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MODERATING INFLUENCE OF FIRM SIZE ON THE INTERRELATIONSHIP BETWEEN FRAUD RISK MANAGEMENT PRACTICES AND FINANCIAL PERFORMANCE OF MICROFINANCE INSTITUTIONS IN KENYA

¹Jared Mosoti, ²Andrew Nyangau, ³Mactosh Onwong'a

¹ PhD Student Kisii University - jmosoti451@gmail.com

²Senior Lecturer Department of Accounting and Finance Kisii University

³Senior Lecturer, Department of Accounting and Finance, Kisii University

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Abstract

Efforts to curb fraud are viewed as critical investments for financial institutions due to the significant threat posed by this vice and the liquid nature of their products. To address this menace, financial institutions, including microfinance institutions (MFIs), have implemented fraud risk management practices. While larger financial institutions can afford comprehensive measures to curb fraud, MFIs often rely on less sophisticated practices despite being the most susceptible to financial improprieties. Furthermore, evaluating the overall effect of these practices on financial performance is critical to assessing their effectiveness. The objectives of this study were twofold: first, to determine the effect of fraud risk management practices on the financial performance of microfinance institutions in Kenya; second, to examine the moderating effect of firm size on the relationship between fraud risk management practices and the financial performance of MFIs in Kenya. The study was anchored in the fraud management lifecycle theory and the market power and efficiency structure theories. It focused on twelve deposit-taking microfinance institutions operating in the Nairobi region of Kenya between 2016 and 2020. The study adopted a descriptive research design, using cross-sectional data computed from the average financial results for the five-year period from 2016 to 2020. Purposive and stratified random sampling methods were used to select a sample of 281 respondents, including finance, ICT, operations, audit, and litigation managers and staff. Descriptive and inferential statistics were employed to analyze the data. The results revealed that fraud risk management practices had a positive and significant effect on financial performance by reducing incidents of fraud. Regarding firm size, the study concluded that firm size had a significant moderating effect on the relationship between fraud risk management practices and the financial performance of large MFIs. In contrast, the moderating effect on the relationship between fraud risk management practices and the financial performance of small MFIs was insignificant. The study concluded that, to enhance financial performance, MFIs should implement fraud risk management practices, given their positive and significant impact. The study recommends that MFIs invest substantially in fraud risk management to reduce fraud incidents and improve financial performance. Additionally, the management of microfinance institutions should continually evaluate and update their practices to stay abreast of evolving fraud tactics. Regarding firm size, the study recommends that MFI management strategically invest to increase earnings and market share to capitalize on the benefits of fraud risk management practices associated with economies of scale

Keywords; *Fraud Risk Management Practices, Financial Performance, Fraud Management Lifecycle Theory, Firm Size*

Introduction

Fraud and financial improprieties are observed globally. Major scandals, such as Enron (2001), WorldCom (2002), Freddie Mac (2003), American International Group (AIG) (2005), Lehman Brothers (2008), and Satyam (2009), reveal that fraud is a global phenomenon. The PwC Global Economic Crime and Fraud Survey of 2022 reported that 51% of organizations experienced fraud in the previous two years, marking the highest rate ever recorded. Aviva's Fraud Report in 2021 noted that the banking industry is disproportionately affected by fraud, with a year-on-year increase of 1,318%, an alarming rate. The Global Fraud and Risk Report of 2021 and 2022 estimated the global value of bribery at \$1.75 trillion annually, equivalent to slightly over 1% of global GDP. Similarly, UN reports on fraud indicate that approximately 10–25% of the value of public contracts is lost to corruption. The end result of fraud is the loss of revenue for shareholders, employees, government taxes, and, for financial institutions, customer deposits. This underscores the need for urgent interventions, such as implementing fraud risk management practices to mitigate the effects of fraud (Olongo, 2013).

Efforts to curb fraud are viewed as critical investments for financial institutions due to the significant threat posed by this vice. The risk of fraud is higher in the financial sector because of the liquid nature of its products. The Central Bank of Kenya (CBK) Supervisory Report of 2020 cited fraud as one of the major contributors to losses suffered by microfinance institutions (MFIs), which amounted to Ksh 2.084 billion in 2020. A similar observation was made by the Association of Certified Fraud Examiners (ACFE) in their 2016 report, which indicated that MFIs lost between 5–8% of their annual revenue to financial improprieties. Ochieng (2018) asserts that fraud is one of the major

contributors to losses in Kenya's financial sector. Similarly, Ngui (2018) identified fraud as a major cause of concern across multiple sectors in the country.

Fraud risk management practices are among the key tools aimed at curbing fraud in organizations and government agencies. Wangu (2021) opines that fraud risk management techniques are vital for preventing, detecting, and countering fraud. According to the KPMG report on Fraud Risks (2010), fraud risk management practices are actions designed to curb, detect, or respond to actual or potential cases of corporate fraud. These practices involve approaches to prevent financial crimes, assess fraud risks, and develop concrete responses to mitigate risks and eliminate opportunities for fraud. They include strengthening control systems, installing machines or mercury lights to detect forged notes, implementing strict disciplinary actions to deter staff, and deploying physical and electronic surveillance systems (Gbegi & Odebisi, 2014). In practical terms, fraud risk management techniques are measures implemented by management to prevent, detect, and deter financial crimes. These measures include physical and electronic surveillance equipment, such as CCTV cameras, physical monitoring of managers, monitoring of computer log-ins, financial procedures, and awareness training (Bassey, 2018).

The study explored three major aspects of fraud risk management techniques: the creation and maintenance of mechanisms for identifying and documenting fraud risks, the installation of surveillance and precautionary measures to detect and deter fraud risks, and the organization's responses to fraud risks. As Gbegi and Odebisi (2014) assert, microfinance institutions, like other financial institutions worldwide, have implemented advanced fraud risk management systems

due to their handling of liquid cash. Despite these advanced technologies, these institutions continue to experience losses due to fraud. Furthermore, it remains unclear whether these measures are influenced by the size of the microfinance institutions.

Firm Size

Economists view firm size as a critical factor in the firm's ability to use its resources to compete in the market. Mulwa (2020) posits that Firm Size indicates the competitive power of the firm in the market and tacitly explains its capacity to use its resources to improve profits. Wayongah and Mule (2019) identified firm size as a fundamental variable in explaining the Performance of a Firm. Theoretically, this view is supported by the traditional neoclassical explanation of the firm's performance using the economies of scale. Papadogonas (2006) posits that Economies of scale accrue due to the levels of specialization, negotiated interest rates, and better discounts. At the same time, the degree of control and monitoring is affected by Firm Size. Whereas large firms enjoy the economies of scale, small firms enjoy a close and tight control of their operations. The debate on the influence of economies of scale in the Microfinance subsector still dawdles and provides an exciting dimension of inquiry.

