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Operational Risk Management And Loan Delinquency In Microfinance Institutions In Nandi County, Kenya

Analine Jelagat [1], DR. Jared Bitange Bogonko [2]
[1]*MSC (Finance and Accounting) student, JKUAT, Kenya*
[2]*Lecturer, JKUAT, Kenya*

Abstract
Operational risk management has been attracting an increasing attention in many organizations and especially the MFI's. Operation risks if not managed effectively will lead to major losses and increased default rates in the company. MFIs are aware of these challenges but lack of comprehensive and integrated approaches in tackling operational risks continues to be a big challenge to them. The purpose of the study was to find out the effect of operation risk management practices on delinquent loans in Micro financial institutions in Nandi County. Operation risk management was operationalized using internal control framework and therefore the specific objective was to determine the effect of internal control framework on loan delinquency in MFI's. This study adopted a cross-sectional survey design. The targeted population was 84 MFI employees who comprised of Managers, Lead credit officers and credit officers of 7 Micro Financial institutions in Nandi County. Census survey was used in collecting data. A pilot study was used to test the validity of the research instruments and internal consistency technique was used to test reliability. The statistical package for social sciences (SPSS) was used for data analysis, descriptive statistics included; frequencies, percentages, mean and standard deviations. While inferential statistics included; Pearson's product moment correlation coefficient and regression analysis. Internal control framework had a negative and significant effect on loan delinquency of (β= -.967, $p < 0.05$). The study concluded that internal control framework has a significant effect on loan delinquency in microfinance institutions. The study recommended that MFIs should continue to set up internal control structures. This study focused on operational risk management and loan delinquency in Microfinance Institutions in Nandi County, Kenya. The study was done in Nandi County. A similar study should be conducted in other Counties in Kenya.
Key words: *Operational Risk Management, Loan Delinquency, Microfinance Institutions*

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I. Introduction

Operation Risk Management (ORM) is pivotal in the management of loan default rates. Martin (2019) indicated that due to the risky and diverse products offered by micro financial enterprises, the basic cushion to any financial institutions' management is risk management. The business of a microfinance is majorly offering credit and credit is the primary basis on which an MFIs' quality and performance are adjusted. Operation risk management has a big impact on the life of a microfinance and if the right policies are chosen and are wrongly implemented, then objective achievement becomes a default task. As said, the way that MFIs manages its loans affect its financial performance. Default rate can be measured in terms of bad-debt losses ratio-the proposition of uncollected receivables (Panday, 2015). From the findings of the study conducted by Olobo, Karyeija, Sande, and Khoch (2021), posit that in most cases of loan delinquency are caused by management 's failure to efficiently manage specific factors which are considered to be within the direct control of the 'MFIs' and Self-Help Groups (SHGs') management.

The external factors outside the direct control of the Micro financial institutions and self-help group's management seem to contribute little to the levels of delinquent loans. Therefore, for effective management of delinquency, it is critical for MFIs to understand and focus more on the internal causes of delinquency which they have more control over and seek practical and achievable solutions to address these problems (Yusuf, 2020). To accomplish operation risk management duties and responsibilities the institution must understand its financial analysis, loan documentations, servicing, loan covenants and environmental analysis. It must also maintain sound records on the credit performance of its portfolios of risky assets because any change in underwriting; laws and regulations can significantly alter its loan loss experience (Calomiris & Herring, 2017).

In global debates on poverty reduction, microfinance has become one of the major subjects of discussion. It stands as one of the most promising and cost-effective tools of the war against poverty globally. Chambati (2018) describes microfinance as the use of market-driven and commercial approaches to offer various financial services to the poor. Provision of other financial services like savings, transfer of money, payments, remittances,

and insurance, among others are encompassed in this description. Concerted efforts have been made to encourage access of these services to the poor using micro finance institutions (MFIs) all over the world. In Kenya, the low-income target market is generally ignored and has for a long time not had access to appropriate microfinance products (Namutenda & Muturi, 2017). While over 90% are exposed to many risks in Kenya, with the poor being the most exposed; only 13% of the total population is served by MFIs.

