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Financial Risk Management Practices on Financial Performance of Microfinance Institutions in Kiambu County, Kenya

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Abstract

Purpose: MFIs are subject to financial risks, just like all other financial institutions. This is intimately tied to their primary businesses of managing credit and accepting deposits. Therefore, risk management is crucial for MFIs in order to maximize their return on investment. The current study sought to establish the effect of financial risk management practices on financial performance of microfinance institutions in Kiambu County, Kenya. The study focused on establishing the effect of liquidity risk management practices, operational risk management practices, credit risk management practices, and market risk management practices on financial performance of microfinance institutions in Kiambu County, Kenya. The theories anchoring the study comprised of Risk Management Theory, Extreme Value Theory, Credit Risk Theory, and Capital Market Theory.

Methodology: A descriptive survey research design was adopted in the study. The target population comprised of 31registered microfinance institutions operating in Kiambu County. The unit of observation comprised of Risk and Compliance Manager, Finance Manager, Operations Manager, Credit Manager, and Business Development Manager from each of the microfinance institution making a total of 155 respondents. A census approach was adopted in the study where all the registered microfinance institutions were involved in the study. Both primary and secondary data was employed in the study where 5-point Likert scale questionnaires were employed to gather primary data while a secondary data collection sheet was utilized to gather secondary data. Both descriptive and inferential statistics were used to analyze the collected data. The statistics were generated by help of Statistical Package for Social Scientist and MS Excel.

Findings: The results of the analysis revealed that Liquidity Risk Management Practices, Operational Risk Management Practices, Credit Risk Management Practices, and Market Risk Management Practices positively and significantly affects financial performances of microfinance institutions in Kiambu County, Kenya as shown by beta values of 0.401, 0.309, 0.497 and 0.351 and significant values of 0.000. 0.001, 0.000 and 0.006 respectively.

Unique contribution to theory, practice and policy: The results implies that when each of the independent variable is increased with one unit, financial performance of the microfinance institutions increases with the respective beta value of the independent variable. The results led

to conclusions that liquidity risk management practices, operational risk management practices, credit risk management practices, and market risk management practices bears appositive and significant effect on financial performance of microfinance institutions in Kiambu County. The study provided recommendations to the management of the microfinance institutions to enhance their practices in areas of liquidity risk management, operational risk management, credit risk management, and market risk management to improve financial performance to a positive and significant level.

Key Words: *Liquidity Risk Management Practices, Operational Risk Management Practices, Credit Risk Management Practices, Market Risk Management Practices, Financial Performance*

Background of the Study

Risk according to Sparta (2022) is anything that can make achieving certain goals more difficult. A positive or negative deviation from the anticipated results may result from the influence on corporate objectives. While a negative variation makes it challenging to reach the established business goals, a positive variance aids the firm in reaching its anticipated business goals. A company must investigate the positive variance-causing events and mitigate the negative variance-causing events from the standpoint of risk management. Numerous risks exist in the corporate landscape of today. All financial institutions, including microfinance institutions, must proactively put in place measures to manage the risks to which they are exposed (Akinleye & Olanipekun, 2021). This ensures their continuation and sustainability. MFIs are subject to financial risks, just like all other financial institutions. This is intimately tied to their primary businesses of managing credit and accepting deposits. Therefore, risk management is crucial for MFIs in order to maximize their return on investment (Shieler et al., 2017). Financial risk management is the process of foreseeing potential dangers, investigating them, and putting preventative measures in place to lessen the hazard. Although it has negative impacts, financial risk can be handled through particular procedures known as risk management procedures. Financial risk is created by both external and internal vulnerabilities. Priorities must be established in these procedures such that risks with lower loss are treated last and risks with the highest loss and greatest possibility of occurring are controlled first.

These are the procedures that guarantee firms have prompt internal alerts and management responses to stop small hazards from growing into unmanageable dangers. If risks are not properly handled in businesses, there may be financial losses as well as a loss of confidence for people who invest in the company. Nevertheless, managing risk is challenging since there is no particular model to manage the equilibrium between risks with the highest likelihood of occurrence and loss and those with lesser loss. By effectively managing the risk of suffering a loss, a company is able to reduce its exposure to risks and be prepared to withstand any unanticipated crisis (Mutamimah et al., 2022). Risks can have a variety of repercussions on financial organizations, such as the marketability of investments that can't be sold quickly

enough to achieve the goals of the company. Financial institutions occasionally find themselves unable to make the required payments on their debt obligations; this has an impact on their long-term sustainability and financial viability. Unfavorable business judgments, or the incorrect execution of those decisions, ineffective governance and oversight, or leadership deficiencies, as well as obvious dangers, such as changes in the market or business environment. Intentional misrepresentation by a client or employee that results in a loss of earnings or capital. Unexpected losses resulting from faulty technology, malfunctioning information systems, insufficient human resources, or integrity violations, such as fraud (Anwar, 2017).

Statement of the Problem

Kenya's microfinance industry has had trouble staying viable. From 2016 through 2020, it reported a cumulative loss, with the final year of the period ending with a loss before tax of Ksh. 2.2 billion. In the year 2020, the sector had negative Return on Assets (ROA) and Return on Equity (ROE) ratios of -3.0% and -28.0%, respectively (CBK, 2020). Loan default rates rose to 16% as of 2017 according to MFIs' quarterly financial reports, and NPLs rose by 15% from Ksh 70.3 billion in 2016 to Ksh 77.3 billion in 2017 (CBK, 2021). Additionally, according to the report, the institutions lost $7.31 million in 2017 as opposed to $3.77 million in 2016. Consumer deposit levels also declined during this time, from a deposit of $401.9 in 2016 to $394 in 2017. The statistics portrays a sector that continues to perform poorly in the financial sector. Adoption of financial risk management practices in the operations of the institutions bears the capabilities of enhancing the performance levels of the intuitions. The current study seeks to establish the financial risk management practices adopted by the microfinance institutions and how they affect performance.

