing loans of microfinance institutions in Nyeri County, Kenya. The study found out that the level of credit risk assessment and management was high in the MFIs. It was also found out that effective management of their institutions was affected by liquidity and profitability, and that asymmetric information in loan market affects the effective management of NPLs in MFIs in Nyeri County. The study found that inability to enforce covenants leads to NPLs among MFIs in Nyeri County to a very large extent. The study concluded that the relationship between credit risk management approaches employed by Micro Finance Institutions in Nyeri County and the level of Non-Performing Loans was a negative correlation i.e. the higher the level of credit risk management, the lower the level of NPLs.

In a study conducted by Nyong'o (2014) on the relationship between credit risk management and non-performing loans in commercial banks in Kenya. It was found that credit risk management practices adopted by the banks influences the level of non-performing loans to a great extent and that risk identification, risk monitoring and risk analysis and appraisal would lead to decrease in non-performing loans while bank size and interest rates would lead to increase in non-performing loans. The study further recommended that the boards of commercial banks should outline risk management strategy and formulate well-defined policies and procedures. That Risk management department should be made on portfolio or business line basis, to adopt a holistic approach judging the overall risk exposure in assessing and managing risk profile of the bank.

Credit Appraisal process

In a study conducted by Arko (2012) on the causes and effects of NPLs on MFIs' operations in Ghana, it was asserted that the lender should ensure that good decisions are made relative to granting of loans with the object of minimizing credit risk. In other words, the lender ought to always aim to assess the extent of the risk associated with the lending and try to minimize factors that could otherwise compromise repayment. The scholar further asserts that, needless to say, the lender should gather information regarding the prospective borrower that will assist in reaching a sound credit decision. It was noted that in order to mitigate NPLs which are occasioned by non-repayment of loans, MFIs in Ghana have adopted a standard loan request procedure and requirements that are usually contained in credit policy manual with the object of guiding loan officers and customers.

Orua (2009) conducted a study on the relationship between loan applicant appraisal and loan performance of microfinance institutions in Kenya. The study revealed that short-term debt significantly impacted MFI outreach positively. Long term debt however showed positive

relationship with outreach but was not significant with regard to default rates. A study by Kisaka and Simiyu (2014) on credit risk management techniques used by microfinance institutions in Kenya established that most microfinance institutions use 6C techniques of credit risk management. The study results also revealed that understanding the organizations exposure to credit is treated as critical by the microfinance institutions. To avoid loan losses, the microfinance institutions used follow ups. The results also show that MFIs take loan review analysis as crucial aspects of risk management by doing proper documentation and analysis. The results also show that the microfinance institutions are faced with the challenge of strict operational regulations from the Central Bank of Kenya. Loan recovery is a major challenge to the majority of the institutions.

Credit Administration, Measurement and Monitoring Process

Mutua (2014) evaluated the effect of credit risk management on the financial performance of commercial banks in Kenya. The study targeted auditors of all commercial banks in Kenya; the population of the study were the credit controllers of all the 43 commercial banks in Kenya. Primary data was collected using questionnaires which were administered using drop and pick method by the researcher. The data was then analyzed using quantitative techniques. The study concluded that bank considers risk identification as a process in credit risk management, that the bank focuses in interest rate risks in the risk identification map and that the bank focuses in foreign exchange risks. The study also concluded that in view of risk analysis as a credit risk management practice in the bank the application of modern approaches to risk measurement, particularly for credit and overall risks is important for commercial banks and that risk analysis helps the bank management to discover mistake at early stages and that risk monitoring can be used to make sure that risk management practices are in line with proper risk monitoring.

Mutua (2016) did a study on the impact of credit risk management on financial performance of savings and credit co-operative societies in Kitui County. The research design used in this study was a descriptive research design. The data collection instruments in this case included self-administered questionnaires which were used to extract valuable primary data from the SACCOs' management. The study used quantitative method to analyze the data and examine the simultaneous impact of the independent variables on the dependent variable. The findings indicated that there was a very strong positive relationship between credit monitoring and financial performance of SACCOs, a very strong positive relationship between loan policy in mitigation of risk and financial performance of SACCOs and that there was a very strong positive relationship between loan defaulters and financial performance of SACCOs.

