ISSN: 0975-833X

Available online at http://www.journalcra.com

International Journal of Current Research
Vol. 17, Issue, 07, pp.33986-33995, July, 2025
DOI: https://doi.org/10.24941/ijcr.49259.07.2025

INTERNATIONAL JOURNAL OF CURRENT RESEARCH

RESEARCH ARTICLE

THE EFFECT OF INTERACTIVE RISK MANAGEMENT STRATEGIES ON FINANCIAL SUSTAINABILITY OF INFORMAL FINANCIAL GROUPS IN KIRINYAGA COUNTY, KENYA

Caroline Muthoni Njeru[1], Clifford Machogu[2], Richard Juma[3] and Dennis Otieno[4,*]

Murang'a University of Technology

ARTICLE INFO

Article History:
Received09th March, 2025
Received in revised form
21st April, 2025
Accepted 19th May, 2025
Publishedonline30th July,2025

Keywords:

Risk Management, Internal Controls, Sustainability, Informal Financial Groups.

***Corresponding author:**
Dennis Otieno

ABSTRACT

This study analyzed the effect of interactive internal controls strategy on financial sustainability of informal financial groups (IFGs) in Kirinyaga County, Kenya. IFGs serve as alternative development tools. Their role in broadening financial access has been acknowledged worldwide. However, the groups experience a myriad of challenges relating to risk exposure and sustainability thus leading to high rates of failure. It is estimated that 25% of informal financial groups prematurely disintegrate due to liquidity and default problems. Additionally, IFG members lose 15% to 25% of their savings annually. This trend is a cause for concern and raises considerable doubt on the effectiveness of their risk management. To address issues underlying these risks, the study using descriptive research design, targeted 60 non-rotating IFGs with 806 members registered with the County Department of Social Services Kirinyaga County and examined the effects of interactive internal controls strategy on financial sustainability of IFGs. Primary data was collected using a questionnaire and responses corroborated with key informant interviews. The data was analyzed for descriptive and inferential statistics using STATA software. Specifically, descriptive statistics included measures of central tendency and dispersion while inferential statistics drew from correlation and multiple linear regressions. The study established that an interaction of internal controls with financial literacy training had a significant positive effect on financial sustainability (β= .0001, p= 0.000) while the interaction of internal controls with fiscal management had a significant negative effect (β -.0579, p= 0.000). In conclusion, financial sustainability is enhanced by the interactions between; internal controls & financial literacy training while strengthening the interactions between internal controls & fiscal management through routine risk assessment, contingency planning, operational flexibility, regular review of strategy and appropriate budgetary allocations.

Citation: Caroline Muthoni Njeru, Clifford Machogu, Richard Juma and Dennis Otieno. 2025. "The effect of interactive risk management strategies on financial sustainability of informal financial groups in kirinyaga county, Kenya". *International Journal of Current Research, 17, (07), 33986-33995.*

INTRODUCTION

Background of the Study: Informal financial groups (IFGs) have gained widespread recognition for their contribution towards poverty eradication (Watkins, 2018). The groups held considerable appeal, growing from 7.8 million users in 2021 to 8.7 million in 2024 (Central Bank of Kenya, Kenya National Bureau of Statistics, & Financial Sector Deepening Kenya, 2024). This underscores the continued reliance on community-based financial support systems, emphasizing the need for their sustainability. However, despite their extensive use, IFGs experience numerous challenges, particularly relating to risk exposure and financial sustainability. More often than not, they are faced with fraud, liquidity shortages, unstable loan portfolio performance, poor screening, risky investments, low quality records and poor governance (Central Bank of Kenya, Kenya National Bureau of Statistics, and Financial Sector Deepening Kenya, 2021; Malkamäki, 2015). The ability to achieve organizational objectives, including survival and sustainability, depends on how well such risks are managed (Saeidi, Saeidi, Gutierrez, Streimikiene, Alrasheedi, Saeidi & Mardani, 2021). Poor risk management can lead to deterioration of a company's portfolio and subsequent collapse. Globally, the failure of financial institutions has been associated with weak risk management (Dudley, 2024). Research Studies reveal that IFGs play an important role of financial inclusion but experience high risks of collapse due to fraud and poor governance. Global rates of failure though significant are lower compared to regional rates. In Latin America, and especially in Bolivia and Mexico, 10-20% of informal lending groups collapse due to lack of legal enforcement, absence of risk-sharing mechanisms and lack of insurance against shocks like death of a member. Other causes of disintegration of IFGs in India and Bangladesh were observed to be poor risk diversification resulting from over-reliance on single source income and lack of contingency planning during economic downturns (Aharon, Ali & Naved, 2023). At the local level, ineffective risk management

has contributed to the collapse of several informal financial groups. Groups have either failed in assessing potential dangers or treating them. Some of the causes cited for failure of IFGs in Kenya include investments without feasibility checks, excessive lending, misuse of funds by leaders, lack of risk planning and absence of risk training (Mathuva, 2022; Central Bank of Kenya et al., 2021). The importance of controls in ensuring continuity and sustainability of entities over time cannot be ignored. Internal controls refer to the entire system of controls; financial and otherwise, aimed at conducting business in an efficient and orderly manner, safeguarding of assets and securing the accuracy and completeness of records, ensuring compliance with internal procedures, laws as well as regulations (Ngari, 2017). An effective and sound internal control system depends on the commitment of an organisation to ethical values and integrity, which is the cornerstone of a healthy control environment. A financially healthy system is critical for economic growth and stability (Abbas, Afshan & Mustifa, 2022). The collapse of financial institutions, whether formal or informal, can have drastic effects on the economy. The persistent premature disintegration of IFGs therefore demands for immediate attention to management of risks to salvage them before disintegration. Fundamentally, good risk management and internal controls are crucial for the long-term success of all organizations. More often than not, the inability of internal control to perform well arise from poor control environment (Suriyankietkaew & Avery, 2016). Although it is the responsibility of management to set up comprehensive control environment, incorporation into daily operations and actual implementation necessitates the involvement of every individual. As organizations look forward to the development of competitive benefits, intangible resources such as solid fiscal governance play a critical role in the entire process. Sound fiscal management is the building block for pillars of fiscal governance namely strategizing, decision making and control. Leaders need to be well versed with current performance as this informs the best way to execute financial plans. Theoretical models suggest that leadership is a fundamental driving force for business performance and operational success (Khan, Rehmat, Butt, Farooqi & Asim, 2020). A sustainability leader analyses and translates complex financial issues, recognizes and grabs opportunities, resolves financial problems while responding to uncertainty and managing risks. Thus, making sound decisions and ultimately achieving financial health requires individuals to have skill, knowledge, and right attitude.