To measure the effect of firm size, it is critical to establish appropriate metrics for determining the size of an institution. Various parameters are used to determine firm size across different sectors of the economy, including the industry market share index, total assets, annual revenue turnover and growth, number of employees, revenue per employee, and number of firm outlets (Fazil, 2018). The Central Bank of Kenya classifies deposit-taking microfinance institutions (MFIs) as large, medium, or small. Shibutsea et al. (2019), in their study *The Effect of Leverage and Firm Size on the Financial*

Performance of Deposit-Taking SACCOs in Kenya, used the market share index as a proxy for firm size. Similarly, Mulwa (2020), Onsongo et al. (2019), Mutunga and Owino (2017), and Nzioka (2013) used market share as a proxy for firm size. Likewise, the Central Bank of Kenya (CBK) uses market share to classify microfinance institutions. Based on these observations, this study adopts the market share index as a reliable measure of firm size.

Problem Statement

Fraud risk management practices help curb fraud in the financial sector, as demonstrated by the studies reviewed above. However, their contribution to the financial performance of microfinance institutions (MFIs) remains debatable due to the substantial costs of installing and maintaining these systems. In Africa, particularly in Kenya, MFIs have continued to report negative results due to fraud, with nine out of thirteen microfinance institutions operating between 2018 and 2020 reporting losses of Ksh 1.437 billion, Ksh 311 million, and Ksh 2.084 billion, respectively. Furthermore, reports by the Association of Certified Fraud Examiners (ACFE) and other prior studies indicate that 5–8% of financial losses in these institutions are caused by fraud, despite the use of sophisticated fraud risk management tools. This raises critical questions about the effectiveness of fraud risk management on the financial performance of MFIs. Consequently, this study examines the nature of the effect of fraud risk management practices on the financial performance of MFIs in Kenya. Neoclassical economists argue that economies of scale play a critical role in the effectiveness of these approaches in curbing fraud and enhancing financial performance. However, while large firms benefit from economies of scale, they face challenges in controlling their operations. Small firms, on the other hand, experience

diseconomies of scale but are better positioned to monitor their operations closely. This led to the second focus of this study: the effect of firm size on the relationship between fraud risk management techniques and the financial performance of MFIs in Kenya. Thus, the research problem was guided by the following questions: How do fraud risk management practices contribute to the financial performance of microfinance institutions? And What is the effect of firm size on the relationship between fraud risk management practices and the financial performance of MFIs?

Significance of the Study

This research makes academic contributions by filling in the gap in the findings on the effect of fraud risk management techniques on financial performance and the effect of firm size in the relationship between the two variables. The findings of this study are valuable to future researchers who may want to pursue this topic further. The findings of this research provide a sustainable and reliable source of data for future researchers in fraud risk management techniques because it has been scientifically collected and tested.

For practical purposes, the findings of this study guide investors, management, forensic auditors, and forensic accounting trainers in setting up mechanisms for deterring, detecting, and responding to the risk of fraud in financial institutions and improving Financial Performance. Using the findings of this study, the shareholders can determine the optimum level of operation to maintain in the organization to minimize losses and increase the returns on assets, by putting measures to curb fraud which is responsible for losses in MFIs.

The findings of the study will be of immense benefit to the managers of Microfinance institutions and other firms faced with financial improprieties. Further, the results

act as a planning and policy-making base for managers to develop and implement watertight techniques for preventing, investigating, and litigating fraud.

Forensic auditors also find the outcome of this study valuable as it helps them determine the most suitable techniques to use for Fraud Risk Management. In addition to these, the findings of this study find use among the developers of the forensic accounting curriculum and training programs, who will determine the most appropriate skills and knowledge to develop for fraud risk management.

The Microfinance sub-sector is critical in the government's achievement of its economic agenda that aims to empower the micro and small enterprises and the low-income cadre in society. Their empowerment through the supply of affordable loans has a long-term effect on the eventual realization of Vision 2030 and the sustainable development goals of SDGs. Microfinance institutions advance loans to SMEs in the Agriculture, Building, Construction, Manufacturing, and Health sectors that may not access loans from commercial banks. Without the MFI's funds, these firms may collapse or have reduced growth, slowing down the country's growth and progress towards attaining the sustainable development goals and realization of Vision 2030. The findings of this study highlight the fraud risk management techniques used to prevent, identify, and fight financial improprieties to improve Financial Performance. Further, it prescribes the optimum size of operation that MFIs can maintain to enhance the efficacy of fraud risk management techniques on Financial Performance.

Objective of the Study

1. To determine the effect of fraud Risk Management Practices on the financial Performance of MFIs in Nairobi Kenya

2. To assess the effect of firm size on the relationship between Fraud Risk Management and Financial Performance of deposit taking MFIs in Nairobi Kenya.

Hypothesis

The study investigated two hypotheses:

Ho1. Fraud risk management has no statistically significant effect on the financial performance of Deposit-taking Microfinance Institutions in Kenya.

Ho2. Firm Size has no statistically significant moderating effect on the relationship between

fraud Risk Management and Financial Performance.

Theoretical Background

Fraud management lifecycle theory

Wesley (2004), asserts that to effectively manage the Fraud Management Lifecycle, one must start by understanding the eight stages of the lifecycle which include: Deterrence, Prevention, Detection, Mitigation, Analysis, Policy, Investigation, and Prosecution. Further, he opined that Effective fraud management requires a balance in the competing and complementary actions within the Fraud Management Lifecycle. The links between the different stages or nodes in the fraud management network form the foundations of the fraud management lifecycle theory. Wangu (2020), asserts that the achievements and failures in fraud management are the climax of the final step of the lifecycle which is prosecution. Failures occur because the fraud was successful, while successes occur because the fraud was uncovered, the suspect was identified, apprehended and charges brought against him/her/them. The prosecution stage comprises the recovery of assets, criminal reparation, and conviction with its corresponding disruptive value (Wesley 2004).

This theory is vital since Githecha (2013) showed the steps of managing the risk of fraud

in a sequential manner. This theory exhibits what institutional processes should be implemented to successfully manage fraud. The theory however fails to explain the causes of fraud in MFIs. The theory however presumes consistent cultural, regulatory, and technical applications in fraud control. This theory makes no effort to explain fraud management measures in situations where such systems and procedures fail it however points at clear guidelines that should be followed by organizations to manage the threat of fraud.