Muasya (2013) investigated the relationship between credit risk management practices and loans losses - a study on commercial banks in Kenya. Descriptive research design was utilized in this study as it aimed to see if there is a relationship between credit risk management practices and loan portfolio losses in commercial banks in Kenya. Research findings indicated that a significant number of commercial banks in Kenya had not put in place credit risk management information systems to effectively measure, monitor, control and identify risk, and that majority of management of commercial banks in Kenya recognized the need for information sharing among players within the industry in order to mitigate the risk. It was concluded that credit risk management practices are common among most of the commercial banks in Kenya and that management of these commercial banks appreciated government legislation relating to credit risk management through the introduction of the credit sharing information Act, and that there is a significant negative relationship between credit risk management practices and loan losses in commercial banks in Kenya.

Internal controls over credit risk

Negera (2012) assessed the determinants of non-performing loans. The mixed research approach was adopted for the study. Survey was conducted with professionals engaged in both private and state owned Banks in Ethiopia holding different positions using a self- administered questionnaire. In addition, the study used structured review of documents and records of banks and in-depth interview of senior bank officials in the Ethiopian banking industry. The findings of the study shows that poor credit assessment, failed loan monitoring, underdeveloped credit culture, lenient credit terms and conditions, aggressive lending, compromised integrity, weak institutional capacity, unfair competition among banks, willful default by borrowers and their knowledge limitation, fund diversion for unintended purpose, over/under financing by banks ascribe to the causes of loan default.
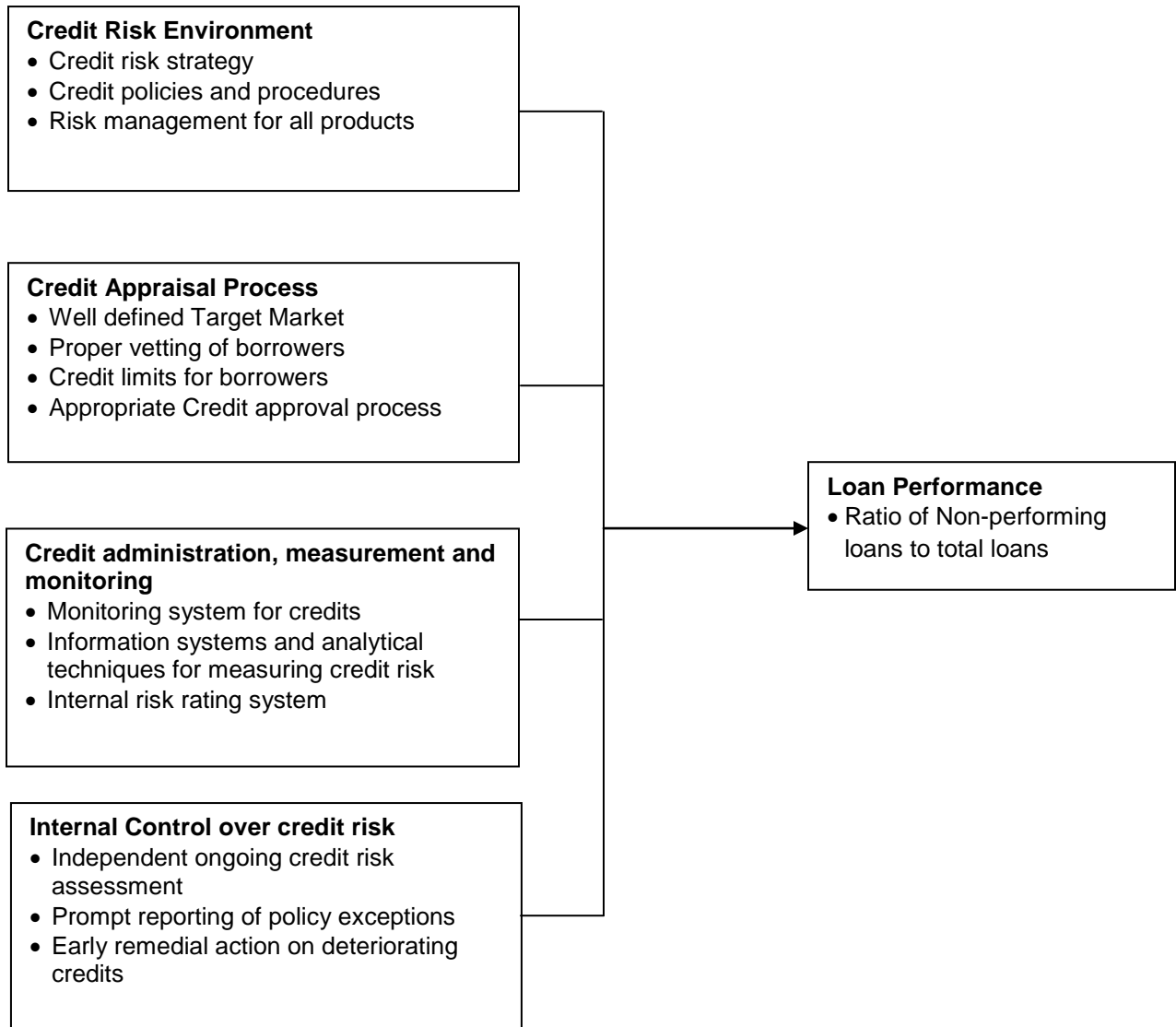
A study was conducted by Ahmed and Malik (2015) on credit risk management and loan performance. They examined credit risk management and loan performance with credit terms, client appraisal, collection policy, credit risk control as independent variables and loan performance as dependent variable. The results of the analysis showed that the credit terms and client appraisal have positive and significant impact on the loan performance, while the collection policy and credit risk control have positive but insignificant impact on loan performance. Gladys (2012) did a study to establish the effect of credit risk management techniques used to evaluate SMEs on the level of Nonperforming loans by Commercial banks in Kenya. A descriptive study of credit risk management techniques was used by commercial banks in Kenya was carried out on all the banks. A regression analysis was developed in order