Whereas formal financial institutions have devised structured risk management frameworks as a matter of regulatory compliance, this remains an arduous task within the unregulated informal financial sector. The greatest challenge that informal financial groups face globally is how to best manage risks in the face of uncertain operating environment. IFGs play unique roles and use unique principles and strategies (Watkins, 2018). However, the strategies employed by the groups have come under scrutiny due to extremely inefficient operations that lead to high rates of failure and consequently unsustainable services. The quest for financial sustainability hinges not only on the implementation of individual risk management strategies but also on the way these strategies interact with each other. Restricting investigation to main effects alone may result to oversimplifying a complex system, whereas outcomes are modeled on interaction of diverse variables. Interaction effects otherwise referred to as moderation provide best solution given interplay of variables (Lorah, 2020).

Statement of the Problem: Formal financial institutions in developing countries have failed to cater for the financial needs of the poor owing to their unfriendly regulations. This has led to mushrooming of informal financial groups in an attempt to address sustainable financial requirements. However, their popularity has for long been matched by excessive risk taking and relatively high rates of premature disintegration. It is estimated that 25% of informal financial groups prematurely disintegrate due to liquidity and default problems (Malkamäki, 2015). Additionally, IFG members lose 15% to 25% of their savings annually (Flynn, 2013). This trend is perturbing and raises considerable doubt on the ability of IFGs to effectively manage risks. Once collapsed, the groups are difficult to revive due to lack of trust. Hence, new ones keep forming devoid of much attention to the management of underlying risks, and eventually collapse. The concern is whether the groups have failed to manage their risks or, the risks are poorly managed. Indeed, this vicious cycle has become a worrying trend that groups seem not to find a lasting solution to the persistent problem. The consequences of group failures are numerous and very unpleasant, not only to the members but also households, and indeed the economy. Such disintegration entails loss of resources in terms of money, time and human. Further, interpersonal relations are constrained causing emotional distress among members. Group failures thus impair financial intermediation, derail economic progress and retard the well-being of individuals. If members are well versed with risk strategies, IFGs would remain sustainable and be able to achieve their financial objectives through early detection and deterrence of potential risks. The growing interest in IFGs, however, has not been perceived in a broader perspective of interactive risk management. Lack of empirical evidence relating to both the main and interaction effects of risk management strategies hinders policy makers from supporting IFGs with effective interventions and frameworks. In the absence of a clear understanding of how various strategies interact, efforts to enhance or scale-up IFGs sustainability maybe misdirected, inefficient and unsustainable. It is against this backdrop that the study was conducted to evaluate the relationship between interactive internal controls and financial sustainability of non-rotating IFGs in Kirinyaga County, Kenya.

Objective of the Study: Investigate the effect of interactive internal controls on financial sustainability of non-rotating IFGs.

The study was guided by the following hypothesis:

***Ho*:** There is no significant interaction effect of internal controls on financial sustainability of non-rotating IFGs.

Theoretical Framework: This study was guided by the Contingency Management Theory. Advanced by Hofer (1975), contingency management theory also referred to as business continuity planning is a critical element in risk management. The theory is fundamentally based on the fact that risks cannot be totally eliminated (Schurr, De Tuya & Noll, 2017). Residual risks will always remain. Notwithstanding an entity's best of efforts to mitigate, avoid or prevent risks, unanticipated incidents still happen. Particular threats and vulnerabilities may overpower even the best controls designed for integrity, confidentiality and

safety of assets. Several studies have identified task uncertainty, firm size and diversification as major determinants of contingency (Togun, Ogunrinade, Olalekan, & Jooda, 2022; Kourtzidis & Tzeremes, 2020; Pereira Júnior & Pereira, 2023). Organisations differ depending on the level of such contingency factors. An increase in size would translate to structural adjustments. Hammed (2018) posits that as tasks become increasingly unpredictable, the alignment of structures with functions is critical. Prior preparation and planning are vital for all contingent planning-related actions. Whereas many IFGs anticipate the ability to handle crisis to some extent, contingency planning seeks to formulate in advance appropriate plans and resources to make situations manageable and less disruptive. This theory is relevant for this study as it explores the act of preparing for eventualities through formulation of appropriate plans and strategies. Contingency planning in this context looks at the total of activities, processes, plans and controls in relation to potential risks.