Past studies on the theme of the current study have established research gaps that further informed the current study. Shafiq and Nasr (2010) concentrated on identifying the risk management procedures utilized by Pakistani commercial banks. There are gaps in our understanding of both the context and the notion because this study was carried out in a foreign nation and focused on a different idea. In order to assess the effect of financial risk management measures on the financial outcomes of Kenyan oil marketing enterprises, Muigai (2014) performed a study. The study's conclusions showed that there is a substantial relationship between a firm's financial success and its strategies for managing financial risk. However, the study was done within the framework of oil marketing companies. A gap in contextual knowledge exists here. Studies by Muriithi and Waweru (2017); Roinei (2013); Syomiti (2016) and Wanjohi et al., (2021) though conducted in Kenya, were all in different economic sectors rather than microfinance institutions. This is a contextual knowledge gap. Similarly, the studies focused on only one variable considered in the current further establishing conceptual knowledge gap. Further studies Mbai (2006); Namasake (2016) and Kahihu et al. (2021) focused on different concepts. The main aim of the current study was to close knowledge gaps by

determining how financial risk management practices affect the performance of microfinance institutions in Kiambu County, Kenya.

Objectives of the Study

i. To establish the effect of liquidity risk management practices on financial performance of microfinance institutions in Kiambu County, Kenya
ii. To determine the effect of operational risk management practices on financial performance of microfinance institutions in Kiambu County, Kenya
iii. To establish the effect of credit risk management practices on financial performance of microfinance institutions in Kiambu County, Kenya
iv. To determine the effect of market risk management practices on financial performance of microfinance institutions in Kiambu County, Kenya

Literature Review

Theoretical Review

Risk Management Theory

This theory was first proposed by Pyle (1997) who emphasized the need for companies to adopt proven, consistent and systematic approach to management of various risks facing their business operations. The proposition advocated for an integrated and reactive management of various risks that a firm is exposed to. Firms can realize this by putting in place the strongest efforts in monitoring and administering the most influential risks for their businesses (Sprcic, Percina and Orsg, 2017). The risk events are singled out across the entire organization, combined together within a synchronized and strategically set framework and risk management executed in line with company's objectives and with strict adherence to the firm's wealth maximization principle (Juma, 2018). Maniagi provides evidence in favor of the significance of risk management theory in the management of credit risk and currency risk in both financial and non-financial organizations (2018). Maniagi (2018) and Pyle underline the necessity of integrated risk management, which should cover credit risk, currency risk, derivative risk, and other risks (1997). Portfolio risk should be determined by portfolio return, which is subject to changes in portfolio mix. Changwony (2017) asserts that risk management theory requires that the management of financial risk is done procedurally, within company structures and providing the management with relevant information to enable them meet long-range strategic goals.

Benefits of effective implementation of financial risks to a company include ability to stand to competition and maximization of shareholder's value. According to Milne (2009) the fundamental model that anchors this theory is the conventional portfolio model which assumes that the firm owns assets and liabilities currently and distribution of net returns can be estimated in future. In his initial argument, Pyle (1997) highlighted the fact that the portfolio risk is typically not the sum of the individual risks but rather the imperfect correlation among the

portfolio assets, implying that the distribution of portfolio returns, whose variability is influenced by changes in the composition of the portfolio, drives the simulations of portfolio risk. Mikes and Kaplan (2014) and Milne (2009) asserts that the main objective of the portfolio model created in risk management theory is to estimate with a great degree of precision the return distribution especially the costly lower tail earnings outcomes. Therefore, while choosing between alternative assets, financial managers should take into account the risk-return or risk-cost trade-off, where risk is defined as the change in portfolio risk brought on by a specific change in portfolio composition (Maniagi, 2018). Maniagi (2018) lists the primary factors that affect net asset value fluctuations, including fluctuation in interest rates, foreign exchange rates, equities prices, and commodities prices. Pyle (1997) intimate that risk scaling measure would be determined by nature of change executed. For example choosing pure hedging transaction would focus on maximizing reduction of marginal risk to the transaction cost ratio over the instruments available while choosing among registered dealings involving reducing marginal risk for every risk per extra unit of return (Pyle, 1997).

Extreme Value Theory

Embrechts founded the Extreme Value Theory (EVT) in 1999. These metrics focus on the extreme deviations from the likelihood distributions' median. Based on a specific request test of an arbitrary variable, EVT suggests that there may be more absurd events than those that have already been observed. Significant changes are being made in the financial sector, which includes banking and insurance. This theory looks into the understanding of operational risk management in relation to the sensitivity of known risks and the alternative risk transfer mechanisms in place to maintain a smooth process. When operational risk is internal, the financial institution's exposure to market risk (i.e., investment in risky securities) is presumptively less volatile, and only becomes more volatile when operational risk is external. The theory has been criticized for failing to take the magnitude of a loss in the event of a disaster into consideration as well as for missing sub-additivity (Hull, 2012). The idea has also received criticism for creating an excessive level of consumer surplus. They showed that no single measure can perform effectively for both the center and extremities of an exchange rate distribution, which is why severe measures are needed in extreme market conditions. Although they are both susceptible to operational mistakes, their operational risk exposures may vary based on the budgetary constraints they must face. The results of this theory emphasize the necessity of having an operational risk theory to assist in identifying the causes of operational losses in data (Jarrow, 2008). For the creation of statistical models that characterize severe occurrences in the operations of financial institutions, EVT offers a strong theoretical grounding. This theory extends our understanding of operational risk management in financial institutions by highlighting risk securitization, alternative risk transfer, and the convergence of finance and insurance at the product level. For financial organizations like microfinance banks, extreme

value theory is a crucial analytical element of risk management. In order to ascertain how operational risk management procedures impact the monetary success of microfinance banks in Kenya, EVT is crucial.

Credit Risk Theory

Melton put up this notion in 1974. According to the theory, the occurrences of default are caused by the company's asset evolution, which is modelled by a diffusion process with constant parameters. These structural models of evolution are based on models associated with a specific issuer. Asset models reflect a development in this field where external influences result in default loss. Long staff and Schwartz (1995) contend that the default may happen at any time during the life of a certain bond, not just at maturity. Although people, businesses, and entrepreneurs have been dealing with credit hazards from early ages, the subject has not received much attention until recently. Prior to 1974, the credit risk literature employed conventional techniques for credit risk analysis that mainly leaned on historical data. Today's credit risk analysis methods include the structural approach, the missing information approach, and the reduced form approach (Crosbie et al., 2003). Merton first proposed credit risk theory, commonly referred to as structural theory, in 1974. This theory is based on the evolution and default of a firm's assets. These models, which are frequently referred to as "structural models," are predicated on elements connected to a particular issuer. The development of this class is represented by a collection of replicas where the loss conditional on default is either exogenously induced or may be independently determined by upholding the endogenous nature of the default event. Long Staff and Schwartz (1995) assert that these models show that bond defaults can occur at any point during the corporate bond's existence, not just at maturity. According to Saa-Requejo and Santa Clara (1997), changes in risks faced by a given business often limit changes in assets, which ultimately explains why most loans from that organization default on time. In the second simplified approach for models, the probabilities of default are established by exogenous variables, while the asset pricing, primarily credit derivatives, determines the event of default and the default rate.

