EFFECT OF SELECTED FINANCIAL RISK MANAGEMENT PRACTICES ON FINANCIAL PERFORMANCE OF MOBILE-BASED LENDERS IN NAKURU COUNTY, KENYA

CHEPKIRUI DAISY

A Project Submitted to the Institute of Postgraduate Studies of Kabarak University in Partial Fulfillment of the Requirements for the Award of Master of Science in Finance Degree

KABARAK UNIVERSITY

NOVEMBER, 2024

DECLARATION

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Chepkirui Daisy

GMF/NE/0372/01/21

RECOMMENDATION

To the Institute of Postgraduate Studies:

The research project entitled "**Effect of Selected Financial Risk Management Practices on Financial Performance of Mobile-Based Lenders in Nakuru County, Kenya"** and written by **Chepkirui Daisy** is presented to the Institute of Postgraduate Studies of Kabarak University. We have reviewed the research project and recommend it be accepted in partial fulfillment of the requirement for award of the degree of Master of Science in Finance.

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DEDICATION

I dedicate this research project to my Husband; Liston Langat and children Noel Kirui, Nolan Kimtai and Nicole Chelangat.

ACKNOWLEDGEMENT

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ABSTRACT

This study analyzed the quick rise of mobile-based lending in Kenya, which have introduced a variety of financial risks that might have an influence on lenders' financial performance. The study sought to bridge this knowledge gap by determining the effect of credit risk management, liquidity risk management, and operational risk management on the financial performance of mobile-based lenders in Nakuru County. The measures of financial performance were both Return on Asset and Return on Equity. The following theories were used to guide this study; credit risk theory, liquidity preference theory, and modern portfolio theory to investigate the link between risk management techniques and financial performance in the context of mobile-based lending. A quantitative cross-sectional research design was used in this study. A total of 64 respondents, including General Managers, credit officers, and debt collectors from mobile-based lenders in Nakuru County, were targeted by the researcher. The study employed census design whereby all the targeted respondents were involved in the study. Structured questionnaires with categorical and Likert-based questions were used to collect data. A pilot study was conducted at Vooma, KCB Eldoret branch involving 10% of its population. Validity checks included face and content validity, utilizing Law she's methodology for content validity ratio. A reliability test was conducted to ensure robust research instruments. Internal consistency was assessed via Cronbach's alpha which ranged from 0.736 to 0.803, surpassing the 0.7 threshold. The study prioritized ethics, ensuring participant welfare, confidentiality, informed consent, voluntary participation, secure data handling, and regulatory approvals. Using SPSS software, data was analyzed using descriptive statistics, correlation, and regression approaches. The findings showed that financial performance of mobile-based lenders was greatly affected by financial risk management practices. As per the regression analysis results, the model summary shows a correlation coefficient (R) of 0.854 with a coefficient of determination (R^2) of 0.729. This suggests a statistically significant relationship, explaining 72.9% of the variation in financial performance. The beta coefficients for credit, liquidity, and operational risk management practices were (β=0.139; p=0.022), (β=0.255; p=0.000), and (β=0.499; p=0.000) respectively. This implies that a significant relationship existed between all the financial risk management practices and mobile-based lenders' financial performance. Theresults of this study emphasize the significance of developing effective risk management measures for mobile-based lenders to achieve better financial outcomes. Policymakers and regulators are urged to give recommendations and assistance in promoting appropriate risk management procedures in the mobile-based lending business, this will contribute to its stability and consumer protection. Future research opportunities include exploring the impact of other risk management practices performing comparative research across various locations and conducting longitudinal studies to measure the long-term effects of risk management techniques on financial performance.

Keywords: *Credit, Risk, Management, Liquidity, Operational, Financial, Performance, Mobile-based, Lenders.*

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ABBREVIATIONS AND ACRONYMS

ANOVA	-	Analysis of Variance
CPF	-	Contingency Funding Plans
DFSAK	-	Digital Financial Services Association of Kenya
DL	-	Deep Learning
I&M bank	-	Investment and Mortgages Bank.
KCB	-	Kenya Commercial Bank
KYC	-	Know Your Customer
ML	-	Machine Learning
NACOSTI	-	National Commission of Science, Technology, and Innovation
NPLs	-	Non-Performing Loans
PLC	-	Public Limited Company
ROA	-	Return on Assets
ROE	-	Return on Equity
SMEs	-	Small and Medium Enterprises

CONCEPTUAL AND OPERATIONAL DEFINITION OF TERMS

Asset-based lending practices: Asset-based lending practices refer to a type of lending where a borrower uses their assets, such as accounts receivables, inventory, or equipment, as collateral to secure a loan (Gill, 2020). In this study, asset-based lending practices will be operationalized as the use of collateral-based lending by mobile-based lenders to mitigate credit risk and improve the financial performance of the lenders.

Credit Risk Management: Credit risk management refers to the process of assessing, monitoring, and controlling potential losses associated with borrower defaults. It involves evaluating the creditworthiness of borrowers and setting appropriate loan terms and conditions (Asllanaj, 2018). In this study, credit risk management were actualized as the systematic process of assessing, monitoring, and mitigating potential financial losses associated with borrower defaults within the mobile-based lending context.

Credit Scoring: Credit scoring refers to the process of using statistical models to evaluate the creditworthiness of an individual or organization based on their credit history and other financial information (Gill, 2020). In the context of the study, credit scoring is operationalized as the use of credit scores and related credit risk assessment tools by mobile-based lenders to evaluate the creditworthiness of borrowers before granting loans.

Financial Performance: Financial performance refers to the overall financial health and profitability of mobile-based lenders. This can be measured using various financial ratios such as return on assets (ROA), return on equity (ROE), and net interest margin (NIM) (Abdul-Rahman, Taib, & Rahman, 2021). In this study is measured through indicators such as return on assets (ROA), return on equity (ROE), to gauge the financial performance of lending institutions.

Liquidity Risk Management: Liquidity risk management refers to the strategies and processes used by mobile-based lenders to manage potential liquidity shortfalls. This involves maintaining sufficient cash reserves,

diversifying funding sources, and developing contingency plans for unexpected events (Chiaramonte, 2018)). In this study, liquidity risk management is enacted through the maintenance of cash reserves, diversification of funding sources, and the development of contingency plans by mobile-based lenders to mitigate liquidity risks.