Empirical Review: Hamed (2023) investigated the impact of internal controls compliance on financial performance of sixteen listed banks in Amman Stock Market with control activities, monitoring, information and communication as the key drivers of performance. Primary data was collected using questionnaire. Financial performance indicators included earnings, profitability and returns. The study found out that compliance with internal controls requirements has a significant positive effect on financial sustainability. The author emphasizes how effective implementation of internal controls impacts on sustainability. However, the study acknowledges challenges of implementation of internal controls such as lack of awareness, skills and resources presenting a knowledge gap on the impact of interaction between internal controls with training and resource management. Shabri, Saad and Bakar (2016) investigated the effect of internal control systems on cooperative profitability with case study of Koperasi ABC Berhad, Malaysia. The study adopted a qualitative approach. Participants concurred that every entity faces various risks both from external and internal sources. Three ways of risk management were identified: - risk acceptance, risk reduction and risk avoidance. The way management identifies, analyzes and addresses relevant risks distinguish successful organization from others. Findings of the study conclude that effective internal control systems improve profitability as well as growth and stability. This was subject to the implementation of all elements of the internal control system as stipulated by COSO Framework. The study however fails to define metrics or score rubrics for COSO five components revealing a conceptual gap. In the absence of clear criteria, it proves difficult verifying whether each of the COSO components is truly implemented. The current study bridges this gap by examining interdependencies on how cost control elements such as fiscal management tie into broader control frameworks. Von Louie, Lumapenet, and Mamburao (2022) evaluated the relationship between leadership and fiscal management skills among public elementary schools using a correlational research design. Questionnaires were administered to 112 respondents Results revealed that fiscal management is highly dependent on leadership skills. They observe that maintaining efficiency in fiscal management will improve sustainability. This study however presents a contextual gap by investigating a different industry from financial sector industry and thus results cannot be generalized.

The Conceptual Framework: This study investigated interactive internal controls and financial sustainability of IFGs. The framework comprised internal controls, financial literacy training and fiscal Management as the independent variables. Pair-wise interaction was considered where internal controls interacted with financial literacy training and fiscal management to predict potential outcome. The dependent variable was financial sustainability. This is illustrated in Figure 1.

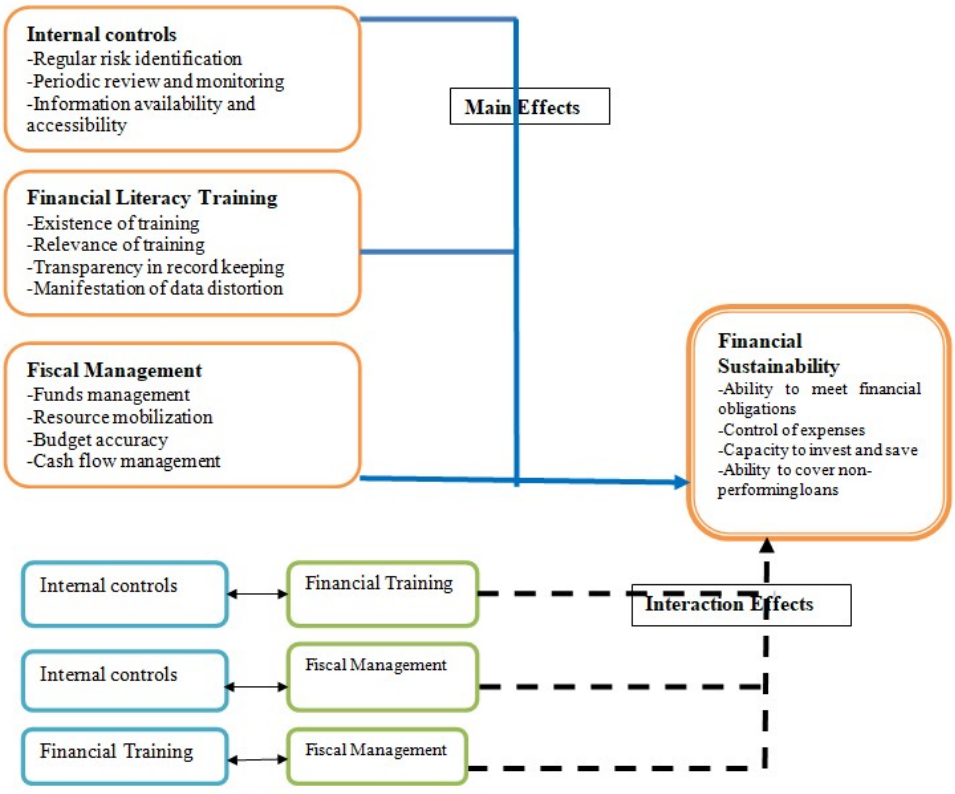

Figure 1. The Conceptual Framework

METHODOLOGY

The Research Design: The study adopted a mixed method descriptive research design. Quantitative research entails measurement of variables through a numerical system, analyzing the measurements using statistical, computational or mathematical techniques while reporting associations and relationships among studied variables. Conversely, qualitative research is primarily exploratory and entails non-numerical data that can be observed and recorded. It helps provide insights into the problem and to develop hypotheses or ideas for potential quantitative research (Mugenda, 2013).

The Target, Sample Size & Sampling Technique: The study targeted 60 non-rotating IFGs with 806 members registered with department of social services in Kirinyaga County and that have been in existence for over three years. Firms that have operated for at least 3 - 5 years are associated with greater financial stability and long-term survival (Murphy, 2018). The study was conducted in Mwea Constituency taking into account all the 8 wards. Conducting this research in Mwea is justified by the area's high concentration of IFGs and its economic reliance on informal finance mechanisms. A combination of stratified, purposive, simple random sampling and census was employed to sample 424 respondents. Questionnaire was used as the main data collection instrument attaining a response rate of 76.2% (n=323). Key informant interviews were used to corroborate responses from the questionnaires. Key informants included Community Development Associations (CDAs) officials and County Social Services Officer.

Data Collection: This study used primary data. Data was collected through questionnaires and key informant interview guides. The questionnaires were both closed and open-ended based on likert scale and covered all the variables under study. Specific objectives were addressed through the structured questions whereas subjective responses were obtained via open ended questions. Key informants included four Community Development Associations (CDAs) officials and one County Social Services Officer.