Capital Market Theory

Markowitz proposed the capital market theory in 1952. The theory holds that when building and managing their portfolios, investors concentrate on the risks and benefits of certain assets. Using value at risk models to control risks like market and interest rate risk exposures, industries have been using this idea to manage market risk since the 1980s. In this approach, independent of the various methods used by businesses, credit risk exposures are evaluated, a credit risk rating is applied, and the results are determined to estimate the projected losses of a portfolio. All investors share the same time horizon, according to the theory's underlying principle. The connection can be explained by the fact that a rise in market risk, such as political turmoil, recessions, interest rate fluctuations, and natural disasters, has a negative influence on depositors

and borrowers. This leads to the bank losing business and, ultimately, performing poorly. Because most of the assumptions are irrational, the theory has significant limitations in the real world. Many investors do not consistently diversify their investments. Additionally, the Beta coefficient varies from one period to the next depending on the compilation method. The capital market hypothesis has been evaluated in the past using faulty methods, and there is absolutely no way to assess the model going forward unless the genuine market portfolio, which includes all investable assets like real estate. The inadequacy of various model assumptions may be to blame for the lack of acceptance of the capital market theory. The investment is based on mathematical projections about the future because the formula employed by the MPT to establish risk, return, and correlation is centered on expected values. The hypothesis fits with the study's goal well because it informs banking customers about the value of asset diversification as a way to minimize risks and increase returns. The theory also underlines the significance of the risk-return tradeoff for making investment decisions. This makes it crucial in determining how market risk management techniques affect the financial success of microfinance banks in Kenya.

Conceptual Framework

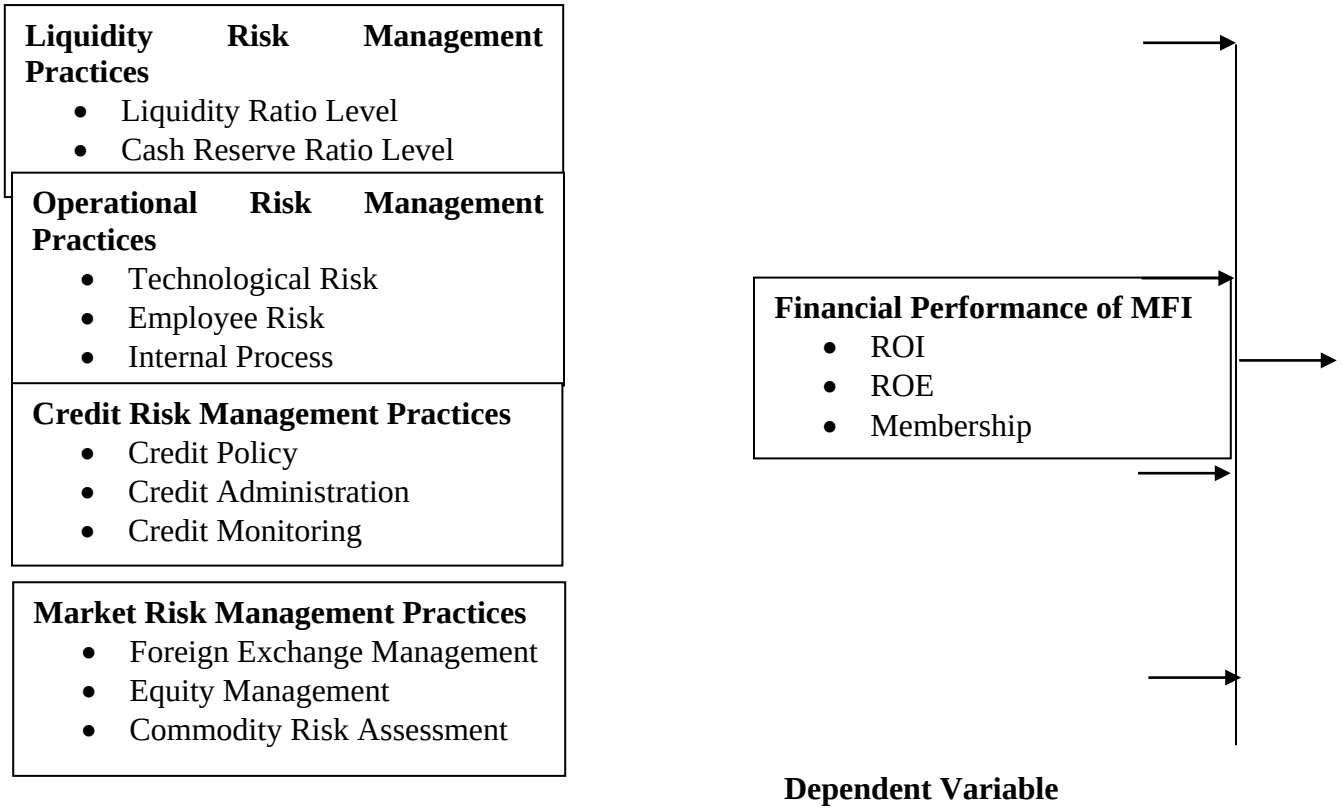

Figure 1 Conceptual Framework

Liquidity Risk Management Practices

Risk of liquidity is the possibility that a company won't be able to get the money it needs to pay short- or medium-term obligations (Marozva, 2015). The capacity to fulfill financial obligations as they become due is referred to as liquidity in MFIs. In MFIs, liquidity demands that there should be not only adequate cash-flows to make payments, but there should be enough cash to enable recurrent operations (Song'e, 2015). The degree to which MFIs are exposed to liquidity risk varies across the institutions in the industry (Getachew, 2017). Liquidity risk tends to increase with the size and sophistication of the operations of a MFIs. Large MFIs establish the Asset/Liability committee to proactively manage their assets and liabilities. As a minimum, MFIs with total assets exceeding ten billion should establish Asset/Liability committee. A MFI with higher liquidity faces lower liquidity risk hence is likely to be associated with lower borrowing costs. MFIs with high liquidity risk tend to borrow emergency funds at high costs (Ochanda, 2018). MFIs use a variety of ratios to measure liquidity position and trend. The ratios are classified into asset-based ratios (Cash Position Indicator, Capacity Ratio), liability-based liquidity measures (Total deposit ratio, purchased funds ratio, Core deposit ratio), and combined asset-liability.