Wangu (2021), carried out a study on the effect of Fraud risk management techniques on the financial performance of Savings and Credit Cooperative Organizations in Kenya. the study focused on three aspects of preventive detective and responsive. The study used a descriptive research design and a questionnaire to collect data from 545 SACCOS and used both descriptive and inferential statistics to analyze the data. the study findings showed that the three variables explained 77.6% of financial performance. this showed that these firms relied heavily on fraud risk management for their financial performance. The study findings further showed that fraud risk management techniques positively influenced financial performance by improving its competitive advantage.

Jones (2019), carried out a study on Fraud Risk Management and Corporate performance of Deposit Money Banks in Nigeria. The study used secondary data where data were extracted from annual reports and accounts of fifteen (15) deposit money banks quoted on the Nigerian stock exchange, for the period 2012-2018. The data

for fraud risk management was obtained from the International Fraud Report/checklist (IFRC). Financial performance was measured using return on asset and return on equity. In testing the research hypothesis, the study adopted both descriptive statistics and simple regression techniques. The findings revealed that IFRC has a significant effect on return on assets while IFRC revealed an insignificant effect on the return on equity of deposit money banks in Nigeria. The study recommended that the regulator and supervisor of DMBs should tighten their grip on regulating and supervising these banks to reduce incidences of fraud.

Hussaini, Bakar, & Yusuf, (2019). carried out a study on the effect of fraud risk management and the financial performance of banks in Nigeria. The focus was on the process of screening, editing, and preparation of financial reports. The study used a survey research design and self-administered questionnaires were used to collect data. The target population was the senior managers in the risk management departments, the internal control department, and the branch managers. A total of 417 respondents were involved in the study. The instrument was arranged using a 5-point Likert- scale. The data was analyzed using both descriptive and inferential statistics. The findings showed that fraud risk management affected the financial performance of commercial banks in Nigeria. They recommended that the banks should put in place effective fraud risk management mechanisms to improve their performance.

Ngui (2018) did a study on the effect of financial fraud risk management practices on the profitability of state corporations in Kenya. The techniques used for fraud prevention included staff rotation, employee and third-party screening, training, internal audit, and security checks. The study used an exploratory research design with census

sampling being used to select one senior personnel from the department involved in fraud management. The target population was the 27 commercial state corporations that were in operation then. The study was anchored on the following theories; Classical fraud theory; Fraud management lifecycle theory and deterrence theory. A sample of 27 respondents was selected from the state corporations and used for the study. The questionnaire was used to collect primary data and an inferential statistical tool of regression was the model adopted for data analysis. The findings showed that preventive financial fraud risk management strategies were effective in curbing fraud and positively influenced the profitability of commercial state corporations. The study concludes that the major frauds in this organization are: the concealment of material statements, demand draft fraud, rogue traders, forgery and fraudulent documents, increasing vendor invoices, and inconsistent overtime hours. The study concludes that fraud prevention techniques of; internal controls, training; staff rotation, employee and third-party screening, training, internal, Audit, and security checks were positively affecting the financial performance of the state corporations. The recommendations are, the organizations should make sure that employees in the state corporations are informed about the penalties of engaging in fraudulent activities and employees should be invigorated to report fraud.

While most studies have used the general indicators of fraud risk practices of preventive, detective, and responsive, few studies have considered specific tools for identifying, recording, and responding to fraud which were used in this study. Further, Studies by Jones have yielded contradicting results. The study used return on equity as a proxy for financial performance and found that fraud risk management had an

insignificant effect, on financial performance of deposit money banks in Nigeria. Further, the above study was done in Nigeria, There is a need to look at the effect of fraud risk management on financial performance in the Kenyan context.

Firm Size

The Market Power and Efficiency Structure Theories

According to the Market Power (MP) theory, market power is the outcome of stronger external market forces. MP is an organization's ability to raise prices without losing all of its customers. Market power in financial institutions is measured in two ways, similar to other commercial organizations: searchability and product and service distinctiveness. A strategic equilibrium point is reached when the trade-off between loss of legitimacy and distinction is maximized (Shepherd, 2000). Similarly, one needs to consider the trade-off between security and search-ability.

According to Tregenna (2009), the market power hypothesis applied in the banks postulates that the performance of financial institutions is affected by the market structure of the industry. The market power theory has two distinct approaches, the Structure Conduct Performance (SCP) and the Relative Market Power (RMP) hypothesis. According to the SCP approach, the level of concentration in the banking market gives rise to potential market power by banks, which may raise their profitability. Banks in more concentrated markets are more likely to make 'abnormal profits' by their ability to lower their deposit rates and charge higher loan rates because of collusive or monopolistic reasons than firms operating in less concentrated markets, irrespective of their efficiency (Tregenna 2009).

The relative Market Power (RMP) hypothesis posits that bank profitability is influenced by

its market share. It assumes that only large banks with differentiated products can influence prices and increase profits. With the advent of technology and advanced methods of monitoring activities in the banks, incidences of fraud have reduced and impacted financial performance.

Efficiency Structure Theory considers the efficiency factor and states that firms with superior efficiency improve their market shares and become more profitable (Abbasoglu, Ahmet, and Gunes 2007). Increased concentration and profitability are said to result from improved size and managerial efficiency, according to the Efficiency Structure Theory (ES). Olweny and Shipho (2011) claim that balanced portfolio theory gave the analysis of bank performance another angle. It claims that the decisions made by management and overall policy decisions determine the bank's portfolio composition, profit, and return on assets.

This theory works on the assumption that bank profits are influenced by the market share.

The theory also operates under the presumption that the only companies capable of outlasting their rivals and making monopolistic profits are those with sizable market shares and distinctive portfolios. Moreover, it makes the assumption that increased scale and managerial effectiveness result in greater concentration and profitability (Shepherd,1986).

This study makes use of these theories to explain how firm size affects the connection between fraud Risk management and financial performance.

Onsongo, Mwangi, and Muathe (2019), studied the moderating influence of firm size on the link between operational risk and financial performance using data from commercial and services organizations that

are listed on the Nairobi Securities Exchange. The agency theory served as the study's foundation. The 14 companies mentioned within this sector were the study's target population, and explanatory research design was used in the study. Secondary panel data from published yearly reports for the years 2013 to 2017 were used in the study. Based on the Hausman specification test, the random effect model was implemented in conjunction with the panel regression model. Results indicated that return on assets (ROA), a proxy for performance, indicated a positive

but negligible impact of operational risk. The results additionally demonstrated that the association between operational risks and performance was moderated by business size. It was determined that a company's firm size affected how well it managed risk; that is, organizations with larger total assets performed better at-risk management than their counterparts. The report suggests that in order for businesses to show better financial results, they should control their operational risks by putting risk management plans into place and growing their overall asset base.