Loan Appraisal Procedures: Loan appraisal procedures refer to the process of evaluating loan applications from potential borrowers. This includes assessing their creditworthiness, financial position, and ability to repay the loan (Sitotaw, 2020). Operationally, in this study, loan appraisal procedures are the practical processes used by mobile-based lenders to assess the creditworthiness, financial position, and repayment ability of potential borrowers.

Mobile-Based Lending: Mobile-based lending is the provision of financial services, including borrowing and lending activities, facilitated through mobile technology platforms (Smith, 2022). It involves the use of mobile applications or digital platforms that enable individuals and businesses to access loans, make repayments, and manage financial transactions directly from their mobile devices. Operationally, in this study, mobile-based lending is the actual facilitation of borrowing and lending activities through mobile applications or digital platforms, allowing individuals and businesses to access loans and manage financial transactions on their mobile devices.

Operational Risk Management: Operational risk management refers to the strategies and processes used by mobile-based lenders to identify, assess, and manage potential operational risks. This includes developing operational risk frameworks, implementing risk management policies and procedures, and conducting regular risk assessments (Leo, Sharma, &Maddulety, 2019). Operationally, in this study, operational risk management is the implementation of risk frameworks, policies, and regular risk assessments by mobile-based lenders to ensure the smooth functioning and resilience of lending operations.

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Mobile technology penetration has increased within the developing countries and across the world which has spurred the development of mobile based products including mobile-based lending (Njeru, 2018). According to Ngunjiri (2021), the mobile-based lending refers to the lending activities undertaken by a financial services provider undertaken through a mobile phone device. Moreover, Siabei (2019) provides the key aspects of mobile-based lending including the use of the mobile phone for application, disbursement and repayment of loan. She further opines that funds are often disbursed instantly, and the mobile-based lending are often utilized for relatively small credit amounts or micro credit facilities.

According to Ndagijimana (2017) the increasing mobile phones technology penetration levels and its wide utilization across the globe has significantly contributed to the development of mobile based products such as mobile lending. There are also diverse advantages associated with the mobile lending that continue to fuel its growth. Scholars such as Arthi and Shanmugam (2020), Thuita (2020) and Murage (2021) linked the mobile based financial services with financial inclusion amongst the financially disadvantaged persons. According to Murage (2021b), the financial inclusivity has enhanced provision of financial services to the persons who would otherwise not access such financial services from mainstream financial services providers due to either the risks associated with this demographic unit or their financial unattractiveness.

1.1.1 Financial Risk Management Practices

Financial risks have been a major challenge to the performance and survival of mobile based lenders (Huang, Zhang, Li, Qiu, Sun, & Wang, 2020). These comprise the practices of managing credit, liquidity, and operational risks. Credit risk management involves the practice of analyzing the adequacy of lender's capital and loan reserves to mitigate losses (Mhlanga, 2021).Further, the credit risk management practice maximizes the lender's risk-adjusted rate of return. It is imperative for the mobile lenders to adopt appropriate practices to limitcredit risk exposures within the levels that are sustainable. These practices include assessment and monitoring of risks, employing effective appraisal procedures and mitigation of fraud in processing and disbursement of loans. Credit risks are further managed through relationship lending, credit scoring, and asset-based lending practices. Relationship lending refers to a loan underwriting practice that emphasizes the borrower-lender relationship over collateral and financial statements. Credit scoring, on the other hand, is a method of assessing a borrower's creditworthiness by evaluating their credit history, financial information, and other factors (Kuhlemeyer, Ladley, &Rajan, 2019). Lastly, asset-based lending is a form of lending that uses a borrower's assets as collateral for a loan, with the value of the assets serving as the primary factor in determining the amount of the loan (Haugen, Musser, & Lovelace, 2019).

According to Gallati (2022) credit scoring enables lenders to determine the viability and reliability of borrowers to make timely loan repayments. It forms the foundation for the risk assessment. Additionally, financial institutions obtain vital information about borrowers' risks and financial health of their enterprises. Moreover, the value of assets possessed by the borrower forms the basis of risk assessment and the lending decision by the financial institution (Wang, Zhao, & Huchzermeier, 2021).

Liquidity risks express the inability of lending institutions to maintain sufficient cash to meet the financial requirements (Tamunosiki, Giami, &Obari, 2017). Mobile-based lenders are vulnerable to liquidity risks at institution-specific level when they cannot efficiently meet cash flow needs without altering their operations at present and in the long-run. Furthermore, liquidity risks are attributable to maturity mismatch as indicated by short-term liabilities which exceed its short-term assets (Olalekan, Mustapha, Irom& Emily, 2018). The mismatch is an indication of inefficiency in use of assets which implies inability to generate adequate returns.

Operational risks emanate from the ineffectiveness and failure of the firm's internal processes and systems (Birindelli, 2017). They can further be expressed as risks of loss resulting from firm's inadequacy regarding internal processes as well as failure of its systems. According to Fadun and Oye (2020) operational risk deters the continuity of business and plans which disrupt the flow of operations and returns' optimization. As such, effective operational risk management practices are essential in controlling and minimizing risks. Operational risk management involves a continuous process of assessing risks, making risk decisions, and risk controls' implementation(Birindelli, 2017). These processes aid mitigation of operational risks and help firms attain financial objectives while ensuring continuity in operations. Mishchenko, Naumenkova, &Dorofeiev (2021) assert that operational risk management improves business operations' reliability and the process of decision making where risks are involved. It is associated with informed risk-taking decisions and reliable risk forecasting which enhances mitigation of operational risks. Lending institutions adopt operational risk management practices to minimize losses attributable to risks that are not properly identified and the potential financial damage from future risks (Bwire& Albert;

Tenai&Odunga, 2021). However, inadequate mobile-based lenders' financial performance is partly caused by unsound risk decisions.

1.1.2 Global Perspectives of Financial Risk Management Practices

Mobile based lenders require proper data control, well-organized framework as well as insights to guide informed lending decisions (Schulte, 2018). These are critical in streamlining of lending operations and workflow of their services. It is imperative for the mobile-based lenders ought to predict credit and the associated credit risks and that requires effective data insights for proper decisions. In United States, mobile-based lenders generate and share data on credit in their firms for the purposes of maximizing data insights from the borrowers, lending processes and the loan products (Zhang & Mao, 2020). This provides robust capabilities that harness lending operations, reduce financial risks, and promote mobile-based lenders' financial performance.