Operational Risk Management Practices

Operational risk is the possibility of suffering a financial loss as a result of internal systems, personnel, processes, or other failures that could impair daily corporate operations (Muhtaseb & Eleyan, 2021). Losses may be incurred financially directly or indirectly. For instance, a poorly trained person can miss out on a sales opportunity, or subtly, poor customer service could hurt a company's reputation. Operational risk can refer to both the risk associated with running a business and the procedures used by management when putting laws into place, informing employees about them, and enforcing them. Strategic, reputational, and financial risk are not included in operational risk management, despite the fact that it is regarded as a subset of enterprise risk management. The organization must take into account all of its goals when managing operational risk. The objective is to reduce and control all risks to a tolerable level because operational risk is so widespread. Operational risk management identifies who is responsible for managing operational risk and makes an effort to lower hazards through risk assessment, measurement, and mitigation, as well as monitoring and reporting (Singh & Hong, 2020). Operational risk management's main goal is to reduce risks associated with an organization's regular business operations. Operational risk management focuses on operations and leaves out other risk domains like financial and strategic concerns. ORM methods typically concentrate on controls and risk elimination, in contrast to other risk disciplines, such Enterprise Risk Management, which emphasizes optimizing risk appetites to balance risk-taking and possible benefits. The ORM framework begins by identifying risks and selecting a mitigation strategy. An organization current goals can be achieved while maintaining business continuity in

the case of operational disruptions by establishing an effective operational risk management program. Clients can see that an organization is crisis and loss prepared by looking at how strong their ORM is. Strong ORM programs that are successfully implemented by organizations can increase their competitive advantages.

Credit Risk Management Practices

Credit is the likelihood of suffering a loss as a result of a borrower's incapacity or refusal to repay his obligation. Credit risk management was defined by Yegon (2014) as a strategy (organized) to managing uncertainty through risk assessment, formulating plans to manage it, and risk mitigation through the use of management resources. Credit risk management, on the other hand, is the process of determining how sufficient a bank's capital and loan loss reserves are at any one time in order to limit these losses. By establishing a budget for it and accepting all or part of the repercussions of a risk, credit risk can be managed. Credit scoring is one of the many credit risk management strategies used by various organizations depending on the requirements of those institutions. To determine a potential borrower's credit worthiness, this is done by looking through their credit history files. According to Buck, Liu, and Skovoroda (2008), credit scoring has become a common evaluation method for institutions. When assessing who qualifies for loans, the appropriate interest rate to apply, the credit limit to set for each borrower, and the source of the highest revenues, credit scoring can be used to assess the likelihood that prospective borrowers may default on loan repayment. It has been determined that using credit scoring to identify creditworthy customers before giving credit is a dependable technique that could lead to improved financial performance (Gay, 2002).

Creating a proper credit administration is another practice. Upper level management is able to observe the overall quality of the complete loan portfolio and the pattern it follows with the aid of an effective and efficient administration system. Because of this, management could revise established policies and procedures and take preventative measures before any unfavorable conditions worsen (Onaolapo, 2007). The credit policies of MFIs should distinctly outline the procedural rules for credit scoring and credit risk management. Credit analysis is designed to produce loans that generate money while also minimizing significant risks. Establishing a credit policy is a third and often used method of managing credit risk. Credit policies are institutional techniques for evaluating credit requests and standards for their approval or denial. (Girm` 1996). According to (Gasbarro et al., 2019), the lending practices of financial institutions have a significant impact on their overall financial success. Depending on the strength of the policy and the level of implementation, they have a positive or negative impact on a financial institution's capital sufficiency, asset quality, management quality, earnings, and liquidity. Numerous studies have concluded that poor risk management methods are the primary reason for lending institutions' poor financial performance (Chijoriga, 1997).

Market Risk Management Practices

Market risk is the danger that an institution confronts because of changes in market pricing, especially those connected to interest rates, foreign exchange rates, credit spreads, equities, and commodities prices, as well as changes in those four (Brahmaiah, 2022). Market risk frequently results from other types of financial risk, like credit and liquidity problems in the market. For instance, a decrease in the issuer's credit rating may result in a decline in the market value of the securities the issuer has issued. Similarly, the price of a security may decrease if another holder makes a significant sell of a relatively illiquid security. Exposure to other factors could also occur depending on the instruments that an institution trades. All risk factors to which the institution is exposed should be taken into account when calculating market risk, and these risks must be prudently managed (Danisman & Demirel, 2018). The institution should also consider the overall macroeconomic and market conditions in which it works when assessing and managing risks and its capacity to absorb losses. In order to mitigate the effects of high strain developments, including a severe worsening in market liquidity circumstances, which arise from its operational environment, it should make sure that its risk management procedures and capital levels are adequate. According to the international economists' assessment of the potential hazards to MFIs, market risk can be said to typically consist of three smaller risks: stock price risk, interest rate risk, and foreign exchange risk (Ewool & Quartey, 2021). Carey et al., (2016) adds that another type of market risk occurs when MFIs accept financial assets that are susceptible to price fluctuation as loan collateral. Mersland (2013) outlined how price volatility or fluctuations in price occur frequently in the market. This kind of risk mostly impacts stocks and options, and it frequently performs well during economic expansions and poorly during recessions. In general, market volatility raises the possibility that an investment may rise or fall. Three categories of market hazards can be distinguished: risks related to interest rates, exchange rates, including gold, share prices, and commodity prices. The risks associated with each of these categories—interest rates, exchange rates, share prices, and commodity prices—refer to any unfavorable change in those rates.