to examine the relationship credit risk management and SME Nonperforming loans in Banks in Kenya. The study established that there is a negative relationship between Credit Risk Management and nonperforming loans.

Conceptual Framework

The conceptual framework indicates that credit risk environment, credit appraisal process, credit administration, measurement and monitoring and internal control over credit risk constitute the independent variables. On the other hand, loan performance is the dependent variable. The study was guided by the assumption that credit risk management influences loan performance in microfinance banks in Kenya.

Figure 1: Conceptual framework

Credit Risk Environment
- Credit risk strategy
- Credit policies and procedures
- Risk management for all products

Credit Appraisal Process
- Well defined Target Market
- Proper vetting of borrowers
- Credit limits for borrowers
- Appropriate Credit approval process

Loan Performance
- Ratio of Non-performing loans to total loans

Credit administration, measurement and monitoring
- Monitoring system for credits
- Information systems and analytical techniques for measuring credit risk
- Internal risk rating system

Internal Control over credit risk
- Independent ongoing credit risk assessment
- Prompt reporting of policy exceptions
- Early remedial action on deteriorating credits

RESEARCH METHODOLOGY

Research Design

A research design is a plan showing how the research problem will be solved (Mugenda & Mugenda, 2003). This study used descriptive research design because of its appropriateness in establishing relationships between variables and facilitating the collection of information for achieving the objectives of the study thus appropriate in investigating the relationship between credit risk management and loan performance in Microfinance Banks in Kenya.

Target Population

The target population is the population in research to which the researchers can apply their conclusions. Target population is a subset of the population at large and is also known as the study or accessible population (Pyrczak, 2010). The study population consisted of all the 12 Microfinance banks that were operating in Kenya.