Assessment of credit risks is vital for mobile based lenders as it ensures that the borrowers can repay loans before lending. In Iran, Moradi and Mokhatab-Rafiei (2019) opined that provision of loans is associated with risks of non-payment thus mobile based-lenders ought to establish appropriate systems of managing credit risks. Salim, Arjomandi, and Dakpo (2017) suggest that systems for managing risks require compatible models for predicting the borrowers' defaults. Moreover, Basel II states that lending institutions need to establish and maintain an internal credit scoring system to aid borrower's risk analysis. This need has contributed to a rise in demand for credit scoring system for predicting risks. For instance, use of static models to predict the patterns of credit defaults have not yielded the desired results because they do not evolve with the economic environment and changes in the financial sector. According to Assarzadeh and Aberoumand (2018) lending institutions in Iran have been using statistic modeling

frameworks which do not respond to the dynamic economic environment. Economic changes renders statistic models inefficient especially when borrowers who were repaying their loans previously fall in to defaults due to economic challenges. Static models of credit risk analysis have therefore failed in the face of fluctuations in economic and political aspects in Iran (Moradi&Mokhatab-Rafiei, 2019).

In Malaysia, Vorobyova, K. (2021) argued that the optimization of earnings by lending institutions highly depend on the full loan repayment by the borrowers. Therefore, the management of financial risks, particularly the credit risks is of paramount importance to the mobile-based lending institutions. However, despite being bounded by the loan contract, some borrowers fail to meet their repayment obligations. This presents a significant potential for financial risks, losses, and poor financial performance among the lending institutions. As such, lending institutions require effective analysis of financial risks to manage loan portfolios, reduce risks, non-performing loans and generate adequate returns.

Bouteille and Coogan-Pushner (2021) assert that mobile-based lenders apply data analytics models to enhance the assessment of financial risks and improve financial predictions among lending institutions in Australia. The financial predictions in this case include the prediction for credit defaults among the customers. Mobile based lenders suffer credit risks due to failure by the customer to honour the financial contract that requires him or her to repay the loan as required. Additionally, they suffer financial risks when the changes in the financial markets led to the decrease in the value of money lent. Moreover, financial risks emanate from lack of balance in the assessment system for credit risks. Deep Learning (DL) algorithm is applied by mobile based lenders in the systems for credit risks' assessment (Shi, Tse, Luo, D'Addona, & Pau, 2022). The algorithm in their varied models is adopted in accordance to specified business data

while verifying the risk assessment system. Moreover, mobile-based credit risk assessment model applies deep learning algorithm for optimization in solving imbalanced data problem (Bouteille and Coogan-Pushner, 2021). This minimizes the credit risks and optimizes the net returns of the mobile-based lenders in Australia.

Hunjra, Mehmood, Nguyen, &Tayachi, (2022) contends that credit processing and lending decision can be improved through use of Machine Learning (ML) and Deep Learning technologies. These technologies facilitate accurate analysis of financial data, specifically, the credit data to help the managers of mobile lenders to make sound lending decisions (Liu & Huang, 2022). They measure the firm's financial performance indices and create adequate data to guide loan processing. Therefore, Machine Learning (ML) and Deep Learning technologies provide reliable solutions for the risk assessment among the mobile based lending institutions.

1.1.3 Regional Perspective of Financial Risk Management Practices

The financial sectors in the African region are in developmental stages, and the lending markets are marked by inherent financial risks (Kafidipe, Uwalomwa, Dahunsi, &Okeme, 2021). The financial risks majorly comprise the credit risks, liquidity risks and operational risks. In Nigeria, Ikpe (2022) opined that lending institutions' sustainability depend on the interest revenue from the issued credit facilities. Lending activities expose financial institutions to credit risks, stemming from borrower defaults and changes in the economic landscape. Moreover, change in Nigerian economic policies can partially contribute to business failures and consequently the inability of borrowers to repay loans (Kafidipe*et al*., 2021).

Financial service providers in South Africa recognize the banking problems associated with low-income, leading to upsurge in mobile lending institutions (Chigada &

Hirschfelder, 2017). Consequently, this recognition has increased the establishment of mobile lenders to provide alternative borrowing opportunities for the unbanked population. Further, a high mobile phone ownership of about 80%enhances the provision of mobile money services, particularly the lending services. Makina (2019) asserted that mobile technology facilitates mobile money transactions hence promote financial inclusion. This has alleviated funding constraints among the low-income earners. However, the progress and profitability of mobile money service providers has been deterred by credit and liquidity risks. As such, effective financial risk management remains an essential component for financial performance enhancement among mobile-based lenders. Asah, Louw, and Williams (2020) mobile based service providers, lenders included, need to handle risks, and increase efficiency of operations to improve profitability levels.

1.1.4 Local Perspectives of Financial Risk Management Practices

Mobile lending has attracted huge attention and contributed immensely to Kenya's financial sector (Okemwa, 2020). For instance, many individual persons, small and medium enterprises that could not access credit facilities from the conventional banks are now able to access loans from mobile-based lending institutions. According to Kuria (2020) use of mobile applications in application and provision of loans reduces the costs on the side of the customer as well as the lender. Therefore, mobile lending has led to tremendous improvement in lending operations in Kenya. However, mobile based lenders in Kenya have encountered significant challenges in the lending operations. Financial risks are the major challenges that have continued to deter effective operations of mobile lending in the country.

Kenya's mobile lending institutions are grappling with financial risks, especially the credit/default risks and huge non-performing loans (Njeru, 2018). These risks are

detrimental to attainment of sustainable financial performance among mobile-based lenders in Kenya. Mobile based lenders' financial performance, like other lenders, depends on loan repayment. Muriuki (2021) opined that, mobile lending, interest rates and inflation influence non-performing loans and the banking sector performance. Variation in inflation and interest rates is attributable to financial risks among Kenya's mobile lenders. Furthermore, the increased default cases among the mobile borrowers in Kenya have contributed to increased financial risks, particularly the credit risks.