Table 1: Summary of Literature Review

Author (Date)	Subject	Variables	Methods	Findings
Wangu M.C. (2021),	Fraud risk management techniques and financial performance of SACCOs in Kenya	Preventive Detective and Responsive	Regression Model	FRMT positively influenced financial performance
Jones A.S. (2019)	Fraud Risk Management and Performance in Deposit Money Banks in Nigeria	International Fraud Report/checklist (IFRC)	Regression Model	IFRC has a significant effect on ROA IFRC had an insignificant ROE
Hussaini, U., Bakar, A. A., & Yusuf, M. B. O (2019).	fraud risk management and financial performance in banks in Nigeria	Screening, Editing, and Preparation of Financial Reports	Regression	FRM had an effect on financial performance
Ngui (2018)	Fraud risk management practices and profitability in state corporations in Kenya	Fraud Prevention	Regression	FRM positively influenced the profitability
Onsongo, Mwangi & Muathe (2019)	Operational Risk and Financial Performance's Relationship: The Moderating Effect of Firm Size	Financial Performance Operational Risk. Firm Size	Regression	Firm Size positively influenced the relationship between operation Risk Financial Performance

Source: Author 2024

Table 1 above shows that the majority of the studies on this topic found a positive relationship between fraud risk management and financial performance. few others found

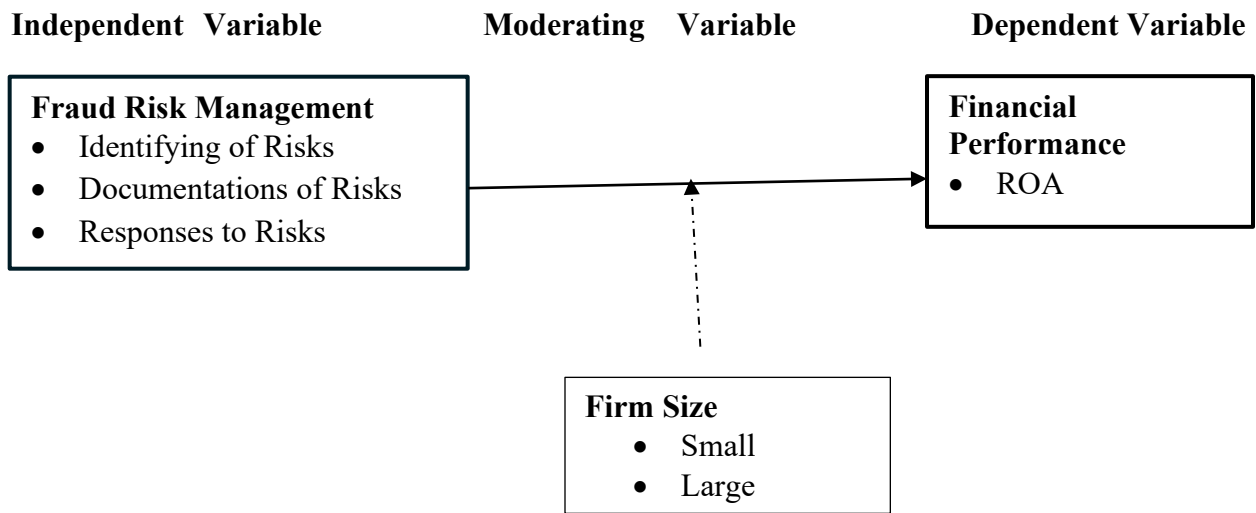
contradicting results such as Jones 2019 who found that fraud risk management had a negative effect on the return on equity thus warranting a study to resolve the conflicting

results. Further, the proxies of fraud risk management as used in the reviewed studies differ from those that were used in this study

thus creating a conceptual gap that the study attempted to fill.

Conceptual Framework

Figure 1: Conceptual Framework



Source: Author 2024

Figure 1 above shows the direct relationship between Fraud risk management and Financial Performance and the moderating effect of the firm Size on the relationship between the independent variable (the proxies of fraud Risk Management) and the independent variable financial performance which was measured by return on assets (ROA).

Research and Methodology

The study adopts a descriptive research design. The study involved all Deposit-taking Microfinance Institutions in the Nairobi region of Kenya. The target population was 387 from management and operations, Finance and credit control, Internal and Risk,

External Audit, ICT, and Litigation departments of the Twelve Microfinance Institutions operating in Kenya between 2016 and 2020. The study used a structured self-administered questionnaire to collect primary data and a data capturing sheet to collect secondary data from the Published financial statements of all the Deposit-taking Microfinance Institutions for 2016 to 2020. The researcher used purposive and stratified random sampling techniques to select a sample size of 281. The researcher used pretesting and expert advice to test the validity of the data collection instruments. To test for external reliability, the researcher used a pilot test.

Table 2: Research Methodology Matrix

Objective	Hypothesis	Method of Analysis	Interpretation
To evaluate the effect of Fraud Risk management on the financial performance of Deposit-taking MFIs in Kenya	$H0_1$: Fraud risk management has no statistically significant effect on the financial performance of MFIs in Kenya.	Karl Pearson Correlation, p-value t-test, F-test, and Regression model	Accept if: $P < 0.05$ or F value $>$ F-critical t-value $>$ 1.96
To evaluate the Effect of Firm Size on the relationship between Fraud Risk Management and Financial Performance	$H0_2$: Firm Size has no Statistically Significant effect on the relationship between Fraud Risk Management and Financial Performance of MFIs in Kenya.	Karl Pearson Correlation, p-value t-test, F-test, and Regression model	Accept if: $P < 0.05$ or F value $>$ F-critical t-value $>$ 1.96

Source: Author 2024

Table 2 summarizes the methodology for measuring the variables in the study. The objective was to measure the direct relationship between the dependent and independent variables. The researcher would fail to reject the null hypothesis if the p-value is less than 0.05 alternatively the use of the F-value can also give direction on the verdict on the variables.

Instrumentation

Reliability

Table 1: Reliability Test Results

Study Variables	Test Items	Alpha Coefficient
Fraud Risk Management	12	0.716

Source: Field Data 2022

As shown in Table 3 above, the independent variable fraud risk management had an internal reliability of more than 0.7 which

The instruments used for collecting primary data were tested for reliability using Cronbach's coefficient alpha. This coefficient assesses the internal stability or consistency of the items in a questionnaire. It is considered a reliable measure of dependability because, when all other factors are held constant, greater similarity in test content and conditions leads to higher internal consistency and reliability. Sekaran (2013) asserts that the closer Cronbach's alpha is to 1, the higher the internal consistency and reliability. The findings of the pilot study are presented in Table 3.

showed that the item under study using the instruments (questionnaire) is reliable.