MFIs of Kenya are registered under 2006, MFI Act. Microfinance Act of 2006 regulates the provision of microfinance services in Kenya. Downscaling commercial banks, non- bank financial institutions, saving and credit cooperatives that are licensed and NGOs are some of the chief kinds of microfinance service givers in Kenya. Currently, there are 51 registered MFIs in Kenya (Association of Microfinance Institutions of Kenya, 2021). Structural weaknesses, fraud by both employees and clients, fall down of some firms caused by deficiency of liquidity, slow economic growth, and inefficient governance, slow entrance of microfinance services and permeation of the industry are some of the numerous challenges facing the microfinance industry.

Effective operation risk management is therefore critical for the efficient functioning, growth and sustainability of a microfinance institution and hence the need to develop a way of mitigating the risk (Rajashekar & Abhay, 2017). Kenya has experienced financial institutions problems since 1980s' culminating in major bank failures (Kithinji & Waweru, 2017). Salas and Saurina (2017), this was due to under-capitalization, high levels of non-performing loans and weaknesses in corporate governance. Non-Bank financial institutions (NBFIs) were the most affected, but the number of failing commercial banks increased as well in the 1990s. Defaults rates lead to piling of non-performing loans in an institution 's balance sheet. Musyoki and Kadubo (2012) in their paper on operation risk management on financial performance of financial institutions concluded that default rate is the most important factor as it influences 54% in total credit risk influence on bank performance.

Given the challenging and dynamic business environment, a Micro Finance Institutions (MFI) is exposed to various losses and risks. The amount of loss reported by the MFIs in Kenya over the years has been alarming. These losses are due to high default rates and non-payment of loans by the customers (Musyoki & Kadubo, 2012). According to AMFI, the COVID-19 crisis caused numerous challenges: difficulties in disbursements, collection of loans and physical group meeting with clients. It also reorganizing internal systems and flow of work consequently, portfolio at risk deteriorated for many MFIs although at different rates in different parts of the world (Pakhchanyan, 2016). The MFBs recorded a loss of KSh 1.0 billion in the year ended June 2020, compared to a loss of KSh 0.7 billion in the previous year ended June 2019.

Further AMFI, 2021 report indicated that the microfinance sector registered a 1 percent decline in total assets in the year 2021. The total assets as at December 31, 2021, stood at Ksh.73.9 billion, in comparison to Ksh.74.9 billion reported in the year ended 2020. Net advances decreased by 9 percent from Ksh.44.2 billion in 2020 to Ksh.40.1 billion in December 202. The problem is that Micro Finance Institutions that do not adapt and/or institutionalize risk management strategies are likely to witness poor growth patterns compared with those that adapt (Njuguna et al., 2017). The threat that MFIs may collapse and experience huge losses as a result of poor risk management is not without any basis. The threat is so real such that some well- known Micro Finance Institutions (MFIs) have collapsed in the past. In 2020, Kenya Women Microfinance bank closed three of its branches due to operation losses (CBK report, 2021).

Various scholars have examined the various factors that influence the loan default in microfinance institutions, banks and other financial institutions globally and locally. For instance, Siminyu, Clive, and Musiega (2016) researched on the effects of operational risk on financial profitability in the lending process in ten commercial banks in Kakamega town, the findings showed that operational risk positively influences profitability of banks. A contextual gap exist as the study was conducted in a different geographical setting and was done on commercial banks. The study however, dealt with profitability of banks. Kiplimo and Kalio (2022) established that there was a strong relationship between client appraisals and loan performance in MFIs. Mwichigi (2019) did a study to assess how internal controls relate to operation risk using Kenya's commercial banks listed in NSE. A contextual gap exists as the study had not been conducted on MFIs. Another study was done by Mwithi (2020) on the relationship between operation risk management strategies and non-performing loan volume in institutions which are microfinance within the Nyeri locality. The study findings showed that management and strategies of operation risk were stringent. A methodological gap exists as the study had not provided justification for the research design adopted. Since most of these studies have related operation risk management and financial performance of microfinance and 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 internal control framework as the independent variable and loan delinquency as the dependent variable. The remainder of this article is as follows; section 2 cover literature review and hypothesis development, section 3, research methodology, section 4, results & discussions and section 5, conclusion and recommendations.