Mwanzia (2021) also contends that mobile lending, firm size and capital adequacy contributed to financial risks and contributed to non-performing loans. Inadequate capital among mobile based lenders puts them at risk illiquidity and failure to meet short-term liability obligations. Moreover, Gathu (2020) opined that transaction data, social network data, and mobile phone data analysis are utilized in establishing credit score by the mobile lenders. As such, the borrower's level of transactions determines the credit score and the ability to repay. However, comprehensive analysis of borrower's data has been largely ignored by most mobile based lenders' and they have suffered default risks consequently.

1.1.5 Financial Performance

Financial performance is a key concern for any business, and it refers to the measurement of how well a company uses its assets to produce profits. According to (Brigham & Houston, 2019), financial performance is an essential determinant of a company's success in the marketplace. It encompasses various metrics such as profitability, efficiency, liquidity, and solvency ratios. Profitability ratios, for instance, measure how much a company earns in comparison to its expenses, while efficiency ratios measure how well a company manages its assets to generate revenue. In the

context of mobile-based lenders, financial performance is crucial to the sustainability of the business and its ability to meet the needs of its customers.

The recent survey conducted by the Kenya National Bureau of Statistics (KNBS) reveals a significant increase in mobile phone ownership in Kenya, surpassing even bed ownership (Obura, 2023). The data indicates a substantial rise from 86 percent in 2014 to 94 percent in 2022, highlighting the crucial role of mobile phones in communication, financial transactions, and trade within the country. Remarkably, mobile phones are now more prevalent in households at 94 percent, slightly edging out beds at 93 percent. The survey further unveils a relatively narrow gap between urban and rural phone ownership, with 97 percent and 91 percent, respectively. Notably, Samsung leads the Kenyan smartphone market with a 31.7 percent share, leveraging distribution through platforms like M-Kopa for under-banked customers (Obura, 2023).

The importance of financial performance in mobile-based lending can be seen in the sector's growth over the past few years. Mobile-based lending has become increasingly popular in many countries, especially in developing nations where access to traditional banking services is limited. A study by (KPMG, 2019) revealed that the mobile-based lending industry was expected to grow at a compound annual growth rate of 43% between 2018 and 2022. This growth could be attributed to the convenience and accessibility of mobile-based lending services, which have enabled more people to access credit.

According to (Kothari, 2018), risk management practices are essential to ensure the sustainability and growth of financial institutions. In the context of mobile-based lending, risk management practices are critical in mitigating the risks associated with lending to customers who may have limited credit histories or collateral. Effective risk

management practices enable mobile-based lenders to identify, assess, and mitigate risks, thereby improving their financial performance.

Research has shown that financial risk management practices can significantly impact a company's financial performance. According to (Dong, Zhang, & Song, 2021), companies that implement effective financial risk management practices tend to have better financial performance than those that do not. This is because effective risk management practices help companies to minimize losses and improve profitability. In the context of mobile-based lending, financial risk management practices can help lenders to minimize the risk of default, fraud, and other forms of financial loss, thus improving their financial performance.

Financial risk management practices comprise credit risk management, liquidity risk management, market risk management, operational risk management, and strategic risk management (Verma, 2022). Among these, this study will primarily focus on credit risk management, liquidity risk management, and operational risk management. Credit risk management is vital for assessing borrower default, liquidity risk management ensures the ability to meet short-term obligations, and operational risk management addresses internal processes and potential disruptions. These three areas offer a comprehensive view of financial risk, covering creditworthiness, short-term solvency, and operational resilience, making them essential for a thorough investigation into effective risk management strategies.

1.2 Statement of the Problem

Mobile-based lending in Kenya has gained popularity due to its convenience, accessibility, and efficiency, offering a quicker and more accessible alternative to traditional banking services. (Micheni, 2021). However, the growth of mobile-based

lending is accompanied by various financial risks, including credit, liquidity, and operational risks, which may significantly affect the financial performance of these lenders. According to a recent report by the Digital Financial Services Association of Kenya (DFSAK), digital lenders have disbursed over Sh500 billion in mobile loans to small businesses and households in Kenya over the last eight years (DFSAK. 2023). This has benefited over eight million Kenyans inclusive of Nakuru County, with an estimated 70% borrowing for business reasons. The demand for mobile credit is projected to increase as more local businesses turn to online marketing platforms and seek growth funds beyond borders. With a near doubling of Kenya's fin-tech start-ups totaling Sh72.3 billion in 2022 from Sh36.4 billion in 2021, DFSAK is looking to develop new digital financial services such as digital insurance, savings plans, and investment platforms. They also plan to bolster financial literacy levels and oversee the licensing of more providers. This rapid growth in digital lending underscores the need for effective financial risk management practices to ensure the financial stability and success of mobile-based lenders in Nakuru County, Kenya.

As of November 2022, the default on mobile app loans in Kenya had reached a substantial level, amounting to a staggering 4,828.3 billion Kenyan Shillings (Central Bank of Kenya, 2023). This alarming figure signifies a concerning ratio of 14.0% concerning total gross loans. The Central Bank of Kenya (CBK) reported that approximately 14 million accounts had been listed for defaulting on digital lending apps by September 24, 2023 (CBK, 2023). This high incidence of default underscores the challenges faced by both borrowers and lenders in the mobile-based lending sector. This is indicative of a pressing need for effective financial risk management practices to ensure the stability and success of these lending platforms in Kenya with Nakuru County included.

Existing studies provide a broad overview but lack granularity in addressing individual risk management practices. Nzioki (2019) examined credit risk control and the performance of Ezzy loans at Equity Bank He focused on commercial banks, which differ from mobile lenders in their risk management approaches. Muriithi and Waweru (2017) explored liquidity risk and financial performance in Kenyan commercial banks. Results indicated that net stable funding ratio negatively affected profitability over short and long terms, while the liquidity coverage ratio had insignificant effect. Their study primarily examined liquidity metrics like net stable funding ratio and liquidity coverage ratio, overlooking liquidity management practices such as cash flow forecasts. Lyambiko's (2015) research on operational risk management practices encompassed variables like credit risk, insolvency risk, and operational efficiency. It had little attention on specific indicators of operational risk management such as vulnerability assessment and internal controls. Addressing the existing gaps was crucial for developing targeted strategies to enhance the financial health and sustainability of mobile-based lenders in Nakuru County. As such, the current study assessed the effect of financial risk management practices on the financial performance of mobile-based lenders in Nakuru County, Kenya.