Data Analysis: Data was first coded with each response being assigned a number for ease of analysis. The coded variables were entered into a data matrix worksheet for transfer to the data analysis and statistical STATA software. Clean up was done to detect duplication, missing data and inconsistencies. Data was then subjected to descriptive and inferential statistics. Specifically, descriptive statistics included measures of central tendency and dispersion while inferential statistics made use of correlation, multiple linear regressions and hypothesis tests. Regression analysis was performed to establish extent to which independent variables do predict change in dependent variable. It was used to predict how strong the relationship between independent and dependent variables is.

Regression Analysis: The analysis for the main effects-plus-interaction model would normally take the functional form;

$$y = a_0 + a_i \sum_{i=1}^{n} x_i + \frac{1}{2} b_i \sum_{i=1}^{n} \sum_{i=1}^{m} x_i x_j$$

Where;

Y = Financial sustainability of informal financial groups in Kirinyaga County

X^{ij}, i,j= 1, 2, 3 represents interaction between variables internal controls, financial literacy training and fiscal management respectively.

FINDINGS

Descriptive Statistics: The descriptive statistics presented were for internal controls, financial literacy training, fiscal management and financial sustainability. The respondents were asked to indicate their level of agreement with various statements using 1-5 likert scale where 1 is strongly disagree, 2 is disagree, 3 is neutral, 4 is agree and 5 is strongly agree..

Descriptive Statistics for Internal Controls: From the findings in Table 1, majority of the respondents agreed that group has a process for identifying risks that threaten achievement of objectives (M=4.430, SD=0.496). The findings imply that groups evaluate their operations to determine risks that may threaten achievement of objectives.

Table 1. Agreement with Statements on Internal Controls

	N	Mean	Std. Dev.
Group has a process of identifying risks that threaten achievement of objectives	323	4.430	0.496
Withdrawals are signed by more than one signatory	323	4.703	0.458
There is segregation of duties with clear separation between operational, recording and record retention duties	323	4.629	0.484
Regular spot checks are conducted for compliance	323	2.755	1.033
Digitization of cash receipts prevents theft of funds	323	4.526	0.559
Digitization enhances audit trail through information traceability	323	4.752	0.432
Loan limits contributes to membership retention	323	3.266	1.096
Group enforcement mechanisms are adequate to recover loans in case a person fails to pay	323	3.022	1.059
Average		**4.010**	**0.2796**

Majority of the respondents strongly agreed that withdrawals are signed by more than one signatories (M=4.703, SD=0.458). The participants agreed that there was segregation of duties with clear separation between operational, recording and record retention duties (M=4.629, SD=0.484). Moreover, most of the respondents were neutral that regular spot checks are conducted for compliance (M=2.755, SD=1.033). This implies that compliance checks were moderately implemented, but improvement was possible. Additionally, most of the respondents strongly agreed that digitization of cash receipts prevents theft of funds (M=4.526, SD=0.559), and that digitization enhances audit trail through information traceability (M=4.752, SD=0.432). Digitization was therefore seen as an effective way of reducing theft. Majority of the respondents were neutral that loan limits have contributed to membership retention (M=3.266, SD=1.096). Loan limits were somewhat effective, but there was room for improvement. This implies that use of savings as security for loans did not guarantee membership retention. Majority respondents were also neutral that group enforcement mechanisms are adequate to recover loans in case a person fails to pay (M=3.022, SD=1.059). The average mean and standard deviation for internal controls strategy was (M=4.010, SD=0.2796).

Descriptive Statistics for Financial Literacy Training: From the findings in Table 2, financial training in record-keeping enhanced transparency (M=4.678, SD=0.468) as majority agreed on this strategy. Transparency in record-keeping reduced fraud (M=4.316, SD=0.466). Financial management skills influenced loan repayment (M=4.146, SD=0.585). A majority believed that financial management skills are vital for better loan repayment behavior.

Table 2. Agreement with Statements on Financial Literacy Training

	N	Mean	Std. Dev.
Financial training in record keeping enhance transparency	323	4.678	0.468
Transparency in book/record- keeping reduce fraud	323	4.316	0.466
Financial management skills influence loan repayment	323	4.146	0.585
Training in entrepreneurial skills improve group revenue	323	4.229	0.421
Training fees impacts on group profitability	323	4.040	0.297
Access to training improve financial literacy	323	4.759	0.483
Awareness on risks and benefits of saving influence savings rate	323	4.065	0.458
Average		**4.319**	**0.2179**

Entrepreneurial skills training improved group revenue (M=4.229, SD=0.421). This reflected a high confidence in entrepreneurial training as a revenue driver. Training fees impacted group profitability (M=4.040, SD=0.297). However, this had a relatively lower agreement compared to other areas, possibly indicating mixed views on the cost-benefit balance of training fees. It was agreed that access to training improved financial literacy (M=4.759, SD=0.483). Training access was widely seen as a means to enhance financial literacy. Awareness of risks and benefits of saving influenced the rates of saving (M=4.065, SD=0.458). This shows that majority were in agreement that savings increased from financial literacy trainings thus generating enough funds to meet demand for loans. The average mean and standard deviation for financial literacy training strategy was (M=4.319, SD=0.2179).