II. Literature Review & Hypothesis Development

Internal Control Framework and Loan Delinquency

Akwaa-Sekyi (2020) examined the effect of the qualitative principles of the BCBS internal control framework on credit risk among European Banks. This research covers banks from selected EU countries covering some period before and after the 2007 financial crisis using a fixed-effect model. We report a significant relationship between board functions and activities, board structure and board monitoring, and credit risk. The results indicate that investment in high-risk assets, bank profitability and board chair being ex-CEO increases operation risk in European banking. Corporate institutions use internal control frameworks to address the most operational risks, but the current study hypothesizes a possible relation with the operational risk management among microfinance institutions.

Huu Nguyen, Thuy Doan, and Ha Nguyen (2020) examined whether the agency problem regarding operation risk is a useful corporate governance mechanism for controlling operation risk. For this purpose, we estimate the impact of internal control and agency problems on operation risk in commercial banks in Vietnam from 2009 to 2018. The findings indicated that the agency problem is a statistically significant variable in the model. This result expands the existing literature. Second, we show that internal control is a mechanism to resolve the conflict of interest between the principal and agent. The author especially emphasizes the unchanged correlation of each independent variable to the dependent variable during the merger and restructuring of Vietnamese commercial banks in 2020.

Akwaa-Sekyi and Moreno Gené (2016) did a study on the effect of internal controls on operation risk among listed Spanish banks. Quantitative research approach was used to test hypotheses on the relationship between internal controls and operation risk among listed banks. Data from Bank scope and company websites from 2004-2013 were used. Generalized Least Squares (random effect) econometric estimation technique was used for the model. The findings indicated that internal control systems are in place but their effectiveness cannot be guaranteed. This exposes Spanish listed banks to serious default situations. There is significant effect of internal controls on operation risk especially the control environment, risk management, control activities and monitoring. The non-disclosure of material internal control weakness is a contributory factor to the ineffective internal control systems. There is however a perceived board ineffectiveness which does not augur well for effective internal control systems. Board characteristics for Spanish banks confirm the agency theory.

Ejoh and Ejom (2014) sought to establish the relationship between internal control activities and financial performance in Tertiary Institutions in Nigeria. The study area is Cross River State College of Education, Akamkpa. Data was collected using questionnaires and interview guide as well as review of documents and articles. The method of analysis employed was survey design while the stratified sampling procedure was adopted in administering the questionnaires. The study revealed that all activities of the College are initiated by the top management. Regarding control activities, the study found that there is clear separation of role in the institutions finance and account department and that superior officer in the College supervised regularly work done by their subordinate. Also, the study found that the institution financial statements are audited annually by external auditors.

Amoateng (2017) sought to establish the effectiveness of internal control systems in savings and credit institutions in the Ashanti and Brong Ahafo regions in Ghana. The researcher used simple random and purposive sampling techniques to select respondents from 12 branches of 12 savings and credit institutions. In total, a sample of 174 was drawn for the study and questionnaires administered to collect data. The study identified the control activities such as adequate control over properties, existence of assets register, and purchases by authorized individuals, as important features of this component of internal controls. Further, firms gave adequate and regular training to their employees on internal controls and financial management systems. Access to records was restricted to authorized staff and there was segregation of duties throughout the transaction process.