1.3 Objectives of the Study

The objectives of the study were based on the general and specific objectives.

1.3.1 General Objective of the Study

The general objective of the study was to establish effect of selected financial risk management practices on the financial performance of mobile-based lenders in Nakuru County, Kenya.

1.3.2 Specific Objectives of the Study

The study was based on the following specific objectives.

i. To analyze the effect of credit risk management practice on the financial performance of mobile-based lenders in Nakuru County, Kenya.
ii. To evaluate the effect of liquidity risk management practice on the financial performance of mobile-based lenders in Nakuru County, Kenya.
iii. To determine the effect of operational risk management practice on the financial performance of mobile-based lenders in Nakuru County, Kenya.

1.4 Research Hypotheses

The research hypotheses were as follows.

$H0_1$: There is no statistically significant effect of credit risk management practice on the financial performance of mobile-based lenders in Nakuru County, Kenya.

$H0_2$: There is no statistically significant effect of liquidity risk management practice on the financial performance of mobile-based lenders in Nakuru County, Kenya

$H0_3$: There is no statistically significant effect of operational risk management practice on the financial performance of mobile-based lenders in Nakuru County, Kenya

1.5 Significance of the Study

The study will benefit the management of the mobile-lenders by enabling them to undertake evidence-based decision making in respect to the management of financial risks. Credit officers in both mobile lenders and in diverse financial institutions will gain insights on mitigation of risks that they encounter in lending activities. The financial services' regulators will use this information for the purposes of crafting policies relating to the conducting of the mobile lending in the country. Further, the policy makers will

refer to the findings in establishing and implementing policies governing the mobile lending operations in Kenya.

1.6 Scope of the Study

The scope of the study was limited to mobile lenders operating as sections of Mobile-Based Lenders in Nakuru County, Kenya. The unit of observation was senior management, credit officers and debt collectors. The study period was one academic year, specifically June and July 2023. The study focused on examining the financial risk management practices related to credit risk management, liquidity risk management, and operational risk management. The aim of the study was to investigate the effect of selected financial risk management practices on the financial performance of mobile-based lenders in Nakuru County, Kenya.

1.7 Limitations of the Study

The study of the effect of selected financial risk management practices on the financial performance of mobile-based lenders is crucial and timely. However, the research encountered certain limitations, primarily stemming from respondents' reluctance to fill in questionnaires due to the sensitivity of the research phenomenon being examined. To address this concern, the study took proactive measures, including the issuance of a comprehensive consent statement explaining the nature of the study and outlining the steps taken to safeguard respondents from any potential harm.

A notable limitation is that the study was specifically focused on commercial bank branches in Nakuru. This geographical constraint may limit the generalizability of the findings to a broader context. While the selected area provides valuable insights into the local context of mobile-based lending within Nakuru, caution should be exercised when

extrapolating the results to mobile-based lenders in other regions with potentially different market dynamics.

To mitigate concerns regarding data confidentiality, the study assured respondents that information would be handled with the utmost confidentiality. No personally identifiable information was utilized in data analysis and reporting. Furthermore, the study employed secure data storage practices, using password-protected files with restricted access to authorized personnel. These measures were implemented to uphold the confidentiality of respondents' information and protect their privacy throughout the research process.

1.8 Justification of the Study

Nakuru was selected for its diverse urban setting, offering a representative snapshot of Kenyan mobile-based lending practices, distinct from traditional commercial banking models in Nakuru and nationwide. The study on the effect of selected financial risk management practices on financial performance of mobile-based lenders is important for several reasons. Mobile-based lending is popular due to its convenience, accessibility, and speed. Advantages include 24/7 availability, quick transactions, cost-effectiveness, and financial inclusion, enabling users to manage finances seamlessly on their mobile devices. It is vital to identify effective financial risk management practices to manage the risks associated with this form of lending. Financial risks, such as credit risk, liquidity risk, and operational risk, can significantly impact the financial performance of mobile-based lenders, and effective risk management practices can improve their financial performance.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter outlines the theoretical framework, empirical literature, conceptual framework, research gaps and critique of the reviewed literature.

2.2 Theoretical Literature Review

The theoretical framework examined the theories explaining the predictor and response variables. They include credit risk theory, liquidity preference theory and modern portfolio theory.

2.2.1 Merton's Credit Risk Theory

The credit risk theory was developed in 1974 by Merton and has also been referred to as structural theory. The credit risk theory is based on finding the source of loan default possibility and utilizing such exposure as the foundation of the credit risk management (Abubakar, Sulaiman, Usman, 2018). The credit risk management is undertaken through exercising the measurement and control of the credit risk exposure or the propensity to default amongst the borrowers. The loan default was viewed as an option utilized by the borrower whenever the economic environment are conducive for that option to be exercised by the borrower (Oke, Wale-Awe, & PLC, 2018). The credit risk theory indicates the need to balance two competing interests. The lenders would often incur costs in the screening of prospective borrowers and in ensuring that these borrowers are undertaking their repayment. The lenders would pass such costs to the borrowers (Musiega, 2020). However, increasing loan costs that motivate the borrower to default on the loans due to the costs of servicing the loans. The credit risk theory thus advocates for the balancing between the costs incurred in the loan management and the costs passed to

borrowers to avoid motivating towards loan default aspects (Olugboyega, Babatunji, 2018).

Merton’s credit risk theory addresses the credit risk management variable. The theory determines the likelihood of default based on previous proportions of capital and liability proportions. This can help in prediction and management of credit risks among mobile based lenders. Based on Merton risk model, the aspect of default by a firm is recognized at the maturity of the loan. This implies that the assets’ value behavior in credit risk’s assessment is not put into account before the loan maturity. Therefore, the theory ignores the fact that the decline in firm’s value can be recovered, and loan payment can be made before maturity. Due to this limitation, this study used liquidity preference theory to gain insights into liquidity risk management.

The application of Merton’s Credit Risk Theory to the topic of financial risk management practices in mobile-based lending in Nakuru County can help in predicting and managing credit risks. By analyzing the capital and liability proportions of mobile-based lenders, this theory can assist in determining the likelihood of loan default and identifying potential sources of risk. Specifically, Merton's theory emphasizes the need to balance the costs incurred in loan management and the costs passed to borrowers to prevent the motivation towards loan default. This is directly relevant to the study's objective of credit risk management, which seeks to measure and control the propensity to default among borrowers.