Table 3. Agreement with Statements on Fiscal Management

	N	**Mean**	**Std. Dev.**
Group office bearers have effectively mobilized resources	323	4.050	0.383
Office holders have overseen effective funds management	323	4.099	0.373
Effective planning and allocation of available resources helps avoid conflicts over finances	323	3.870	0.675
Aligning financial resources with existing plans helps improve group lifespan	323	4.687	0.515
Oversight of compliance with savings and payment plans influence member retention	323	4.331	0.609
Average		**4.207**	**.2761**

Descriptive Statistics for Fiscal Management: From the findings in Table 3, group office bearers had effectively mobilized resources (M=4.050, SD=0.383). A majority believed that office bearers were effective in mobilizing resources, although a quarter of respondents felt that there was room for improvement. Office holders had overseen effective funds management as supported by (M=4.099, SD=0.373) of the respondents. While most agreed that funds were managed effectively, nearly a quarter of respondents perceived some challenges or inefficiencies in this area. Effective planning and allocation of available resources helps avoid conflicts over finances (M=3.870, SD=0.675). A high percentage acknowledged that financial disputes could negatively impact member retention, emphasizing the importance of conflict resolution mechanisms. Most respondents were confident in their office bearers' ability to manage conflicts, which was vital for maintaining harmony within the group. Office holders foster a cohesive and harmonious environment, enhancing group functionality and productivity. Group officials played a critical role in resolving disputes, maintaining trust, and ensuring group objectives are met. Aligning financial resources with existing plans helps improve group lifespan (M=4.687, SD=0.515). Nearly all respondents recognized the critical role of office bearers in determining the longevity of the group, highlighting the need for effective selection process. Oversight of compliance with savings and payment plans influence member retention (M=4.331, SD=0.609). The average mean and standard deviation for fiscal management strategy was (M=4.207, SD=0.2761) showing that majority agreed with the statements on group fiscal management.

From the findings in Table 4, most of the respondents strongly agreed that group generates enough revenue to cover group expenses as illustrated by (M=4.622, SD=0.486) and that revenue from interest income has increased over the years as illustrated by (M=4.529, SD=0.547). In addition, majority of the respondents agreed that capitalization has led to improved group asset base in form of loans to members over the years as illustrated by (M=4.248, SD=0.432) and that group retains portion of interest

Table 4. Agreement with Statements on Financial Sustainability

	N	Mean	Std. Dev.
Revenue from interest income has increased over the years	323	4.529	0.547
Fines/penalties have increased over the years	323	4.071	0.407
Group profitability has increased over the years	323	4.090	0.426
Group generates enough revenue to cover group expenses	323	4.622	0.486
Group retains portion of interest income for growth capitalization when paying dividends	323	4.164	0.371
Capitalization has led to improved group asset base in form of loans to members over the years	323	4.248	0.432
Capitalization has resulted to increased interest income	323	4.031	0.360
Savings generate enough funds to meet demand for loans	323	3.796	0.861
Savings have generated enough funds for other investments other than giving loans to members	323	3.796	0.861
Loan loss provision has reduced over the years	323	3.536	0.899
Average		**4.088**	**0.2049**

income for growth capitalization when paying dividends as shown by (M=4.164, SD=0.371). Moreover, most of the respondents agreed that group profitability has increased over the years as illustrated by (M=4.090, SD=0.426) and that fines/penalties have increased over the years as shown by (M=4.071, SD=0.407). Most of the respondents also agreed that capitalization results into increased interest income (M=4.031, SD=0.360), savings generate enough funds to meet demand for loans as shown by (M=3.796, SD=0.861), and that savings have generated enough funds for other investments other than giving loans to members as indicated by (M=3.796, SD=0.861) and that loan loss provision has reduced over the years as shown by (M=3.536, SD=0.899). The average mean and standard deviation for financial sustainability was (M=4.088, SD=0.2049).

Correlation Analysis: This study adopted the Pearson correlation coefficient to test significance and presence of correlation. The findings in Table 5 shows that internal controls and financial literacy training had a very weak negative correlation with financial sustainability of non-rotating IFGs at 95% confidence level ($r= -0.0311$; $p<0.05$ and ($r= -0.0191$; $p<0.05$) respectively.

Table 5. Correlation Results

		Internal controls	Financial literacy training	Fiscal management	Financial sustainability	
Internal controls	Pearson Correlation	1.000				
	Sig. (2-tailed)					
	N	323				
Financial literacy training	Pearson Correlation	.1053**	1.000			
	Sig. (2-tailed)	.000				
	N	323	323			
Fiscal management	Pearson Correlation	.1328**	.3808**	1.000		
	Sig. (2-tailed)	.000	.000			
	N	323	323	323		
Financial sustainability	Pearson Correlation	-.0311**	-.0191**	.1004**	1.000	
	Sig. (2-tailed)	.000	.000	.000		
	N	323	323	323	323	
**. Correlation is significant at the 0.05 level (2-tailed).						

These variables were significant. Diversification on the other hand had a moderate positive correlation with financial sustainability of non-rotating IFGs at 95% confidence level ($r=0.6505$; $p<0.05$). This variable was significant since $p=0.000$ was less than 0.05. Fiscal management strategy had a very weak positive correlation with financial sustainability of non-rotating IFGs at 95% confidence level ($r= 0.1004$; $p<0.05$).

Regression Analysis: From the findings in Table 6, Internal controls enhanced financial sustainability by ($\beta=.3432$). The enhancement was significant ($p=0.000$) and shows that a unit increase in internal controls would lead to 34.32% increase in financial sustainability. This could be attributed to the following reasons; first the existence of loan limits based on member shares could signify reduced risk taking positively impacting financial sustainability. In addition, majority of the groups had embraced banking services as opposed to holding physical cash. The mean for authorization and approval was relatively high showing strict controls in regards to withdrawal of funds. Financial literacy training had an inverse relationship with financial sustainability ($\beta= -.4085$) indicating that one unit increase in financial literacy training decreased financial sustainability by 40.85%. The drop may arise where participants are trained but use the gained skills to run their personal businesses and not group businesses. The cost incurred to train members who invest outside the group may impact sustainability negatively. Additionally, member may gain knowledge but lack the resources or support to implement it effectively, leading to unrealistic expectations. Besides, overconfidence from trainings might prompt speculative investments which are risky. Risk is associated with less stability. Training on strict compliance with controls such as loan limits may prevent members from borrowing thus leading to withdrawal of membership and reduced savings. This suggests that financial literacy programs must be practical, context-specific,