Sample Size and Sampling Design

Levy &Lemeshow (2013) defined sample as subset of the population to be studied. Sampling design is the strategy used to select study participants or respondents (Kothari, 2008). According to Cooper and Schindler (2006), a census is feasible when the population is small and therefore this was a census study. All the 12 microfinance banks were selected and used for the study. Purposive sampling was used in the selection of one credit manager, two credit analysts and two credit officers in each of the microfinance bank and therefore a total of 60 respondents was the sample size.

Data Collection Tool

The study used primary data which was collected through structured questionnaires administered by the "drop and pick later" method to the respondents. The questionnaires comprised closed ended questions which enabled the researcher to collect quantitative data for statistical analysis.

Pilot Study

Prior to the actual study, a pilot study was carried out to pretest the validity and reliability of data collected using the questionnaire. The Test re-test method was used to pilot the questionnaires from respondents who did not form part of the sample of the study.

Validity of the Research Instrument

Joppe (2004) states that validity determines whether the research truly measures that which it is intended to measure or how truthful the research results are. Validity of the questionnaire was established by the researcher and supervisor reviewing the items.

Reliability of the Research Instrument

Joppe (2004) defines reliability as the extent to which results are consistent over time and an accurate representation of the total population under study. A reliability analysis was carried out in this study to measure the reliability of independent variables. Cronbach's alpha was used to determine the reliability whereby a co-efficient of above 0.7 implied that the instruments are sufficiently reliable for the measurement (Cooper, 2003).

Data analysis and Presentation

Data analysis entailed the use of descriptive and inferential statistics which was done using the Statistical Package for Social Sciences (SPSS). Descriptive statistics such as percentages, frequencies, measures of central tendency such as means and standard deviation were done on the general information and variables under study. Inferential statistics (regression analysis, ANOVA) were conducted to determine nature of relationship between credit risk management and loan performance. Linear regression was used to establish the relationship between credit risk management and loan performance in Microfinance banks.

EMPIRICAL FINDINGS
Descriptive Statistics
Credit risk environment

In this section, the study outlined the respondents' views on credit risk environment in light of credit risk management. The pertinent findings are as shown in table 1.

Table 1: Descriptive for credit risk environment

Credit risk environment indicators	N	Min	Max	Mean	Std. Deviation
The board of directors approves the credit risk strategy and significant credit risk policies of the bank	54	1.00	5.00	4.11	1.14
The senior management in our bank strictly implements the credit risk strategy approved by the board of directors	54	3.00	5.00	4.28	0.68

	N	Min	Max	Mean	Std. Deviation
The senior management in our bank develops policies and procedures for identifying, measuring, monitoring and controlling credit risk	54	3.00	5.00	4.44	0.57
The credit risk policies and procedures developed address credit risk in all the banks activities and at both the individual credit and portfolio levels	54	2.00	5.00	3.94	0.86
Valid N (listwise)	54				

As outlined in Table 1, it was agreed (4.44) that the senior management in the microfinance banks develops policies and procedures for identifying, measuring, monitoring and controlling credit risk. Further, they agreed that (4.28) the senior management in the MFIs strictly implements the credit risk strategy approved by the board of directors.

Credit appraisal process

In this section the study illustrates the findings in respect of credit appraisal process as outlined by MFBs. Table 2 shows the descriptive statistics for credit risk appraisal process that are employed in credit risk management by MFBs.

Table 2: Descriptive statistics for credit risk appraisal process

Credit risk appraisal process indicators	N	Min	Max	Mean	Std. Deviation
Our bank operates within sound ,well defined credit appraisal criteria	54	3.00	5.00	4.19	0.83
Our bank has established overall credit limits both at individual borrowers and counterparties level	54	3.00	5.00	4.31	0.64
Our bank has a clearly established process for approving new and refinancing of existing credits	54	3.00	5.00	4.07	0.87
All extensions of credit are made on an arm's length basis	54	2.00	5.00	3.85	0.71
Valid N (listwise)	54				

Findings in Table 2 indicate that respondents agreed (mean= 4.31) that the bank has established overall credit limits both at individual borrowers and counterparties level and that the bank operates within sound, well defined credit appraisal criteria (mean= 4.19).