Merton's Credit Risk Theory has one drawback in that it thinks default can only occur at loan maturity, without addressing the potential of rebounding from a decrease in a firm's value and making loan payments before maturity. This assumption may not correctly reflect real-world circumstances in which loan defaults can occur at any time throughout

the loan term. Furthermore, the theory concentrates on capital and liability proportions without considering other factors that might impact credit risk, such as changes in market circumstances or unexpected economic occurrences. As a result, it may not adequately account for all potential sources of risk in Nakuru County's mobile-based lending practices.

2.2.2 Liquidity Preference Theory

Liquidity preference theory was propounded by Boulding in 1944. Liquidity preference theory states that short term financial securities are preferable to long-term financial securities. Lending institutions create liquidity for the purposes of reducing bankruptcy and financial distress costs. Establishment of liquidity is done through financing of illiquid assets by relatively liquid liabilities (Tamunosiki, Giami, &Obari, 2020).

Liquidity risk refers to the potential that a financial institution, like mobile-based lenders, may encounter difficulty in meeting its short-term obligations due to insufficient liquid assets or the inability to quickly convert assets into cash (Tamunosiki, Giami, &Obari, 2020). In mobile-based lending, liquidity risk can arise when there is a high volume of loan disbursement, leading to potential cash flow challenges in meeting immediate debt obligations and operational needs. Effectively managing liquidity risk involves strategies to ensure the availability of adequate cash or easily convertible assets to maintain smooth operations and financial stability. This aligns with the Liquidity Preference Theory, emphasizing the importance of liquidity management in risk practices for lending institutions (Tamunosiki et al., 2017).

The continuity of firm’s operations depends on the adequacy of cash flows to meet the obligations associated with maturing short-term debt and operational needs (Tamunosiki*et al*, 2017). The ability to manage liquidity risks presents mobile lenders

with opportunities to maintain adequate liquidity levels and sustainable financial performance. Lending institutions, including mobile lenders manage liquidity risk by investing in securities that are convertible to cash which helps them to sort out liquidity problems (Olalekan, Mustapha, Irom& Emily, 2018). The theory thus explains the effects of liquidity risks and how they can be averted through proper liquidity risk management practices.

The Liquidity Preference Theory is relevant to the study objective of determining the effect of operational risk management on the financial performance of mobile-based lenders in Nakuru County, Kenya. Effective liquidity management is an essential component of risk management practices for lending institutions. The theory emphasizes that the establishment of liquidity is done through financing of non-liquidated assets by relatively liquid liabilities (Tamunosiki *et al*, 2017). In the context of mobile-based lenders, liquidity risks can arise from a high volume of loan disbursement and lack of adequate cash flow to meet short-term debt obligations and operational needs. By investing in securities that are convertible to cash, mobile-based lenders can manage liquidity risks and ensure adequate cash flow to maintain sustainable financial performance. This highlights the importance of proper liquidity risk management practices as a component of operational risk management for mobile-based lenders.

The Liquidity Preference Theory has one shortcoming in that it concentrates on the preference for short-term financial instruments over long-term ones without going into the particular causes that drive these preferences. The theory does not give an in-depth knowledge of the fundamental determinants of liquidity preference and how they may alter across market circumstances and economic contexts. Furthermore, the theory assumes a straightforward trade-off between short-term and long-term assets without

taking into account other factors that may influence investment decisions, such as interest rate swings, inflation rates, or investor risk appetite. As a result, the theory may fail to reflect the complexity and subtleties of liquidity management choices, particularly in the context of mobile-based lenders in Nakuru County, Kenya.

2.2.3 Modern Portfolio Theory

Modern portfolio theory was propounded by Markowitz in 1952. Modern portfolio theory describes the risks and returns from portfolio of investments. High financial risks are inherent elements of higher returns. Investors accept higher risks when they expect higher returns. Investors reduce investment risks by holding uncorrelated combinations of assets (Agasha, Monametsi, & Feela, 2020). Modern portfolio theory further posits that lenders can manage risks by creating valuable loan assets and avoiding excessive risk concentration (Echwa & Atheru, 2020). Therefore, lending based risks ought to be managed at both individual borrower level and the portfolio level. Modern portfolio theory relates to the study since it posits that a successful loan portfolio management is achieved through avoidance of large concentrations of exposure. Mobile-based lenders can reduce credit risks by constructing loan portfolios and avoiding large concentrations of exposure.

Operational risk is an important aspect of risk management in financial institutions, including mobile-based lenders. According to modern portfolio theory, the management of operational risk is critical for achieving optimal financial performance. This is because operational risk has the potential to negatively affect the overall financial performance of a lender, as it can lead to losses and other operational inefficiencies. Therefore, by effectively managing operational risks, mobile-based lenders can improve their financial performance and achieve greater returns on their loan portfolios.

2.3 Empirical Literature Review

Empirical literature review outlines how various research variables have been examined by diverse scholars and the respective findings that were achieved.

2.3.1 Credit Risk Management on Financial Performance

Credit risk management involves the systematic evaluation, surveillance, and regulation of potential financial losses linked to borrower defaults. This encompasses the scrutiny of borrowers' creditworthiness and the establishment of suitable terms and conditions for loans (Asllanaj, 2018).

Effective credit risk assessment and monitoring practices are crucial for mobile-based lenders, as they directly impact financial performance. Rigorous evaluation of borrowers' creditworthiness helps mitigate default risks, ensuring a healthier loan portfolio. Scholars like Rowe (2022) emphasize that real-time monitoring enhances adaptability to changing economic conditions, positively influencing financial outcomes. Comprehensive loan appraisal procedures significantly influence the financial performance of mobile-based lenders. Scholars such as Carl (2023) highlight that thorough assessments of applicants' financial standing and repayment capabilities lead to more informed lending decisions. Robust appraisal practices contribute to effective risk management, ultimately enhancing overall financial performance.

Managing credit concentration is a critical financial risk management practice for mobile-based lenders. Diversifying loan portfolios is emphasized by experts like Williams (2020) to minimize the impact of defaults from specific sectors or industries. Effective credit concentration management is linked to increased financial resilience and improved performance for mobile-based lending institutions.