and coupled with continuous mentorship to positively influence financial sustainability outcomes. Fiscal management decreased financial sustainability by 0.5833 (β= -.5833). This means that one unit increase in fiscal management reduced financial sustainability by 58.33%. The reduction was significant (p=0.000). The negative relationship could be associated with fiscal management practices such as budget cuts. While budget cuts may positively impact financial sustainability in the short-term by ensuring solvency, such controls have long-term effects like halted investments that affect financial sustainability in the long-term. The decline could also be attributed to inadequacy of recovery mechanisms which may lead to unpredictable cash flows due to defaults. In the event cash flows are unpredictable, budgeting is affected. The groups may have failed to maintain adequate reserves. Failure to budget, lack of reserves to caution groups in hard economic times and poor record keeping are some of the fiscal management failures rampant within informal financial groups. From the main effects-plus interaction regression, the study established that an interaction between internal controls with the variables financial literacy training and fiscal management would lead to a significant change in financial sustainability of informal financial groups in Kirinyaga County (β= 0.0001 and β= -0.0579 respectively, p=0.000). Whereas the interaction with financial literacy training increased sustainability by 0.01%, interaction with fiscal management decreased sustainability by 5.79%.

Table 6. Regression results

Model		Unstandardized Coefficients		z	P > I zI
		B	Std. Error		
Main Effect	(Constant)	3.822	.3419	28.57	.000
	Internal Controls (IC)	.3432	.0475	7.23	.000
	Financial literacy training (FLT)	-.4085	.0719	-5.67	.000
	Fiscal Management (FM)	-.5833	.0519	-11.24	.000
Interaction	IC* IC	-.0242	.0031	-7.73	.000
	IC* FLT	.0001	.00001	10.45	.000
	IC* FM	-.0579	.0055	-10.49	.000
	FLT*FLT	-.0155	.0154	-1.00	.316
	FLT*FM	.0160	.0113	1.41	.158
	FM*FM	.2357	.0007	348.6	.000

Results were substituted as follows

$$Y= 3.8224 + 0.3432X_1 – 0.4085X_2 – 0.5833X_3 – 0.242X^{11} + 0.0001X^{12} –0.0579X^{13} – 0.0155X^{22} + 0.0160X^{23} + 0.2357X^{33}$$

Where;

Y = Financial sustainability of informal financial groups in Kirinyaga County

X_1 = Internal Controls strategy

X_2 = Financial Literacy Training

X_3 = Fiscal Management

X^{ij}, i,j= 1, 2, 3 represents interaction between variables internal controls, financial literacy training and fiscal management respectively.

Financial sustainability = 3.8224 + 0.3432(Internal controls) – 0.4085(Financial literacy training) – 0.5833(Fiscal management) –0.0242(Internal controls*Internal controls) + 0.0001(Internal controls*Financial literacy training) – 0.0579(Internal controls*Fiscal management) – 0.0155(Financial literacy training*Financial literacy training) + 0.0160(Financial literacy training*Fiscal management) + 0.2357(Fiscal management*Fiscal management).

Test of Hypothesis

The null hypothesis: *"There is no statistically significant between interactive internal controls and financial sustainability of non-rotating IFGs in Kirinyaga County"* was tested as shown in Table 7.

Table 7. Marginal Effect of Interaction

Cross-variable Interaction	Main	Interaction	% Change	Impact on Sustainability	P > I z I	Null Hypothesis
IC*FLT	0.3432	0.0001	0.01%	Increase	0.000	Rejected
IC*FM	-0.5833	-0.0579	5.79%	Decrease	0.000	Rejected
FMS* FLT	-0.4085	0.0160	1.60%	Increase	0.158	Fail to reject

H_0: *There is no significant relationship between interactive internal controls and financial sustainability of non-rotating IFGs.*

Internal control strategy has a significant effect on sustainability with a unit increase in internal controls increasing sustainability by 34.32%. However, the implementation of internal controls jointly with effective financial training and fiscal management has significant effect on sustainability. Thus, the interaction of internal controls with financial training and fiscal management increased and decreased financial sustainability significantly by 0.01% and 5.79% respectively. The drop was attributed to fiscal controls that may have prompted delayed spending hence affecting innovation and capacity which are key aspects of financial sustainability. Budget cuts could have hindered implementation of innovative controls. Most of the group records were manual making the groups susceptible to fraud. Inadequate resources prevented groups from implementing strategies such as digitization indicating inefficient resource mobilization and allocation. The null hypothesis that interactive internal controls have no significant relationship with financial sustainability was therefore rejected and the study concluded that interactive internal controls have significant relationship with financial sustainability.

Discussions of the Findings: Findings revealed a very weak negative correlation between internal controls and financial sustainability ($r= -0.0311$; $p<0.05$). The negative correlation between internal controls and financial sustainability can be attributed to strict controls such as loan limits preventing members from borrowing thus leading to withdrawal of membership and reduced savings. Additionally, uncompromising management that strictly complies with group rules and regulations on authorization and approval may lead to dissatisfaction with some members thus exiting the groups. Further, the negative correlation between financial literacy training and financial sustainability may arise where participants are trained but use the gained skills to run their personal businesses and not group businesses. The cost incurred to train members who invest outside the group may impact sustainability negatively. Additionally, member may gain knowledge but lack the resources or support to implement it effectively, leading to unrealistic expectations. When training is theoretical or not aligned to the real needs of informal financial groups, it might be unproductive despite incurring expenses to train. This suggests that financial literacy programs must be practical, context-specific, and coupled with continuous mentorship to positively influence financial sustainability outcomes. Further, internal control strategy had a direct significant relationship ($\beta= .3432$) with financial sustainability. This could be attributed to the following reasons; first the existence of loan limits based on member shares could signify reduced risk taking positively impacting financial sustainability. In addition, majority of the groups had embraced banking services as opposed to holding physical cash. The mean for authorization and approval was relatively high showing strict controls in regards to withdrawal of funds. The findings concur with Chepkurui, Naibei & Kemboi (2022) whose study finds a positive significant relation between internal controls and financial stability.