Credit administration, measurement and monitoring

The section below is an illustration of the findings in respect to credit administration, measurement and monitoring process as outlined by the MFBs. Table 3 shows the descriptive statistics for credit administration, measurement and monitoring process that are employed in credit risk management by MFBs.

Table 3: Descriptive Statistics for Credit Administration, Measurement and Monitoring Process

Credit Administration, Measurement and Monitoring Process Indicators	N	Min	Max	Mean	Std. Deviation
Our bank has a system for the ongoing administration of various credit risk bearing portfolios	54	3.00	5.00	3.81	0.85
Our bank has a system for monitoring the condition of individual credits, including determining the adequacy of the provisions and reserves	54	2.00	5.00	4.22	0.88
The rating system is consistent with the nature, size and complexity of our banks activities	54	3.00	5.00	4.02	0.63
Our bank has information systems and analytical techniques that enable management to measure the credit risk inherent in all on and off balance sheet activities	54	2.00	5.00	3.72	0.96
Valid N (listwise)	54				

Findings indicate that they agreed (mean = 4.22) that the MFBs has a system for monitoring the condition of individual credits, including determining the adequacy of the provisions and reserves. Further, they agreed (mean = 4.02) that the rating system is consistent with the nature, size and complexity of our banks activities.

Internal controls over credit risk

In this section the study illustrates the findings in respect tointernal controls over credit risk as outlined by MFBs. Table 4 shows the descriptive statistics for internal controls over credit risk that are employed in credit risk management by MFBs.

Table 4: Descriptive Statistics for Internal Control System over Credit Risk Management

	N	Min	Max	Mean	Std. Deviation
Our bank has an independent internal control system for conducting ongoing assessment of the bank's credit risk management process	54	2.00	5.00	4.28	0.74
The internal control system ensures that the credit exposures are within prudential standards and internal limits	54	2.00	5.00	3.96	0.82
The internal control system ensures that the credit exposures that are exceptions to policies , procedures and limits are reported in timely manner to the management	54	2.00	5.00	3.80	1.05
Our bank has a system for early remedial action on deteriorating credits and managing problems credits	54	2.00	5.00	3.61	1.12
Valid N (listwise)	54				

Findings indicate that they agreed (mean = 4.28) that the bank has an independent internal control system for conducting ongoing assessment of the bank's credit risk management process. Moreover, they agreed (mean = 3.96) that the internal control system ensures that the credit exposures are within prudential standards and internal limits.

Extent to which Credit Risk Management Practices Adopted Influence the Level of Non-performing Loans

Here, respondents were to indicate their level of agreement as no extent, little extent, moderate extent, great extent and very great extent. The pertinent results are as shown in Table 5.

Table 5: Extent to which the Internal Control System over Credit Risk Management is Adequate

Extent to which the Internal Control System over Credit Risk Management is Adequate	Frequency	Percentage
No extent	0	0
Little extent	3	6
Moderate extent	5	9
Great extent	18	33
Very great extent	28	52
Total	54	100

Findings indicate that the extent to which the credit risk management practices adopted influence the level of non-performing loans in the bank was at great extent (33%) and to a great extent (52%).

Inferential Statistics

A linear regression analysis was conducted so as to test relationship among the variables.

Table 6: Model summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.936(a)	.875	.870	.18705

Predictors: (Constant), Credit risk environment, Credit appraisal process, Credit administration, measurement and monitoring, Internal control over credit risk

According to the direct relationship model applied in this study, Adjusted R Square was 0.870 implying that the independent variables studied explain 87.0% of the relationship between credit risk management and loan performance in microfinance banks in Kenya. This implies that the other variables not studied in this study contributed 13.0% of the variability in loan performance of microfinance banks.

The ANOVA report which assessed the overall significance of the regression model applied in this study indicated that, $p<0.5$ (Sig. =0.000) and therefore the model was significant at 95% confidence level.