Research Methodology

The study adopted a descriptive survey research design. The study targeted The 31 registered MFIs operating in Kiambu County. The risk and compliance manager, finance manager, operations manager, credit manager, and business development manager from each microfinance institution taking part in the study made up the unit of observation. The study employed a census to derive 5 respondents from each of the 31 MFIs. The study relied on both primary and secondary data. A questionnaire served as the main instrument for gathering primary data for this study. The questionnaire was structured on a 5-point Likert scale, with 1 representing strongly disagree, 2 representing disagree, 3 representing neutral, 4 representing agree and 5 representing

strongly agree. Secondary data from printed sources were collected using a secondary data collecting sheet.

The study utilized both descriptive statistics (such mean and standard deviation) and inferential statistics to examine the data (such as correlation and regression). The SPSS (Statistical Package for Social Scientist) V24 program and the MS Excel spreadsheet tool was used to generate the statistics. Results of the analysis were presented by use of tables and figures. The study used the following regression model:

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

Where Y= Performance of MFIs, β_0= Regression Constant or Intercept, X_1 = Liquidity Risk Management Practices, X_2 = Operational Risk Management Practices, X_3 = Credit Risk Management Practices, X_4 = Market Risk Management Practices, $\beta_1, \beta_2, \beta_3$ and β_4= coefficients of various independent variables and ε =error term assumed to be normally distributed with a zero variance.

Results

The study issued a total of 155 questionnaire to the selected respondents comprising of Risk and Compliance Managers, Finance Managers, Operations Managers and Credit Manager from the selected MFIs. 111 questionnaires were fully filled and returned for analysis. This accounted for 71.6% response rate which was considered adequate and appropriate for analysis as supported by Mugenda and Mugenda (2013) who noted that a response rate of above 70% is sufficient for analysis. The study attained the high response rate as a result of applying drop and pick data collection technique which gave the respondents enough time to respond to the questionnaires.

Descriptive Findings and Analysis

The researcher used descriptive statistics in the study to describe the distribution of measures of questions addressing each variable. Means, standard deviations, and averages were the descriptive statistics used in the study. In order to generate statistics, the researcher first developed questions for each variable and asked respondents to rate the statements on a scale of 1-5, with 5 representing Strongly Agree (SA), 4 representing Agree (A), 3 representing Neutral (N), 2 representing Disagree (D), and 1 representing Strongly Disagree (SD). The mean response and standard deviation for each statement were then calculated by the researcher. The averages and standard deviations were then averaged to determine the overall level of agreement with all variables.

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Liquidity Risk Management Practices

The study's first goal was to determine how the practices of liquidity risk management affected the financial success of microfinance institutions in Kenya's Kiambu County. According to the descriptive statistics on the degrees of agreement with the practices for managing liquidity risk presented in table 1, respondents agreed with the statements that liquidity levels enables microfinance to meet operation obligations(mean=4.02), that liquidity levels in MFIs institutions ensures availability of cash flows to meet immediate and future use(mean=4.22) and that through their liquidity, the MFIs are able to attract stakeholders which increases our business(mean=3.96). Respondents further agreed to the statements that there is timely processing of loans due to availability of liquidity which attracts more clients(mean=3.89), that the set liquidity policies in the institution ensure the institution is always in a position of paying its debts(mean=4.01) and that the board of management frequently reviews investments to ensure existence of favorable liquidity(mean=4.18). All the respondents were in agreement with the statements on liquidity risk management practices as depicted by average response mean of 4.05 and average standard deviation of 0.361.The results implies that there is a need for the MFI to adopt the correct liquidity management practices in the operations to ensure the institutions remains liquid and does not encounter risks associated with liquidity practices. Song'e (2015) noted that in MFIs, liquidity demands that there should be not only adequate cash-flows to make payments, but there should be enough cash to enable recurrent operations.

Table 1: Descriptive Statistics on Liquidity Risk Management Practices

Liquidity Risk Management Practices	N	Mean	Standard Deviation
Liquidity levels enables our microfinance to meet operation obligations	111	4.02	0.511
Liquidity levels in our institutions ensures availability of cash flows to meet immediate and future use	111	4.22	0.246
Through our liquidity, we are able to attract stakeholders which increases our business	111	3.96	0.408
There is timely processing of loans due to availability of liquidity which attracts more clients	111	3.89	0.316
The set liquidity policies in our institution ensure the institution is always in a position of paying its debts	111	4.01	0.542

The board of management frequently reviews investments to ensure existence of favorable liquidity	111	4.18	0.143
Average	**111**	**4.05**	**0.361**

Operational Risk Management Practices

The study's second goal was to determine how operational risk management practices affected the financial performance of microfinance institutions in Kenya's Kiambu County. The descriptive statistics in table 2 regarding the degrees of agreement with the assertions of operational risk management techniques shows that respondents agreed with the statements that the institutions has set up measures to protect technological related risks from interfering with operations(mean=4.13), that they had implemented advanced technology to detect cyber frauds in the institution(mean=4.51), and that the institutions regularly conducts refresher training to employees(mean=3.59). Respondents additionally agreed with the statements that the training ensures employees are well informed on quality decision making in their course of operations (mean=3.67), that the institution has outlined rules and regulations that guides execution of internal processes(mean=3.94) and that there is strict enforcement of the regulations by the management(mean=4.39). An average response of 4.04 and average standard deviation of 0.514 implies that all respondents were in agreement with the statements on operational risk management practices. Operational risk management forms one of the crucial activities in the operations are employee oriented and therefore MFIs need to equip employees with the right skills. Muhtaseb and Eleyan (2021) adds that an organization current goals can be achieved while maintaining business continuity in the case of operational disruptions by establishing an effective operational risk management program.