On interaction with financial literacy training, financial sustainability significantly increased by 0.01% with a p value = 0.000 revealing that the interaction between internal controls and financial literacy training significantly improves financial sustainability. Training may have led to better compliance and improved documentation that hindered fraud hence ensuring financial accuracy, safeguarding financial resources and enhancing trust. Members may have engaged in personal investments enabling them to repay group loans. Portfolio theory on risk-return trade-off dictates that the more the risk the more the returns. Groups may have engaged in risky investments that earned higher returns. The findings are in agreement with Amanamah et al., (2025) whose study established a positive influence of training on the relationship between internal controls and financial performance. In contrast, the interaction between internal controls and fiscal management decreased sustainability by 5.79%. Fiscal controls may have prompted delayed spending thus affecting innovation and capacity which are key aspects of financial sustainability. Budget cuts could have hindered implementation of innovative controls. Most of the group records were manual making the groups susceptible to fraud. Inadequate resources prevented groups from implementing alternative strategies indicating inefficient resource mobilization and allocation. The findings contradict Hoai & Nguyen (2022) who posit that the interaction between adequate internal controls and leadership enhances performance.

CONCLUSIONS AND RECOMMENDATION

The study established that if internal controls are put in place, financial sustainability is enhanced. Further, the interaction between internal controls and financial literacy training increased financial sustainability. The increase though marginal is significant. Training programs focusing on operational efficiency, financial management and governance have been shown to considerably strengthen internal controls in diverse organizational settings. Basic financial training reduces financial mismanagement through improved cash flow tracking and record-keeping. Training programs on leadership have the capacity to improve oversight mechanisms thus decreasing unauthorized transactions. Additionally, imparting skills on transparency practices and conflict resolution may assist to reduce financial disputes. Members of IFGs may have received training that helped improve oversight and reduce fraudulent cases. In contrast, the interaction between internal controls and fiscal management would lead to significant decrease in financial sustainability.On the multivariable regression model, interactive internal controls yielded a significant positive relationship with financial sustainability. Fiscal management that entails budgeting, spending and financial oversight has a direct impact on the effectiveness of internal controls meant to ensure accountability, prevent fraud and maintain financial sustainability. The manner in which organizations plan, budget and control financial resources can significantly impact survival. While sound fiscal management promotes stability, ineffective fiscal management can lead to financial crises and systemic collapse. Tighter fiscal controls such as restricted spending and budget cuts may have unintended long-term consequences on sustainability in the form of stalled investments. Understanding the importance of internal controls is crucial for planning, implementation and sustainable financial service delivery. Although the consideration of main effects of internal controls can improve decision making, it is imperative to focus on interactions between internal controls and factors as financial literacy training and fiscal management to gain deeper insights critical for risk management planning. Effective risk management is the cornerstone of sustainable financial institutions that protects members and the economy at large against financial losses and

disruption of operations by mitigating potential threats that may lead to failure. This study thus recommends enhancement of risk management through appropriate internal controls, financial literacy training and fiscal management, individually and in combination. This can be achieved with routine risk assessment, risk-based audit, contingency planning, operational flexibility, regular review of strategy and appropriate budgetary allocations.

REFERENCES

Adegboyegun, A. E., Ben-Caleb, E., Ademola, A. O., Oladutire, E. O., & Sodeinde, G. M. (2020). Internal control systems and operating performance: Evidence from small and medium enterprises (SMEs) in Ondo state. *Asian Economic and Financial Review*, *10*(4), 469â.

Aharon, D. Y., Ali, S., & Naved, M. (2023). Too big to fail: The aftermath of Silicon Valley Bank (SVB) collapse and its impact on financial markets. *Research in International Business and Finance*, *66*, 102036.

Benito-Osorio, D., Colino, A., & Zúñiga-Vicente, J. Á. (2015). The link between product diversification and performance among Spanish manufacturing firms: Analyzing the role of firm size. *Canadian Journal of Administrative Sciences/Revue Canadienne des Sciences de l'Administration*, *32*(1), 58-72.

Brearley, C. P. (2023). *Risk and social work*. Taylor & Francis.

Central Bank of Kenya, Kenya National Bureau of Statistics & FSD Kenya. (2024). The 2024 FinAccess Household Survey on financial inclusion. Nairobi, Kenya: FSD Kenya.

Chen, Y. J., Liou, W. C., Chen, Y. M., & Wu, J. H. (2019). Fraud detection for financial statements of business groups. *International Journal of Accounting Information Systems*, *32*, 1-23.

Chepkurui, T., Naibei, I. K., & Kemboi, R. K. (2022). Relationship Between Financial Controls And Financial Sustainability Of Kericho County Government, Kenya.

Dudley, W. C. (2024). *Bank Failures and Contagion Lender of Last Resort, Liquidity, and Risk Management* (No. 329).

Elven, S., & LeMay-Boucher, P. (2016). How sustainable is the use of different savings devices?: A study of formal and informal finance in Benin. *The Journal of Developing Areas*, *50*(1), 123-139.