Table 4: Characteristics of the Study Sample

Gender		Academic			Working Experience			Age of MFIs		
Male	Female	Diploma/ Certificate	Degree	Postgraduate	0-5 yrs	5- 10yrs	10+ yrs	0-5 yrs	5- 10 yrs	10+ yrs
113	91	74	87	43	115	78	11	0	6	6

Source: Field Data 2022

Table 4 above shows the demographic characteristics of the sample size used for the study which was 204. This was used to collect the primary data used in the study

The secondary data was obtained from the reported financial statements of the MFIs for the five years under study 2016 to 2020.

Secondary Data

Table 5: Net Profit After Tax of MFI

DTMs	Net Profit After Tax (Kshs Millions)					
	2016	2017	2018	2019	2020	Average
Large						
Kenya Women MFB Ltd	224	19	-827	-402	-1,485	-494.2
Faulu MFB Ltd	43	143	181	312	-399	56
Rafiki MFB Ltd	-298	-329	-192	-3	-42	-172.8
Medium						
SMEP MFB Ltd	-134	-32	-22	6	-69	-50.2
Caritas MFB Ltd	-74	-71	-85	-51	5	-55.2
Sumac MFB Ltd	14	5	5	9	7	8
U & I MFB Ltd	7	11	8	4	12	8.4
Small						
Century MFB Ltd	-41	-63	-25	-43	-60	-46.4
Key MFB Ltd	-12	-17	-14	-13	-34	-18
Uwezo MFB Ltd	4	-9	-27	-31	-18	-16.2
Maisha MFB Ltd	-31	-42	-119	-38	65	-33
Daraja MFB Ltd	-28	-47	-32	-32	-40	-35.8
Choice MFB Ltd	-35	-38	-42	-29	-26	-34
Total	-361	-470	-1,191	-311	-2,084	-883.4

Source: Central Bank of Kenya

Table 5 above shows the net profit after tax of the 12 MFIs that were involved in the study.

Table 6: Gross Assets of MFIs

DTMs			Gross Assets Kshs Millions					
			2016	2017	2018	2019	2020	Average
Large								
Kenya Women MFB Ltd			32,153	31,452	32,925	30,613	28,038	31036.28
Faulu MFB Ltd			27,369	26,844	30,981	29,682	29,279	28830.98
Rafiki MFB Ltd			7,327	7,851	7,631	6,804	6,005	7123.563
Medium								
SMEP MFB Ltd			2,659	3,175	3,421	3,314	3,446	3202.921
Caritas MFB Ltd			574	924	1,333	1,712	2,284	1365.464
Sumac MFB Ltd			803	1,222	1,666	2,013	2,310	1602.894
U & I MFB Ltd			171	404	567	686	805	526.518
Small								
Century MFB Ltd			225	307	444	336	131	288.5022
Key MFB Ltd			351	430	510	406	307	400.8712
Uwezo MFB Ltd			214	253	279	168	134	209.6188
Maisha MFB Ltd			171	317	381	1,264	1,665	759.518
Daraja MFB Ltd			180	178	184	133	296	194.1522
Choice MFB Ltd				136	125	94	124	95.8
			1,625	2,026	1,923	1,137	54	1352.976
Total			72,510	73,494	80,447	77,225	1,046	60944.48

Source: Author 2024

Table 6 shows the gross assets of the MFIs for the years 2016 to 2020.

Table 7: Return on Assets

	MFI	2016	2017	2018	2019	2020	Average
	Large						
1	Kenya Women	0.69665991	0.06041	-2.51177	-1.31317	-5.29638348	-1.67285
2	Faulu MFB Ltd	0.15711258	0.532707	0.584229	1.051142	-1.36275146	0.192488
3	Rafiki MFB Ltd	-4.06725049	-4.19055	-2.51605	-0.04409	-0.69941715	-2.30347
	Medium						0
4	SMEP MFB Ltd	-5.04023727	-1.00787	-0.64309	0.18105	-2.00232153	-1.70249
5	U & I MFB Ltd	4.10340583	2.722772	1.410935	0.58309	1.49068323	2.062177
6	Caritas MFB Ltd	-12.8848253	-7.68398	-6.37659	-2.97897	0.218914186	-5.94109
7	Sumac MFB Ltd	1.74244649	0.409165	0.30012	0.447094	0.303030303	0.640371
	Small						0
8	Key MFB Ltd	-3.41533943	-3.95349	-2.7451	-3.20197	-11.0749186	-4.87816
9	Choice MFB Ltd	-28.2258065	-27.9412	-33.6	-30.8511	-20.9677419	-28.3172
10	Century MFB Ltd	-18.2619114	-20.5212	-5.63063	-12.7976	-45.8015267	-20.6026
11	Uwezo MFB Ltd	1.86833821	-3.55731	-9.67742	-18.4524	-13.4328358	-8.65032
12	Maisha MFB Ltd	-18.1722258	-13.2492	-31.2336	-3.00633	3.903903904	-12.3515
	Total	-81.4996332	-78.3797	-92.639	-70.3832	-94.721365	-83.5246

Source: Researcher 2022

Table 7 shows the ROA of the MFIs for the five years. The figures for the return on Assets were obtained using the formula below.

$$ROA = \frac{\text{Net Profit After Tax}}{\text{Gross Assets}} \times 100$$

Gross Assets for MFI is provided by the Central Bank of Kenya guidelines. Financial Assets that contribute to the MFIs Gross Assets are classified into six main categories:

Currency and deposits; Loans; Securities; Financial derivatives; Other accounts receivable/payable; Shares and other equity

This paper adopted the CBK definition of Gross Asset Value (GAV) of MFIs which is the total market value of all managed investments, including equity, debt, and joint venture positions of the MFIs for the periods 2016-2020.

Descriptive Statistics

Table 8: Descriptive Statistics for Fraud Risk Management

	N	Min	Max	Mean	Std. Dev	Skewness	Kurtosis
The control systems used by the organization to prevent fraud risks are adequate	204	2.00	5.00	3.9020	.70898	-.779	1.136
The organization uses data gathering tools such as questionnaires, interviews, and others to identify fraud risk areas	204	1.00	5.00	3.9118	.88338	-.519	.015
The identified fraud risks are documented in the fraud risk register of the organization	204	1.00	5.00	3.9314	.86827	-1.417	2.762
The identification of fraud risks has reduced the incidences of losses due to fraud in the organization	204	1.00	5.00	3.8333	.92671	-1.725	3.084
The organization has taken precautions against possible fraudulent activities	204	1.00	5.00	3.7255	.96395	-1.324	1.537
The organization has installed surveillance equipment in identified and suspected fraud risk areas	204	1.00	5.00	3.8333	.87193	-.524	-.064
The surveillance and other precautions have reduced the incidences of losses due to fraud in the organization	204	1.00	5.00	3.6078	1.08421	-.808	.246
The organization responds quickly to identified fraud risks	204	1.00	5.00	3.6961	.85142	-.436	-.101
When fraud risks are identified, the organization does nothing about them	204	1.00	5.00	3.3284	1.19316	-.220	-1.082
When fraud risks are identified the organization implements procedures to curb the risk	204	1.00	5.00	3.7500	.83710	-.875	.776
When fraud risks are identified, the organization transfers the risks to third parties through contracts and insurance	204	1.00	5.00	3.5441	1.09320	-.731	-.331
The organization's response to fraud risks has reduced the incidences of losses due to fraud	204	1.00	5.00	3.4657	1.21315	-.371	-.879
Valid N (listwise)	204			3.71078	0.95795	-0.81075	0.591583