Table 2: Descriptive Statistics on Operational Risk Management Practices

Operational Risk Management Practices	N	Mean	Standard Deviation
The institutions has set up measures to protect technological related risks from interfering with operations	111	4.13	0.411
We have implemented advanced technology to detect cyber frauds in the institution	111	4.51	0.118
The institutions regularly conducts refresher training to employees	111	3.59	0.842
The training ensures employees are well informed on quality decision making in their course of operations	111	3.67	0.784
The institution has outlined rules and regulations that guides execution of internal processes	111	3.94	0.681
There is strict enforcement of the regulations by the management	111	4.39	0.245
Average	**111**	**4.04**	**0.514**

Credit Risk Management Practices

The third goal of the study was to determine how credit risk management practices affected the financial success of microfinance institutions in Kenya's Kiambu County. According to the descriptive statistics on the degrees of agreement with the statements about the practices used to manage credit risk, shown in Table 3 respondents agreed with the statements that the institution has credit policies in place that govern credit administration (mean: 4.42), that the policies are crucial to the effectiveness of credit management (mean: 4.35), and that the institution has systems in place to monitor specific credit conditions (mean: 4.19). Similarly, respondents agreed with the statements that the institution considers potential economic changes in the future when assessing borrower's credit portfolio (mean=3.57), that the institution frequently reminds the borrow to repay a loan when its due (mean=3.64) and that failure to repay the loan on time necessitates the institution to make follow up calls to the borrower (mean=3.76). An average response mean of 3.99 and average standard deviation of 0.526 shows that all the respondents were in agreement with the all the statements on credit risk management practices. The findings concur with those of Gasbarro *et al.,* (2019), who noted that policies' effects on a financial

institution's capital sufficiency, asset quality, management quality, earnings, and liquidity can be positive or negative, depending on the strength of the policy and the extent of implementation.

Table 3: Descriptive Statistics on Credit Risk Management Practices

Credit Risk Management Practices	N	Mean	Standard Deviation
The institution has laid down credit policies that governs credit administration	111	4.42	0.265
The policies plays a key role toward credit management effectiveness	111	4.35	0.287
The institution has set up systems for monitoring individual credit conditions	111	4.19	0.301
The institution considers potential economic changes in the future when assessing borrower's credit portfolio	111	3.57	0.846
The institution frequently reminds the borrow to repay a loan when its due	111	3.64	0.751
Failure to repay the loan on time necessitates the institution to make follow up calls to the borrower	111	3.76	0.708
Average	**111**	**3.99**	**0.526**

Market Risk Management Practices

The fourth objective of the study sought to determine the effect of market risk management practices on financial performance of microfinance institutions in Kiambu County, Kenya. The descriptive statistics on the levels of agreement with the statements on market risk management practices outlined in table 4 shows that the respondents agreed with the statements that the institution has set up policies to manage foreign exchanges (mean=4.09), that the policies ensures that exchange rates are maintained in respect to the global market (mean=4.15) and that there is management of equity in the institution to bring wealth to the shareholders and owners (mean=3.86). Respondents consequently agreed with the statements that equity management ensure liabilities in the institution do not surpass the assets levels (mean=4.31), that the institution has set up means of adjusting to changes in the markets (mean=3.63) and that the institution evaluates the prevailing market situation with future expectations prior making an investment decision (mean=3.76). All respondents were in agreement with the statements on

market risk management practices as shown by average mean of 3.97 and average standard deviation of 0.525. The results concurs with Danisman and Demirel (2018) who noted that all risk factors to which the institution is exposed should be taken into account when calculating market risk, and these risks must be prudently managed.

Table 4: Descriptive Statistics on Market Risk Management Practices

Market Risk Management Practices	N	Mean	Standard Deviation
The institution has set up policies to manage foreign exchanges	111	4.09	0.306
The policies ensures that exchange rates are maintained in respect to the global market	111	4.15	0.294
There is management of equity in the institution to bring wealth to the shareholders and owners	111	3.86	0.768
Equity management ensure liabilities in the institution do not surpass the assets levels	111	4.31	0.189
The institution has set up means of adjusting to changes in the markets	111	3.63	0.791
The institution evaluates the prevailing market situation with future expectations prior making an investment decision	111	3.76	0.801
Average	**111**	**3.97**	**0.525**

Financial Performance of MFIs

The study further assessed the levels of financial performance of MFIs. The descriptive statistics on the levels of agreement with the statements on financial performance outlined in table 5 shows that respondents concurred with the statements that their institution has increased levels of return on investment (mean: 4.56), return on assets (mean: 4.13), fraud levels have decreased (mean: 3.86), and levels of members have increased (mean: 3.54). An average response mean of 4.02 and average standard deviation of 0.499 shows that all respondents were in agreement with the statements on financial performance of MFIs. The results tallies with Mutamimah *et al.*, (2022) who pointed that by effectively managing the risk of suffering a loss, an institution is able to reduce its exposure to risks and be prepared to withstand any unanticipated crisis.

Table 5: Descriptive Statistics on Financial Performance

Financial Performance of Micro Finance Institutions	N	Mean	Standard Deviation
Our institution has recorded an increase in the levels of return on investment	111	4.56	0.101
Our institution has recorded an increase in the levels of return on assets	111	4.13	0.209
There is a reduction in the levels of frauds in the institution	111	3.86	0.723
The institution has recorded an increase in the levels of members	111	3.54	0.961
Average	**111**	**4.02**	**0.499**

The study further assessed the changes on Return on Equity for the MFIs for the period between 2017 and 2021. The ROE was assessed as a ratio of net income amount against the shareholders equity. The results presented in figure 2 shows that the MFIs witnessed a decline in the levels of ROE between 2017 and 2018. This can be attributed to the unfavorable economic environment as a result of the general elections. The results further shows that the levels of ROE recorded an increase from 2018 to 2020 followed by a decline from 2020 to 2021. This was attributed to the unfavorable economic conditions as a result of Covid-19 pandemic.