Garcia, A., & Lensink, R. (2019). Microfinance-plus: a review and avenues for research. *A Research Agenda for Financial Inclusion and Microfinance*, 111.

Garcia, A., & Lensink, R. (2019). Microfinance-plus: a review and avenues for research. *A Research Agenda for Financial Inclusion and Microfinance*, 111.

Gietzen, T. (2017). The exposure of microfinance institutions to financial risk. *Review of development finance*, *7*(2), 120-133.

Hamed, R. (2023). The role of internal control systems in ensuring financial performance sustainability. *Sustainability*, *15*(13), 10206.

Ibrahim, S., Diibuzie, G., & Abubakari, M. (2017). The impact of internal control systems on financial performance: The case of health institutions in upper west region of Ghana. *International Journal of Academic Research in Business and Social Sciences*, *7*(4), 684-696.

Kolapo, F. T., & Olaniyan, T. O. (2018). The Impact of Fraud on the Performance of Deposit Money Banks in Nigeria. *International Journal of Innovative Finance and Economics Research*, *1*(6), 40-49

Kwon, K. (2019). The long-term effect of training and development investment on financial performance in Korean companies. *International journal of manpower*, *40*(6), 1092-1109.

Lubis, N. W. (2022). Resource based view (RBV) in improving company strategic capacity. *Research Horizon*, *2*(6), 587-596.

Maeenuddin, Hamid, S. A., Nassir, A. M., Fahlevi, M., Aljuaid, M., & Jermsittiparsert, K. (2024). Measuring the financial sustainability and its influential factors in microfinance sector of Pakistan. *Sage Open*, *14*(3), 21582440241259288.

Malhotra, N. (2024). Digitisation of the Self-Help Groups. In *Sustainable Pathways: The Role of Indigenous Tribes and Native Practices in India's Economic Model* (pp. 161-178). Emerald Publishing Limited.

Martínez-Campillo, A. (2016). The benefits of related and unrelated diversification strategies in the Spanish context: What is the difference that executive leadership style can make?. *Leadership*, *12*(1), 86-109.

Memon, A., Akram, W., Abbas, G., Chandio, A. A., Adeel, S., & Yasmin, I. (2022). Financial sustainability of microfinance institutions and macroeconomic factors: a case of South Asia. *South Asian Journal of Macroeconomics and Public Finance*, *11*(1), 116-142.

Merrey, D. J., & Lefore, N. (2018). *Improving the availability and effectiveness of rural and "Micro" finance for small-scale irrigation in Sub-Saharan Africa: a review of lessons learned* (Vol. 185). International Water Management Institute (IWMI).

Mutnuru, S. (2016). The role of internal controls on employees' engagement in small organizations. *Journal of Business Studies Quarterly*, *7*(4), 102-114.

Mwangi, J., & Kimani, E. (2015). Challenges experienced by men and women in informal financial groups in Gachagi informal settlement in Thika Sub-County, Kenya.

Ngari, G. M. (2017). The effect of internal controls on financial performance of microfinance institutions in Kenya. *International Academic Journal of Economics and Finance, 2*(3), 112-140

Ngila, S. K. (2022). *Influence of Risk Management Strategies on the Financial Performance of State Corporations in Kenya* (Doctoral dissertation, University of Nairobi).

Nyataya, I. P. K. (2016). Women Self Help Groups Enhancing Women's Development Processes in Kenya. *International Journal of Research in Sociology and Anthropology (IJRSA)*, *2*(2), 18-25.

Otoo, F. N. K., Kaur, M., & Rather, N. A. (2023). Evaluating the impact of internal control systems on organizational effectiveness. *LBS Journal of Management & Research*, *21*(1), 135-154.

Rodgers, W., Söderbom, A., & Guiral, A. (2015). Corporate social responsibility enhanced control systems reducing the likelihood of fraud. *Journal of Business Ethics*, *131*, 871-882.

Rodrigues, A. (2021). From contingency planning in times of change and uncertainty to risk control. *International Journal of Advanced Engineering Research and Science*, *8*(1), 056-058.

Ruga, J. M. (2019). *Financial Management Practices And Performance Of Table Banking Self Help Groups In Nyandarua County, Kenya* (Doctoral Dissertation, School Of Business, Kenyatta University).

Saeidi, P., Saeidi, S. P., Gutierrez, L., Streimikiene, D., Alrasheedi, M., Saeidi, S. P., & Mardani, A. (2021). The influence of enterprise risk management on firm performance with the moderating effect of intellectual capital dimensions. *Economic Research-Ekonomska Istraživanja*, *34*(1), 122-151.

Sayedi, S. N (2018). Informal Financial Institutions: A Source of Soft Loans To Individuals And Small Business Owners.

Schurr, M., De Tuya, M., & Noll, K. (2017). Risk–Informed decision making in information system implementation projects: Using qualitative assessment and evaluation of stakeholders' perceptions of risk.

Shojaei, S. A. (2023). Diversification Strategy and Financial Performance of Insurance Firms: Evidence from Iran. *International Journal of Management, Accounting & Economics*, *10*(12).

Tarjo, T., Vidyantha, H. V., Anggono, A., Yuliana, R., & Musyarofah, S. (2022). The effect of enterprise risk management on prevention and detection fraud in Indonesia's local government. *Cogent Economics & Finance*, *10*(1), 2101222.

Von Louie, A. S., Lumapenet, H. T., & Mamburao Jr, R. S. (2022). Leadership and Fiscal Management Skills Among Public Elementary School Principals In Southern Philippines.

Wang, R., Liu, J., & Luo, H. (2021). Fintech development and bank risk taking in China. *The European Journal of Finance*, *27*(4-5), 397-418.

Watkins, T. A. (2018). Informal Finance. *World Scientific Book Chapters*, 125-163.

****