Source: Field Data 2022

Table 8 shows the ratings on the level of agreement by respondents with the statements for Fraud Risk Management in the organization. In the ratings 1 depicted strongly disagree, number 2 disagreed, 3 neutral, 4 agreed, and 5 strongly agreed. The number of respondents in all cases was 204, with a minimum score of 1 and a maximum score of 5. The mean score for fraud risk

management was 3.71078, with a low standard deviation of 0.95795. The individual statement scores varied evenly, with the statement The organization's reaction to fraud risks has reduced the incidences of losses due to fraud had the largest standard deviation (1.31813) and mean of (3.2533).

Table 9: Descriptive Statistics Summary for Firm Size

	N	Min.	Max	Mean	Std. Dev.	Skewness	Kurtosis
						Std. Stat	Std. Error Stat
Firm Size	204	.21	39.57	16.4254	17.81181	.489	.170
Overall Score	204						

Source: Field Data 2022

Table 9 show the analysis of the market share index of the MFIs. It shows that the minimum market share held by an MFI was 0.21, while the maximum market share held by an MFI was 39.57%.

Findings and Discussion

Analysis on the effect of Fraud Risk Management and Financial Performance

Model Summary

The model summary below shows the values of R, R², and the adjusted R², as well as the standard error of the estimates, which were used to determine how well a regression model, fitted the data. the summary showed the extent of variation in the outcome variable to the predictor variables in the model. The results are shown in Table 10.

Table 10: Model Summary for Fraud Risk Management & Financial Performance.

Model	R	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
				R Square Change	F Change	df1	df2	Sig.
1	.408 ^a	.166	.162	.166	40.260	1	202	.000

a. Predictors: (Constant), Composite Effect of Fraud Risk Management

b. Dependent Variable: Financial Performance

Source: Author 2024

The results as shown in Table 3 indicated that the value for R² was 0.166 or 16.6%. this implied that 16.6% of the variations in financial performance as measured by Return

on Assets in Kenya were explained by Fraud Risk Management. While 83.4% of the variations in ROA were explained by other factors. The weak relationship might be

explained by numerous other factors that contribute to the profit of MFIs like the demand and supply of loans, prevailing interest rates, level of competition and firms' competitiveness

ANOVA on FRM and Financial Performance

The Analysis of Variance (ANOVA) was used to ascertain the fitness of the model in predicting the link between the dependent and independent variables. In this case, a link between fraud risk management and financial performance. the results of the analysis for the variables are presented in Table 11.

Table 11: ANOVA on Fraud Risk Management and Financial Performance

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1633.970	1	1633.970	40.260	.000 ^b
	Residual	8198.261	202	40.585		
	Total	9832.231	203			

a. Dependent Variable: Financial Performance

b. Predictors: (Constant), Composite effect of Fraud Risk Management

Source: Author 2024

Table 11 shows the computed F values and the p-value. The calculated value of F (1,202) = 40. 26; p-value = .000). Using the p-value to check the model's fitness, showed that the predictor variable (Fraud Risk Management) and the dependent variable (Financial Performance) were fit for analysis of the relationship between them since the p-value obtained .000 < 0.05.

The results were in agreement with the study by Hussaini, Bakar, and Yusuf, (2019), who concluded that fraud risk management has a

positive relationship with the financial performance of commercial banks.

Coefficients on Fraud Risk Management and Financial Performance

Based on the foregone results and discussion, the study conducted a regression coefficient to establish the mean change in financial performance for a unit variation in fraud risk management among deposit-taking microfinance institutions. The findings are presented in Table 12.

Table 12: Coefficients on Fraud Risk Management and Financial Performance

Model		Unstandardized Coefficients		Standardized Coefficients		Sig.
		B	Std. Error	Beta	t	
1	(Constant)	-42.382	6.055		-6.999	.000
	Composite Effect of Fraud Risk Management	10.292	1.622	.408	6.345	.000

a. Dependent Variable: Financial Performance

Source: Author 2024

Table 12 presents the results of the hypothesis test using the t-test. The obtained t-value of 6.345 at a 95% confidence level was higher than the critical t-value of 1.960 for the sample size used, leading to the rejection of the null hypothesis.

H₀₁: Fraud risk management has no statistically significant effect on the financial performance of deposit-taking microfinance institutions in Kenya, was rejected.

The study derived the following simple linear regression equation for the relationship between fraud risk management and financial performance:

$$Y = -42.382 + 10.292X_1$$

The study findings align with Wangu (2021) and Ngui (2018), who demonstrated a

positive relationship between fraud risk management and financial performance, but differ from the findings of Jones (2018).

Analysis of the Effect of firm Size on the relationship between Fraud Risk Management and Financial Performance

Model Summary on Effect of Categories Firm Size on Fraud Risk Management and FP

The model summary on the moderating effect of firm size (Small and Large) in the relationship between fraud Risk management techniques and financial performance is shown in Table 13.

Table 13: Model Summary on Effect of Firm Size on Fraud Risk Management & Financial Performance

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1.	.486 ^a	.236	.221	6.14230	.236	115.402	4	199	.000
2.	.802 ^b	.642	.627	.62209	.642	42.670	4	95	.000
3.	.678 ^b	.459	.405	6.77975	.459	8.497	4	40	.000

a. Weighted Firm Size = Large & Small

b. Predictors: (Constant), Composite effect of Fraud Risk Management

Source: Author 2024

Table 13 shows the moderating effect of firm size. In the table, 1 = Results before Moderation, 2. = Large MFIs, 3. = Small MFIs. The R² value before moderation was 23.6%. After moderation, the R² for large firms was 64%, an increase of 40.4%, while the R² for the small-size firms was 45.9%, an increase of 22.3%. This showed that both sizes of firms positively moderated the relationship between forensic accounting and financial performance. However, the large

firms had a strong positive effect on the relationship, compared to the small firms.