Mwichigi and Atheru (2019), did a study to assess how internal controls relate to operation risk using Kenya's commercial banks listed in NSE. The study reviewed the agency theory, information theory as well as the contingency theory. The researcher adopted a technique that is descriptive in nature. The study conducted a census of the 11 banks trading at the Kenya securities. The target respondents were the risk managers, compliance and monitoring managers, internal auditors and credit managers of all these commercial banks which are based in the context of Nairobi. Data was collected from primary source with the use of questionnaires. Descriptive and inferential statistics was applied for analysis of data using the SPSS software. The findings were demonstrated using graphs and tables. The study findings indicated that on the overall all the internal control components studied had a significant influence on operation risk. The regression coefficients p-values were less than 0.05 indicating a significant relationship between the dependent and independent variables. However, the findings showed that the efficiency of the checks in the banks are not assured since the association value indicated a positive relationship yet it should be inverse, an indication of ineffective internal control systems.

Kabue (2015) sought to investigate the effect of internal controls on fraud detection and prevention among commercial banks in Kenya. The sample consisted of 43 banks. The study isolated the dimensions of

control activities as reconciliation controls, corporate governance control, reporting and budget controls. The findings show that these dimensions are strong predictors of fraud detection and prevention. Regression analysis indicated a negative but significant link between reconciliation control and level of detecting and preventing fraud. Further, there was a negative and significant relationship between financial governance control and level of fraud prevention and detection, but the association between reporting and budget control and level of fraud prevention and detection was positive and significant. Literature reviewed led to development of the following hypothesis statement:

H_{01}: Internal control framework has no significant effect on loan delinquency in Microfinance Institutions in Nandi County.

III. Research Methodology

The study adopted a cross-sectional survey design. Cross sectional studies data that are usually collected at once perhaps over a period of days, weeks or months in order to answer research questions (Kumar, 2018). A cross sectional study design is concerned primarily in establishing whether there is a relationship among the variables by comparing the particular characteristics of a specific population of subjects, either at a fixed point in time or at varying times for comparative purposes. The design was chosen since it was deemed to be the most effective to significantly contribute to the depth and specificity of the study (Pandey & Pandey, 2021). The target population was credit officers and branch managers working in the microfinance institutions in Nandi County. The accessible population was 84 employees working with registered MFIs in Nandi County. All the 84 employees were selected and included in the study since the population was small. Questionnaires were used to collect data during the study. Pre-testing was done on 8 respondents from the microfinance institutions in Nandi County prior to the final survey. The questionnaires gathered from the respondents were sorted out, cleaned and classified to eliminate incomplete and separate data with errors and minimize outliers. The Statistical Package for Social Sciences (SPSS) version 24.0 computer software was used to facilitate data analysis. The study focused on quantitative data and therefore Descriptive (frequencies, percentages, mean and standard deviation) as well as inferential statistics (correlation coefficient and regression analysis) were adopted to analyse the data. The regression model was adopted.

$Y= \alpha + \beta_1 X_1 + \mathcal{E}$

Y= Represents the dependent variable (loan delinquency), α- the constant of equation (represents the changes that cannot be explained by the independent variable in the model), X_1 represents internal control framework, β_1 is the coefficient of internal control environment and $\mathcal{E}$, error term.

IV. Results & Discussions

Descriptive Statistics

The specific objective of the study was to investigate the effect of internal control framework on loan delinquency in Microfinance Institutions in Nandi County. Findings were presented in Table 1.

Table 1: Descriptive Statistics for Internal Control Framework

		SA	A	U	D	S. D	Mean	Std. Dev
The MFI has set up Internal control structures.	F	38	9	11	8	7	2.1370	1.40747
	%	52.1	12.3	15.1	11.0	9.6		
Risk assessment, identification and analysis is a proper tool in managing loans in MFI.	F	11	36	7	9	10	2.6027	1.27736
	%	15.1	49.3	9.6	12.3	13.7		
MFIs use Internal Control activities like policies and procedures to ensure on time loan collections.	F	30	19	10	5	9	2.3151	1.39320
	%	41.1	26.0	13.7	6.8	12.3		
Monitoring activities on internal controls of MFI helps in loan default reduction.	F	10	41	4	7	11	2.6164	1.27617
	%	13.7	56.2	5.5	9.6	15.1		
Internal Control Environment, structures and processes helps in loan delinquency in MFIs.	F	33	27	1	6	6	2.3151	1.35274
	%	45.2	37.0	1.4	8.2	8.2		
Separation of duties and function is a key internal control structure put in place by the organization.	F	35	20	1	10	7	2.3836	1.48726
	%	47.9	27.4	1.4	13.7	9.6		
The MFI has setup loan approval limits to mitigate against overfunding and over graduation of clients.	F	39	9	8	7	10	2.1781	1.50317
	%	53.4	12.3	11.0	9.6	13.7		