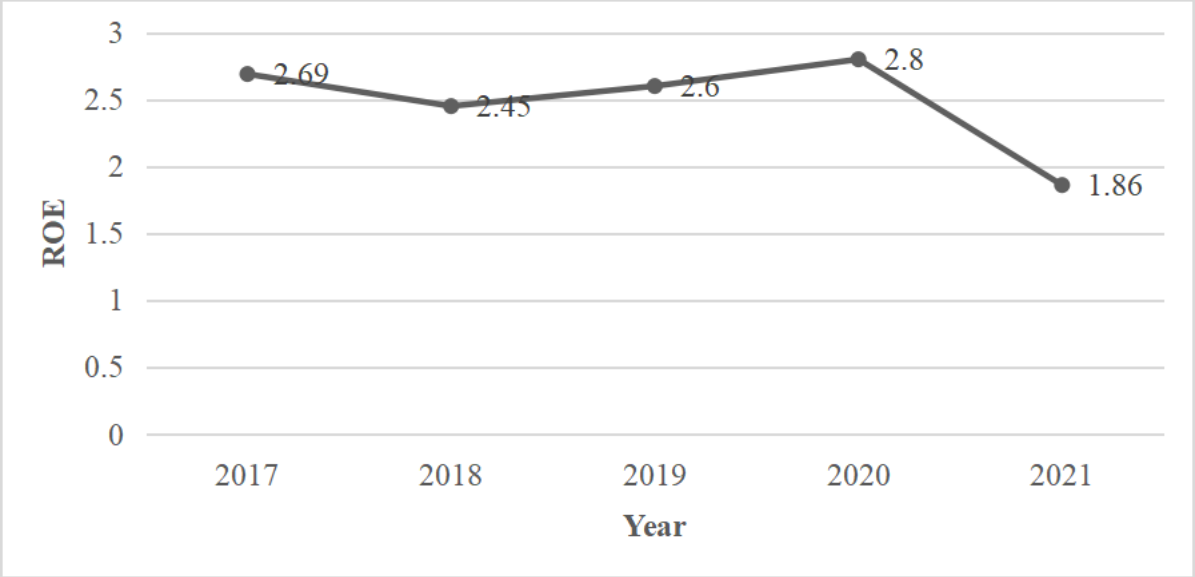

Figure 2: Return on Equity

Inferential Statistics

Correlation Results

The findings demonstrate a significant and positive correlation between MFI financial performance and liquidity risk management practices in Kiambu County. This is demonstrated by a correlation value of 0.475 and a p-value of 0.000. The findings suggest that improving liquidity risk management procedures boosts MFIs' financial performance levels in Kiambu County. The results are consistent with Muheebwa (2018) who noted that liquidity not only helps the institutions to ensure that the business always has a reliable cash supply, but is also a powerful tool in determining the financial health of future investments. The findings also demonstrate a significant and positive correlation between MFI financial performance and operational risk management practices in Kiambu County. This is demonstrated by a correlation value of 0.302 and a p-value of 0.006. The findings suggest that improving operational risk management procedures boosts MFIs' financial performance levels in Kiambu County. The findings are consistent with Meshack and Mwaura's (2016) research on Tanzanian commercial banks, which found that operations risk management has a favorable impact on financial institutions' earnings.

The findings also demonstrate a strong and positive correlation between the credit risk management practices used by MFIs in Kiambu County and their financial performance. This is demonstrated by a correlation values of 0.501 and p-value of 0.000. The findings suggest that improving credit risk management procedures causes MFIs in Kiambu County to perform at higher financial levels. The findings support Kahuthu's (2016) finding that credit risk identification, analysis, and monitoring have a significant impact on a financial institution's capacity to raise capital. The results show a strong and significant correlation between MFI financial performance in Kiambu County and market risk management practices. A correlation of 0.398 and a p-value of 0.000 serve to illustrate this. The findings suggest that improving market risk management procedures boosts MFIs' financial performance levels in Kiambu County. The findings are in line with those made by Danisman and Demirel (2018), who stated that when measuring market risk, all risk variables to which the institution is exposed should be taken into consideration and controlled carefully.

Table 6: Correlation Analysis

		Liquidity Risk Management Practices	Operational Risk Management Practices	Credit Risk Management Practices	Market Risk Management Practices	Financial Performance
Liquidity Risk Management Practices	Pearson Correlation	1				
	Sig. (2-tailed)					
Operational Risk Management Practices	Pearson Correlation	0.101	1			
	Sig. (2-tailed)	0.071				
Credit Risk Management Practices	Pearson Correlation	0.101	-0.032*	1		
	Sig. (2-tailed)	0.431	0.207			
Market Risk Management Practices	Pearson Correlation	0.089	0.178	-0.132**	1	
	Sig. (2-tailed)	0.304	0.103	0.098		
Financial Performance	Pearson Correlation	.475*	.302*	.501*	.398*	1
	Sig. (2-tailed)	0	0.006	0	0	
	N	111	111	111	111	111

** Correlation is significant at the 0.01 level (2-tailed).

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

Multiple Regression Analysis

Finding out how strongly the independent and dependent variables were correlated was the major objective of a multiple regression study. The three results of the multiple regression analysis are the Model Summaries, ANOVA, and Model Coefficient. The model summary displays the degree to which the independent variables and the dependent variable are correlated as well as the percentage of the dependent variable that is accounted for by the independent variables. The results of the model summarized in Table 7 show a significant correlation between the financial success of MFIs in Kiambu County and their methods for controlling credit risk, operational risk, liquidity risk, and market risk. The R-value of 0.868 supports this. The results also demonstrated that methods in managing liquidity risk, operational risk, credit risk, and market risk may be responsible for 75.3% of variations in the financial performance of MFIs in Kiambu County. This is demonstrated by a coefficient of determination value (R-squared value) of 0.753.

Table 7: Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate
.868[a]	0.753	0.711	1.002654

a. Predictors: (Constant), Liquidity Risk Management Practices, Operational Risk Management Practices, Credit Risk Management Practices, and Market Risk Management Practices

An analysis of variance (ANOVA) determines the model's statistical significance by analyzing the correlation between the independent and dependent variables. The model between financial risk management techniques and MFI financial performance was statistically significant and, as a result, a good match for the study, as shown by the sig value in Table 8 being less than 0.05.