ANOVA On the Effect of Firm Size on the relationship between FRM and FP

Analysis of Variance (ANOVA) shows the moderating effect of Firm Size the relationship between FRM and financial performance (FP). The results of the analysis are presented in Table 14.

Table 14 ANOVA On Effect of Firm Size on Fraud Risk Management & Financial Performance

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2324.386	4	581.096	15.402	.000b
	Residual	7507.846	199	37.728		
	Total	9832.231	203			
2	Regression	66.053	4	16.513	42.670	.000c
	Residual	36.765	95	.387		
	Total	102.818	99			
3	Regression	1562.344	4	390.586	8.497	.000c
	Residual	1838.599	40	45.965		
	Total	3400.944	44			

a. Weighted Firm Size = Large and Small

b. Dependent Variable: Financial Performance

c. Predictors: (Constant), Composite effect of Fraud Risk Management

Source: Author 2024

Table 14 shows the computed F values and the p-value. Where 1 = Results before Moderation, 2. = Large MFIs, 3. = Small MFIs. F (4,199) = 15.402 is the computed value, and the p-value is .000. The model was deemed suitable for examining the correlation between the moderator and the dependent and independent variables based

on the p-value, which was consistently .000 < 0.05.

Coefficients on Effect of Firm Size on relationship between Fraud Risk Management & Financial Performance

The results are shown in Table 15.

Table 15: Coefficients on Effect of Firm Size on the Relationship Between Fraud Risk Management & Financial Performance

Model		Unstandardized Coefficients		Standardized		Sig.
		B	Std. Err	Beta	t	
1	(Constant)	-77.052	10.030		-7.682	.000
	The composite effect of FRM	6.667	1.810	.264	3.684	.000
2.	(Constant)	-20.352	1.737		-11.715	.000
	The composite effect of FRM	1.931	.273	.469	7.072	.000
3.	(Constant)	-181.587	35.017		-5.186	.000
	The Composite effect of FRM	7.865	6.116	.184	1.286	.206

a. Weighted Firm Size = Large and Small

b. Dependent Variable: Financial Performance

Source: Author 2024

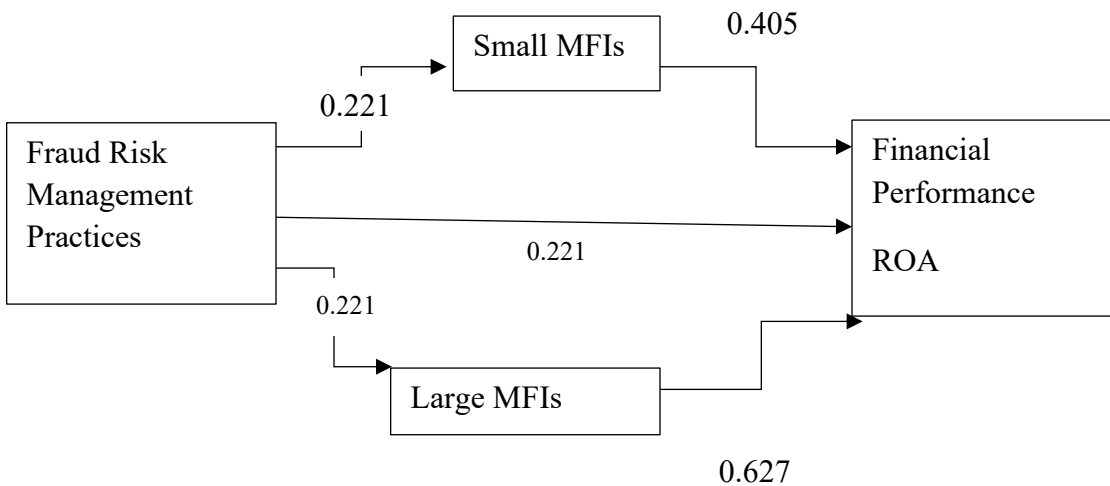
Table 15 shows the significance of firm size in the relationship between fraud Risk Management techniques and financial performance where 1 = Results before Moderation, 2. = Large MFIs, 3. = Small MFIs. In the results before moderation, the p-value for fraud Risk Management was 0.000. For large firms, the p-value was 0.000, While for small firms, the p-value was insignificant since it was greater than 0.05.

The moderating regression model for Large MFIs is given as:

$$Y = -20.352 + 1.931FRM$$

While the p-value for small firm being 0.206 was insignificant since it was higher than 0.05.

Figure2: Proposed Model



Source: Author 2024

Figure 2 shows the resulting model after moderation. The large firms will have a much bigger reap in financial performance (0.627) or 62.7% compared to the small firms (0.405) or 40.5%. this therefore shows that large firms will tend to benefit more from the fraud Risk Management Practices compared to small firms

Conclusion

Objective 1 of the study was to determine the effect of fraud risk management on the financial performance of microfinance institutions in Kenya. The researcher

concluded that fraud risk management had a weak positive relationship with the financial performance of Microfinance Institutions with an R² of 0.166 (16.6%). This meant that fraud risk management practices contributed to about 17% of the changes in financial performance of MFIs in Kenya. This complements Ochieng (2018) and the Association of Certified Fraud Examiners (ACFE) report of 2016 which showed that MFIs lost between 5-8% of their annual revenue to financial improprieties

Further, the study rejected the null hypothesis H_0 , which stated that Fraud risk management has no statistically significant effect on the financial performance of Deposit-taking Microfinance Institutions in Kenya. This is because the obtained t-value of 6.345 was higher than the critical t-value of 1.960.

This study contributes to the debate by asserting that fraud risk management practices positively contributed to financial performance of MFIs as measured by ROA. These results corroborate the findings by Hussaini, Bakar, and Yusuf, (2019), which also used ROA as the metric for financial performance. ROA focused on net profit as a percentage of the total assets that were used to generate the income. This included both the owner's capital and borrowed funds. To corroborate or rebut the findings, the study suggests that Similar studies be done using ROE. The use of Return on Equity to assess the performance of MFIs will narrow the scope of the study to profits attributable to the shareholders who are the true owners of the business. This may yield either reinforcing or conflicting results which will further expand the debate and eventually contribute to knowledge. Further, the study used Fraud management lifecycle theory in anchoring the study hypothesis, future studies can integrate the use of the Michael Faucaltian theory of Panopticism to explain the psychology of fraudster and how organizations can use panopticon type of surveillance to prevent the fraud phenomenon.

Further, since cyber-attacks have emerged as some of the major fraud risks facing microfinance institutions, Future studies should focus on the analysis of the cyber security measures in curbing fraud and contributing to financial performance.

The study recommends that financial institutions, other organizations, and

governments institutionalize fraud risk management practices such as tightening the recruitment process to hire individuals with high integrity, and constantly training them on how to prevent, detect, and respond to fraud.