Table 7: ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
	Regression	7.626	1	7.626	59.260	.000(a)
	Residual	6.691	52	.129		
	Total	14.317	53			

a. Predictors: (Constant), Credit risk environment, Credit appraisal process, Credit administration, measurement and monitoring, Internal control over credit risk

b. Dependent Variable: Loan Performance

A composite index was calculated by finding the average of each of the independent variables and the dependent variable. The means provided figures used in obtaining coefficients using SPSS are indicated in Table 8.

Table 8: Table of Coefficients

	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
(Constant)	-.259	.107		-2.417	.019
Credit risk environment	.304	.026	.337	11.807	.000
Credit appraisal process	.366	.034	.393	10.722	.000
Credit administration, measurement and monitoring	.387	.030	.439	12.705	.000
Internal control over credit risk	.250	.000	.341	11.843	.000

Dependent Variable: Loan performance

The linear regression model for this study was

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

Where:

Y = Loan Performance

X_1 = Credit risk environment

X_2 = Credit appraisal

X_3 = Credit administration, measurement and monitoring

X_4 = Internal controls over credit risk

β_0 = the constant

ϵ = error term

As per the SPSS results generated, the equation translates to:

Loan Performance = -0.259+ 0.337 X_1 + 0.393X_2+ 0.439 X_3 + 0.341X_4

Where; **Loan performance** = Constant + Credit risk environment + Credit appraisal process + Credit administration, measurement and monitoring + Internal control over credit risk

The results in Table 8 imply that credit risk environment relates positively with loan performance, the relationship is statistically significant at the 99% confidence level (β=0.337, p<0.01; p=0.000); There is a positive relationship between loan performance of micro-finance banks and credit appraisal process which is statistically significant at the 95% confidence level (β= 0.393, p<0.5; p=0.000); Credit administration, measurement and monitoring relates

positively with loan performance and the relationship is significant at 99% level of confidence (β=0.439, p=0.000). Similarly there is a positive relationship between loan performance and internal control over credit risk and the relationship is statistically significant at the 95% level of confidence (β=0.341, p=0.000).

SUMMARY OF FINDINGS

From the indicators enlisted on the credit environment risk setting, the senior management in the banks developing policies and procedures for identifying, measuring, monitoring and controlling credit risk was an important key credit risk environment aspect (mean = 4.4). Results further indicated that the senior management in the bank strictly implementing the credit risk strategy approved by the board of directors was another key credit risk environment aspect hence positively affecting the loan performance of Microfinance banks in Kenya. Results further indicated that the bank having established overall credit limits both at individual borrowers and counterparties level was critical in credit appraisal process (mean = 4.3). It was also established that the bank having a system for monitoring the condition of individual credits, including determining the adequacy of the provisions and reserves had a mean of 4.2. Results further indicated that the bank having an independent internal control system for conducting ongoing assessment of the bank's credit risk management process had a mean of 4.3.

CONCLUSION

This study concludes that loan performance is significantly affected by credit risk environment, credit appraisal process, credit administration, measurement and monitoring and internal control over credit risk. As indicated by the regression equation Loan Performance = -0.259+ 0.337 (credit risk environment) + 0.393 (credit appraisal process) + 0.439 (credit administration, measurement and monitoring) + 0.341(internal control over credit risk). The inferential statistics analysis of the study findings indicated that all the study variables positively affected loan performance of the microfinance banks in Kenya. They are therefore very relevant in explaining the loan performance of the microfinance banks in Kenya. The major limitation of the study was cost and time. The researcher sampled a representative sample to mitigate the same such that only 60 respondents were targeted in the microfinance banks.

RECOMMENDATIONS

The senior management in the banks should develop policies and procedures for identifying, measuring, monitoring and controlling credit risk. The MFBs should establish overall credit limits both at individual borrowers and counterparties level since this is critical in credit appraisal

process. The MFBs should have a system for monitoring the condition of individual credits, including determining the adequacy of the provisions. MFBs should have an independent internal control system for conducting ongoing assessment of the bank's credit risk management process.

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