Composite							2.364	

The study sought to determine whether the MFI has set up Internal control structures, 47(64.4) agreed that the MFI has set up internal control structures while 15(20.5%) disagreed with the statement. Setting up internal control structures was further found to affect loan delinquency with (mean= 2.1370, std. Dev. = 1.40747). Findings resemble that of Akwaa-Sekyi (2020) that MFIs have set up internal control structures. In regards to whether risk assessment, identification and analysis is a proper tool in managing loans in MFI, 47(64.4%) agreed while 19(26.0%) disagreed. Risk assessment, identification and analysis was further found to affect loan delinquency with (mean= 2.6027, std. Dev. = 1.27736). Findings are in-tandem with that of Nguyen and Mcmillan (2021) that risk assessment, identification and analysis is a proper tool in managing loans in MFI. In relation to whether the MFIs use internal control activities like policies and procedures to ensure on time loan collections, 49(67.1%) agreed that the MFIs use internal control activities like policies and procedures to ensure on time loan collections and 14(19.2%) disagreed. Use of internal control activities like policies and procedures to ensure on time loan collections was further found to affect loan delinquency with (mean= 2.3151, std. Dev. = 1.39320). The study agrees with that of Ejoh and Ejom (2014) that MFIs use internal control activities like policies and procedures to ensure on time loan collections.

On whether monitoring activities on internal controls of MFI helps in loan default reduction, 51(69.9%) agreed that monitoring activities on internal controls of MFI helps in loan default reduction while 18(24.7%) disagreed. Monitoring activities on internal controls of MFI was further found to affect loan delinquency with (mean= 2.6164, std. Dev. = 1.27617). The study agrees with that of Amoateng (2017) that monitoring activities on internal controls of MFI helps in loan default reduction. In regards to whether internal control environment, structures and processes helps in loan delinquency in MFIs, 60(82.2%) agreed with the statement while 12(16.4%) disagreed. Internal control environment, structures and processes was further found to affect loan delinquency with (mean= 2.3151, std. Dev. = 1. 35274). Findings resemble that of Kabue and Aduda (2017) that internal control environment, structures and processes helps in loan delinquency in MFIs.

In relation to whether separation of duties and function is a key internal control structure put in place by the organization, 55(75.3%) agreed that separation of duties and function is a key internal control structure put in place by the organization while 17(23.3%) disagreed that separation of duties and function is a key internal control structure put in place by the organization. Separation of duties and function was further found to affect loan delinquency with (mean= 2.3836, std. Dev. = 1.48726). Findings resemble that of Mwichigi (2019) that separation of duties and function is a key internal control structure put in place by the organization. The study also sought to determine whether the MFI has setup loan approval limits to mitigate against overfunding and over graduation of clients, 48(65.8%) agreed that the MFI has setup loan approval limits to mitigate against overfunding and over graduation of clients while 17(23.3%) disagreed. Setting-up loan approval limits to mitigate against overfunding and over graduation of clients was further found to affect loan delinquency with (mean= 2.1781, std. Dev. = 1.50317). The findings resemble that of Amoateng (2017) that MFIs have setup loan approval limits to mitigate against overfunding and over graduation of clients.

Inferential Statistics

Correlation Analysis

Correlation analysis was adopted in the study to determine the nature of relationship between operational risk management and loan delinquency in Microfinance Institutions in Nandi County. Findings were presented in Table 2.