Objective 1 of the study was to determine the effect of fraud risk management on the financial performance of microfinance institutions (MFIs) in Kenya. The researcher concluded that fraud risk management had a weak positive relationship with the financial performance of MFIs, with an R^2 of 0.166 (16.6%). This indicates that fraud risk management practices accounted for approximately 17% of the variation in the financial performance of MFIs in Kenya. These findings align with Ochieng (2018) and the Association of Certified Fraud Examiners (ACFE) report of 2016, which indicated that MFIs lost between 5–8% of their annual revenue to financial improprieties.

Furthermore, the study rejected the null hypothesis (H_0), which stated that fraud risk management has no statistically significant effect on the financial performance of deposit-taking microfinance institutions in Kenya. This rejection was based on the obtained t-value of 6.345, which was higher than the critical t-value of 1.960.

This study contributes to the debate by asserting that fraud risk management practices positively contribute to the financial performance of MFIs, as measured by return on assets (ROA). These results corroborate the findings of Hussaini et al. (2019), who also used ROA as the metric for financial performance. ROA focuses on net profit as a percentage of the total assets used to generate income, including both the owner's capital and borrowed funds. To corroborate or refute these findings, the study suggests conducting similar studies using return on equity (ROE).

Using ROE to assess the performance of MFIs would narrow the scope to profits attributable to shareholders, who are the true owners of the business. This may yield reinforcing or conflicting results, further expanding the debate and contributing to knowledge. Additionally, this study used the fraud management lifecycle theory to anchor its hypothesis. Future studies could integrate Michel Foucault's theory of panopticism to explore the psychology of fraudsters and how organizations can use panopticon-style surveillance to prevent fraud.

Moreover, as cyberattacks have emerged as a significant fraud risk for microfinance institutions, future studies should focus on analyzing cybersecurity measures to curb fraud and enhance financial performance.

The study recommends that financial institutions, other organizations, and governments institutionalize fraud risk management practices, such as strengthening the recruitment process to hire individuals with high integrity and providing ongoing training on preventing, detecting, and responding to fraud.

Objective 2 was to determine the moderating effect of firm size on the relationship between fraud risk management practices and financial performance. Using the p-value, the p-value for large firms after moderation was 0.000, which is significant. In contrast, the p-value for small firms was 0.206, which was not significant since $0.206 > 0.05$. Therefore, the study concluded that firm size has a significant moderating effect on the relationship between fraud risk management practices and the financial performance of large microfinance institutions (MFIs) in Kenya. Conversely, the moderating effect of firm size on the relationship between fraud risk management practices and the financial performance of small MFIs in Kenya was insignificant. This could be explained by the

possibility that small firms face lower fraud risks compared to large firms, although some studies suggest they are more susceptible to fraud than large firms. This discrepancy opens avenues for further research to confirm or refute these findings.

Based on these findings and conclusions, the study recommends that firms strategically invest in assets to increase their market size. They should also intensify campaigns to grow their market share by opening new branches, conducting awareness campaigns, and tapping into new markets. These efforts will enable them to benefit from economies of scale, increase profits, and reduce fraud risks by affording modern fraud risk management methods. Furthermore, as firms grow, they become more susceptible to fraud risks. The study recommends that firms invest in advanced techniques to enhance the sophistication of their fraud risk management practices. This will ensure that the growth in the size of MFIs is accompanied by a corresponding improvement in financial performance.

References

- Abbasoglu, O. F., Aysan, A. F., & Gunes, A. (2007). Concentration, competition, efficiency and profitability of the Turkish banking sector in the post-crisis period. *Banks and Bank Systems*, 2(3), 106–115.
- Bassey, E. B. (2018). Effect of forensic accounting on the management of fraud in microfinance institutions in Cross River State. *IOSR Journal of Economics and Finance*, 9(4), 79–89.
- Gbegi, D. O., & Adebisi, J. F. (2014). Forensic accounting skills and techniques in fraud investigation in the Nigerian public sector. *Mediterranean Journal of Social Sciences*, 5(3), 1–10. <https://doi.org/10.5901/mjss.2014.v5n3p1>
- Githecha, D. K. (2013). *The effect of fraud risk management strategies on the financial performance of commercial banks in Kenya* [Doctoral dissertation, University of Nairobi]. University of Nairobi Repository.

- Hussaini, U., Bakar, A. A., & Yusuf, M. B. O. (2019). The effect of fraud risk management, risk culture and performance of banking sector: A conceptual framework. *International Journal of Multidisciplinary Research and Development*, 6(1), 71–80.
- Jones, A. S. (2019). *Fraud risk management and corporate performance of deposit money banks (DMBs) in Nigeria* [Unpublished manuscript].
- Ngui, E. W. (2018). *Effect of financial fraud management practices on the profitability of state corporations in Kenya* [Doctoral dissertation, University of Nairobi]. University of Nairobi Repository.
- Njenga, N., & Osiemo, P. (2013). Effect of fraud risk management on organization performance: A case of deposit-taking microfinance institutions in Kenya. *International Journal of Social Sciences and Entrepreneurship*, 1(7), 490–507.
- Ochieng, O. O. (2018). *Factors affecting the profitability of deposit-taking microfinance institutions in Nairobi: A case of Faulu Kenya* [Master's thesis, United States International University]. USIU Repository.
- Olongo, F. O. (2013). *The effects of financial fraud and liquidity on financial performance of commercial banks in Kenya* [Doctoral dissertation, University of Nairobi]. University of Nairobi Repository.
- Olweny, T., & Shipho, T. M. (2011). Effects of banking sectoral factors on the profitability of commercial banks in Kenya. *Economics and Finance Review*, 1(5), 1–30.
- PwC. (2022). *Protecting the perimeter: A new frontier of platform fraud* (PwC's Global Economic Crime and Fraud Survey). <https://www.pwc.com/gx/en/services/advisory/forensics/economic-crime-survey.html>
- Shepherd, W. G. (1986). Tobin's q and the structure-performance relationship: Comment. *The American Economic Review*, 76(5), 1205–1210.
- Tregenna, F. (2009). The fat years: The structure and profitability of the US banking sector in the pre-crisis period. *Cambridge Journal of Economics*, 33(4), 609–632. <https://doi.org/10.1093/cje/bep013>
- Wangu, M. C. (2021). *Fraud risk management techniques and financial performance: The case of savings and credit cooperative organizations in Kenya* [Master's thesis, Strathmore University]. Strathmore University Repository.
- Wilhelm, W. K. (2004). The fraud management lifecycle theory: A holistic approach to fraud management. *Journal of Economic Crime Management*, 2(2), 1–38.

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