Table 8: ANOVA (Model Significance)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	74.394	4	18.5985	19.52947	0.01956[b]
	Residual	100.947	106	0.95233		
	Total	**175.341**	**110**			

a. Dependent Variable: Financial Performance

b. Predictors: (Constant), Liquidity Risk Management Practices, Operational Risk Management Practices, Credit Risk Management Practices, and Market Risk Management Practices

The model coefficient depicts how the dependent variable varies when one of the independent variables is changed by one unit. The results presented in table 9 shows that liquidity risk management practices positively and significantly affects financial performance of MFIs in Kiambu County Kenya. This is shown by a beta value of 0.401 and sig value of 0.000<0.05. The results bears the implications that increasing liquidity risk management practices with one unit results to an increase of 0.401 units in the levels of financial performance of MFIs in Kiambu County. The results are consistent with Muheebwa (2018) who noted that liquidity not only helps the institutions to ensure that the business always has a reliable cash supply, but is also a powerful tool in determining the financial health of future investments. The results also revealed that operational risk management practices positively and significantly affects financial performance of MFIs in Kiambu County Kenya. This is shown by a beta value of 0.309 and sig value of 0.001<0.05. The results bears the implications that increasing operational risk management practices with one unit results to an increase of 0.309 units in the levels of financial performance of MFIs in Kiambu County. The results tallies with Meshack and Mwaura (2016) findings who established that operations risk management bears a positive effect on the profits of financial institutions while focusing on Tanzanian commercial banks.

The results further revealed that credit risk management practices positively and significantly affects financial performance of MFIs in Kiambu County Kenya. This is shown by a beta value of 0.497 and sig value of 0.000<0.05. The results bears the implications that increasing credit risk management practices with one unit results to an increase of 0.497 units in the levels of financial performance of MFIs in Kiambu County. The results are in tandem with Kahuthu (2016) who established that credit risk detection, analysis, and monitoring have a big impact on

the financial institution's ability to expand their capital. The results finally revealed that market risk management practices positively and significantly affects financial performance of MFIs in Kiambu County Kenya. This is shown by a beta value of 0.351 and sig value of 0.006<0.05. The results bears the implications that increasing market risk management practices with one unit results to an increase of 0.351 units in the levels of financial performance of MFIs in Kiambu County.

Table 9: Model Coefficients

	Unstandardized Coefficients		Standardized Coefficients		
Predictors	**B**	**Std. Error**	**Beta**	**T**	**Sig.**
(Constant)	1.124	0.171		6.5731	0
Liquidity Risk Management Practices	0.401	0.126	0.397	3.1825	0
Operational Risk Management Practices	0.309	0.142	0.323	2.1761	0.001
Credit Risk Management Practices	0.497	0.106	0.417	4.6887	0
Market Risk Management Practices	0.351	0.139	0.351	2.5252	0.006

The optimal regression model becomes:

Financial Performance of MFIs =1.124+0.497(Credit Risk Management Practices) + 0.401(Liquidity Risk Management Practices) +0.351(Market Risk Management Practices) + 0.309(Operational Risk Management Practices)

Hypothesis Testing

The study employed the results from the regression analysis to either reject or accept the hypothesis formulated in the study. The summary of the hypothesis testing is formulated in table 10.

Table 10 Hypothesis Testing

Hypothesis	Method and Criteria	Remark
H_{01}: Liquidity risk management practices has no significant effect on financial performance of microfinance institutions in Kiambu County, Kenya	• Multivariate regression analysis (P< 0.05)	Reject **H_{01}**
H_{02}: Operational risk management practices has no significant effect on financial performance of microfinance institutions in Kiambu County, Kenya	• Multivariate regression analysis (P< 0.05)	Reject **H_{02}**
H_{03}: Credit risk management practices has no significant effect on financial performance of microfinance institutions in Kiambu County, Kenya	• Multivariate regression analysis (P< 0.05)	Reject **H_{03}**
H_{04}: Market risk management practices has no significant effect on financial performance of microfinance institutions in Kiambu County, Kenya	• Multivariate regression analysis (P< 0.05)	Reject **H_{04}**

Conclusion

The results of the study led to conclusions that liquidity risk management practices bears a positive and significant effects on financial performance of MFIs in Kiambu County, Kenya. Similarly, liquidity risk management practices such as having sufficient liquidity levels which enables microfinance meet operation obligations and ensures availability of cash flows to meet immediate and future use, timely processing of loans due to availability of liquidity which attracts more clients, having set liquidity policies which ensures the institution is always in a position of paying its debts and board of management frequently reviewing investments to ensure existence of favorable liquidity further bears a positive and significant effect on financial performance of the MFIs. The results of the study also led to conclusions that operational risk management practices positively and significantly affects financial performance of MFIs in Kiambu County. Additionally, operational risk management practices such as setting up measures to protect technological related risks from interfering with operations, implementing advanced technology to detect cyber frauds in the institution, regularly conducting refresher training to employees which ensures they are well informed on quality decision making in their course of operations and outlining rules and regulations that guides execution of internal processes further bears a positive and significant effect on financial performance of the MFIs.

The results of the study further led to conclusions that credit risk management practices positively and significantly affects financial performance of MFIs in Kiambu County. Additionally, credit risk management practices such as laying down credit policies that governs credit administration, setting up systems for monitoring individual credit conditions, considering potential economic changes in the future when assessing borrower's credit portfolio, and frequently reminding the borrower through follow up calls to the borrower further bears a positive and significant effect on financial performance of the MFIs. The results of the study finally led to conclusions that market risk management practices positively and significantly affects financial performance of MFIs in Kiambu County. Additionally, market risk management practices such as setting up policies to manage foreign exchanges which ensures that exchange rates are maintained in respect to the global market, having a sufficient management of equity in the institution to bring wealth to the shareholders and owners, setting up means of adjusting to changes in the markets, and evaluating the prevailing market situation with future expectations prior making an investment decision further bears a positive and significant effect on financial performance of the MFIs.

Recommendations for the Study

The study recommends an enhancement of liquidity risk management practices amongst the microfinance institutions since the practice bears a positive and significant effect on financial performance of the institutions. The MFIs can achieve this through endeavoring in to liquidity risk management practices such as having sufficient liquidity levels which enables microfinance meet operation obligations and ensures availability of cash flows to meet immediate and future use, timely processing of loans due to availability of liquidity which attracts more clients, having set liquidity policies which ensures the institution is always in a position of paying its debts and board of management frequently reviewing investments to ensure existence of favorable liquidity.The study recommends an improvement of operational risk management practices amongst the microfinance institutions since the practice bears a positive and significant effect on financial performance of the institutions. The MFIs can achieve this through endeavoring in to operational risk management practices such as setting up measures to protect technological related risks from interfering with operations, implementing advanced technology to detect cyber frauds in the institution, regularly conducting refresher training to employees which ensures they are well informed on quality decision making in their course of operations and outlining rules and regulations that guides execution of internal processes.

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