Table 2: Correlation Analysis

		Delinquency	Internal Control Framework
Delinquency	Pearson Correlation	1	
	Sig. (2-tailed)		
Internal Control Framework	Pearson Correlation	-.677*	1
	Sig. (2-tailed)	.000	

*. Correlation is significant at the 0.05 level (2-tailed).

Internal control framework was found to have a fairly significantly strong negative relationship with loan delinquency of ($r = -.677$, $p\text{-value} < 0.05$). This implies that internal control framework contributes to reduction in loan delinquency in Microfinance Institutions in Nandi County. Findings resemble that of Chepkoech (2016) that internal control framework has a strong negative relationship with loan delinquency.

Simple Linear Regression Analysis
Simple linear regression analysis was adopted to predict loan delinquency from internal control framework. The model summary results were presented in Table 3.

Table 3: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.928[a]	.861	.853	2.69754

a. Predictors: (Constant), Internal control framework
b. Dependent Variable: Loan Delinquency

From the table above, the value of adjusted R-square was 0.853 which indicates that the model explained 85.3% of loan delinquency from internal control framework. Analysis of variance (ANOVA) was adopted to assess the goodness of fit test of the regression model. The findings are shown in Table 4.

Table 4: ANOVA

	Model	Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	3060.500	1	765.125	105.147	.000b
	Residual	494.815	71	7.277		
	Total	3555.315	72			

a. Dependent Variable: Loan Delinquency
b. Predictors: (Constant), Internal control framework, internal audit functions, lending policies & procedure and operations manual

The F-ratio was 105.147 at 1 degree of freedom which is the variable factor. This represented the effect size of the regression model and the model was significant at 95% confidence level (p=0.000) which indicates that loan delinquency can be predicted from internal control framework. Regression coefficient analysis was conducted in order to determine the beta that helped to show the extent to which each independent variable affects dependent variable. Findings were presented in Table 5.

Table 5: Regression Coefficients

		Unstandardized Coefficients		Standardized Coefficients	F	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.773	1.384		1.281	.205
	Internal control framework	-.967	.134	-.783	-7.239	.000

a. Dependent Variable: Loan Delinquency

Table 5 shows the regression coefficients results where by internal control framework had a negative and significant effect on loan delinquency of (β= -.967, $p < 0.05$). This implies that an increase in internal control framework by one unit decreases loan delinquency by .967 units when internal audits functions, lending policies and procedures and operations manual are kept constant. Findings led to rejection of the null hypothesis that internal control framework has no effect on loan delinquency in Microfinance Institutions in Nandi County. This implies that the alternative hypothesis that internal control framework has a significant effect on loan delinquency in Microfinance Institutions in Nandi County was accepted. Findings resemble that of Chepkoech (2016) that internal control framework that contributes to a reduction in loan delinquency.

V. Conclusions & Recommendations

Internal control framework has a significant effect on loan delinquency in Microfinance Institutions. This is attributed to the fact that the MFI has set up internal control structures, risk assessment, identification and analysis is a proper tool in managing loans in MFI and the use of internal control activities like policies and procedures by MFIs to ensure on time loan collections. The study also concluded that monitoring activities on internal controls of MFI helps in loan default reduction. The internal control environment, structures and processes helps in loan delinquency in MFIs. Separation of duties and function is a key internal control structure put in place by the organization. The study also concluded that setting up of loan approval limits helps to mitigate against overfunding and over graduation of clients. The study recommended that MFIs should continue to set up internal

control structures. MFIs should continue to use risk assessment, identification and analysis to manage loans. Internal control activities like policies and procedures should continue to be used by MFIs to ensure on time loan collections. Monitoring activities on internal controls of MFI should continue being adopted by MFIs to reduce loan default. MFIs should continue to separate duties and functions and loan approval limits should continue being setup to mitigate against overfunding and over graduation of clients.

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