Nzioki (2019) investigated the influence of the credit risk control on the performance of the Ezzy loans at Equity bank Kenya. The study was undertaken in the north and central rift regions of Equity bank. The study used 27 credit officers and 54 credit managers involved with the Ezzy loans payment infrastructure. The researcher utilized the descriptive research design. Primary data was also employed. The study findings showed that credit risk control practices are associated with the performance of mobile loans at Equity. Quantification of credit risks, individual risk control, and portfolio risk control determined the level of performance. The study was limited only to one financial institution (Equity Bank). The current study involved a survey of mobile-based lenders. In addition to Eazzy Loan by Equity bank, it involved Timiza by Absa, Whizz by Housing Finance, Loop by NCBA, Vooma by KCB, MCo-Op Cash by Coop Bank and Pesa Pap by Family Bank.

Sitotaw (2020) analyzed fraud risks management and their effect on credit and saving institutions' performance in Ethiopia. The study conceptualized the credit risk management as the structured approach in the management of the diverse uncertainties related to provision of credit facilities to clients. The research employed both qualitative and quantitative approaches to gather data and insights. The credit risk management inadequacies were associated with the diverse financial performance challenges through lack of adequate credit risk assessment, improper loan appraisal process, and credit risk monitoring. The study further found that the credit risk management impacts positively on the management of the credit risk exposures that the lenders face in their operations.

In Uganda, Serwadda (2018) undertook a study that sought to examine the impact of the credit risk management practices on the financial performance of commercial banks. The study collected secondary data from the CentralBank of Uganda for the 2006-2015 financial years. Panel data regression model was employed in analysis. The study found

that effective management of credit risk affect the commercial banks' financial performance. The research was limited to non-performing loans, and loan loss provisions as critical credit risk losses as the main parameters. The indicators of credit risk in the current study include risk identification, assessment, and monitoring practices.

Asllanaj (2018) examined the role of the credit risk management in promoting commercial banks' financial performance in Kosovo. The study used panel data. Data analyzed through use of multiple regression model. The study found that the credit risk management leads to the creation of profitability, financial sustainability, and efficiency in the bank resources utilization in the loan provision. The study further found that inadequate credit risk management aspects that negatively impacts on the commercial banks' financial performance include poor management of bad debts, poor credit administration, and poor management decisions on credit provision aspects. Asllanaj (2018) limited his research to CAMEL indicators. In the context of the current study, net profit margins will indicate financial performance directly.

Catherine (2020) examined the effect of credit risk management on financial performance using a case of Bank of Africa in Uganda. Quantitative cross-sectional research design was adopted and used secondary data. In data analysis, correlation and regression methods were employed. Findings indicated that aspects of credit risk management including credit risk appraisal, risk diversification and risk control influence commercial banks' financial performance. The research was a case of Bank of Africa. The present study will be a survey of Mobile-Based Lenders.

In the study on practices of managing credit risks, Ngotho (2020) found that identification and monitoring of risks as well as policies on loan collection had an impact on mobile loans. The study was done in Nairobi and involved lenders and borrowers. However, it was not established how the respondents were identified. Moreover,

borrowers and lenders are heterogeneous groups, and the researcher did not indicate how findings were harmonized. The current researcher focused on Mobile-Based Lenders in Nakuru County, Kenya. Mburu, Mwangi, and Muathe (2020) assessed credit management practices and their influence on Kenya banks' loan performance. Results show that the policies on lending and loan collection influence the loan performance. However, the appraisal of the borrower has insignificant effect. According to the study results, the loan performance depends on the effectiveness of practices employed in managing the credit. The study was limited to management of credit and not the specific credit risks. The present study goes ahead to analyze the practices of managing credit risks of Mobile-Based Lenders.

Kuria (2020) examined mobile banking and its effect on Kenya's commercial banks financial performance. The research conceptualized the loan appraisal processes as the characteristics of individuals that are examined with a view of assessing the credit worthiness of the borrower. The study used both an explanatory and descriptive research designs for the study. Data was collected from a target population of 63 credit officers working for the I&M bank. 5-point Likert scale questionnaires were employed in collecting data. The researcher applied linear regression in data analysis. The study found a positive and statistically significant correlational relationship between the loan appraisal parameters and the mobile loan repayment aspects. The study argued that the mobile loan appraisal aspects of demographic factors, economic factors and methods of lending had an impact on the loan repayment aspects. The demographic factors of mobile loan appraisal included education level of borrowers, marital status of borrowers, age and gender of the borrower. The study also documented that various economic factors included the income levels of the borrower, transactions volumes of the individuals, timeliness of the past loan repayment aspects, and credit payment history aspects. The

present study investigates credit history and cash flow analysis as practices in loan appraisal. It employed correlational research design.

2.3.2 Liquidity Risk Management on Financial Performance

Liquidity risk management in the realm of mobile-based lending pertains to the techniques and procedures employed to address potential shortages in liquidity. This includes actions such as ensuring an adequate reserve of cash, diversifying funding sources, and formulating contingency plans for unforeseen circumstances (Chiaramonte, 2018). Anderson (2020) argue that accurate forecasts provide insights into liquidity, enabling proactive management. Timely adjustments based on forecasted cash flows contribute to sustained financial stability and optimized operational efficiency.

According to Taylor (2019), effective management of current assets and liabilities ensures efficient capital utilization. Maintaining an optimal balance enhances liquidity, reduces financing costs, and positively contributes to overall financial health. Brown (2021) emphasize the importance of having well-defined plans to address unforeseen challenges. These plans provide financial institutions with a strategic framework, ensuring they can navigate uncertainties while maintaining stability and safeguarding financial performance.

Tamunosiki, Giami,and Obari (2017) noted that liquidity risk management provides a clear indication of financial health and visibility into lending institution’s ability to meet the short-term financial requirements. Management of liquid risks aims to minimize risks of having insufficient liquid assets to settle obligations. Minimizing liquidity risk minimization further enable lending institutions to avoid insolvency issues. Liquidity risks are managed through cash flow predictions and forecasts, working capital optimization as well as contingency funding plans.

According to Olalekan *et al.,* (2018) effective liquidity risk management essentially provide insights into future financial conditions and cash positions. This provides clarity on the future cash requirements thereby enabling finance managers to plan and make informed funding decisions. Development of proper cash flow forecasts is vital in measuring the cash flow positions at different periods and helps in liquidity planning and other financial decision-making processes. According to Chiaramonte (2018) Contingency Funding Plans (CPF)delineates financing strategies that addresses the potential liquidity shortfalls in mobile-based lenders. These plans includeparameters for liquidity stress testing and funding sources and strategies.

Ratemo and Ndede (2021) conducted an evaluation of liquidity risk and financial performance among Commercial Banks in Kenya. The findings indicated a positive and significant impact of bank size coefficient on the financial performance of commercial banks. Additionally, the study found a negative and significant effect of asset quality coefficient on commercial banks' financial performance. Capital adequacy showed a positive but insignificant impact on their financial performance. Contingency funding plans provide insights into the lender's liquidity strengths and weaknesses that are beyond their usual reporting activities (Tran, Nguyen, & Long, 2019). Therefore, CFP serves as an evaluation tool that complements the ongoing monitoring of assets and liabilities. It provides new knowledge on risk mitigation that protects the lenders from liquidity risks. Suryaningsih and Sudirman (2020) noted that working capital optimization involves regular monitoring of short-term assets and liabilities which limit liquidity risks in the process.

Ndagijimana (2017) found that the adequacy of capital, the number of applicants, interest costs, and liquidity accounted for 47.4% variation in banks' financial performance. The

implication of the results is that banks' financial performance is predictable from changes in mobile lending. The study was limited to components of mobile lending and did not address the risks affecting mobile lenders. Muriithi and Waweru (2017) conducted a study on the liquidity risk and financial performance of commercial banks in Kenya. The study adopted quantitative cross-sectional research design and used panel data. Findings established that net stable funding ratio had a negative relationship with profitability in the short-run and long-run. It was also established that liquidity coverage ratio had no significant influence on performance. Overall, the banks' financial performance was predictable from variation liquidity risk. The study was limited to measures of liquidity level such as net stable funding ratio and liquidity coverage ratio. Liquidity management risk practices such as cash flow forecasts were not discussed in the research.

Alim, Ali, and Metla (2021) investigated the effect of liquidity risk management on commercial banks' financial performance in Pakistan. The study applied panel data and ordinary least squares regression analysis. Results revealed that financial performance was highly affected by liquid assets to total assets ratio, liquid assets to total deposit ratio, balance due to other banks to total assets ratio. The study investigated indicators of liquidity level such as liquid assets to total assets ratio and liquid assets to total deposit ratio. The liquidity risk management practices like contingency funding plans and working capital optimization were not properly addressed.

2.3.3 Operational Risk Management on Financial Performance

Operational risk management within mobile-based lending encompasses the methodologies and procedures employed to recognize, evaluate, and control potential operational risks. These activities involve the creation of operational risk frameworks,

the enforcement of risk management policies and procedures, and the routine execution of risk assessments (Leo, Sharma, & Maddulety, 2019). Risk forecasting is pivotal for mobile-based lenders, allowing proactive risk management. It involves analyzing potential risks' likelihood and impact, enabling strategic decision-making for sustained operations in a dynamic lending landscape. Conducting vulnerability assessments is crucial for mobile-based lenders to fortify financial performance. Identifying weaknesses in technology, processes, or personnel helps maintain lending operation integrity and ensures a secure environment for stakeholders (Gurtu & Johny, 2021).

Loan mitigation practices, including diversification and transparent communication, contribute to financial stability (Leo *et al.*, 2019). These practices minimize lending risks, fostering trust and proactive risk management for enhanced financial performance and sustainability. Strong internal controls shape financial performance by ensuring process integrity and reducing fraud risk. Research underscores their significance in maintaining a trustworthy financial environment, safeguarding institutions' reputations, and financial performance (Gurtu & Johny, 2021). Leo *et al.*, (2019) asserted that operational risks are inherent in all processes, activities, and products/services. In mobile lending, the management of operational risks reflects the effectiveness while administering the processes, activities as well as portfolio of loan products (Sadique, 2021).

Sharifi, Haldar, and Rao (2016) researched on the association between bank size, ownership, and management of operational risks in Indian banks. Results revealed an inverse relationship between the bank size and the capital held for the purposes of managing operational risks. This implies that small-sized banks hold capital beyond the regulatory requirement. Nevertheless, bank ownership has insignificant relationship with the capital held for management of operational risks. The research was confined to

capital aspect and there was scanty information on practices regarding management of operational risks.

Fadun and Oye (2020) assessed the operational risks and their impacts on commercial banks' financial performance in Nigeria. They used panel data obtained from banks' financial statements for 10 years; 2008 to 2017. Descriptive research design was adopted while in data analysis, linear multiple regression model was utilized. Linear regression model was utilized in analysis of data. Based on research findings, the financial performance of banks is dependent on management of operational risks. Results showed that financial performance was predictable from the changes in management of operational risks. The study was limited to panel data. It was not clear how the researcher measured market risk which was part of the study. The present study used primary data. It focused on operational risk management practices comprising risk control self-assessment and risk forecasting.

Kamau (2018) investigated the association between operational risk management and tier two and tier three banks' financial performance in Kenya. Cross-sectional unbalanced panel data was obtained and analyzed through financial ratio analysis and linear regression model. The results revealed a negative but significant relationship between operational risk and bank's financial performance. An increase in the levels of cost to income ratio as a measure of operational risks decreased the performance significantly. The researcher concluded that banks are not able to manage operational risks. The study was limited to tier two and tier three banks. The current study focuses on commercial banks that are involved in mobile lending. Therefore, the financial performance was analyzed on basis of mobile lending operations.

Research by Lyambiko (2015) examined the effect of operational risk management practices on the financial performance in Tanzania's commercial banks.The researcher

utilized secondary data obtained from the Bank of Tanzania and analyzed through regression model. Descriptive survey design was employed. The main predictor variables were credit risk, insolvency risk and operations efficiency. Results established that operations efficiency has positive while insolvency risk has a negative effect on financial performance. On the choice of variables, credit risk, insolvency risk and operations' efficiency guided the study. The present study applies risk management practices among them the practice of risk forecasting to inform effective identification and mitigation of operational risks in mobile based lenders.

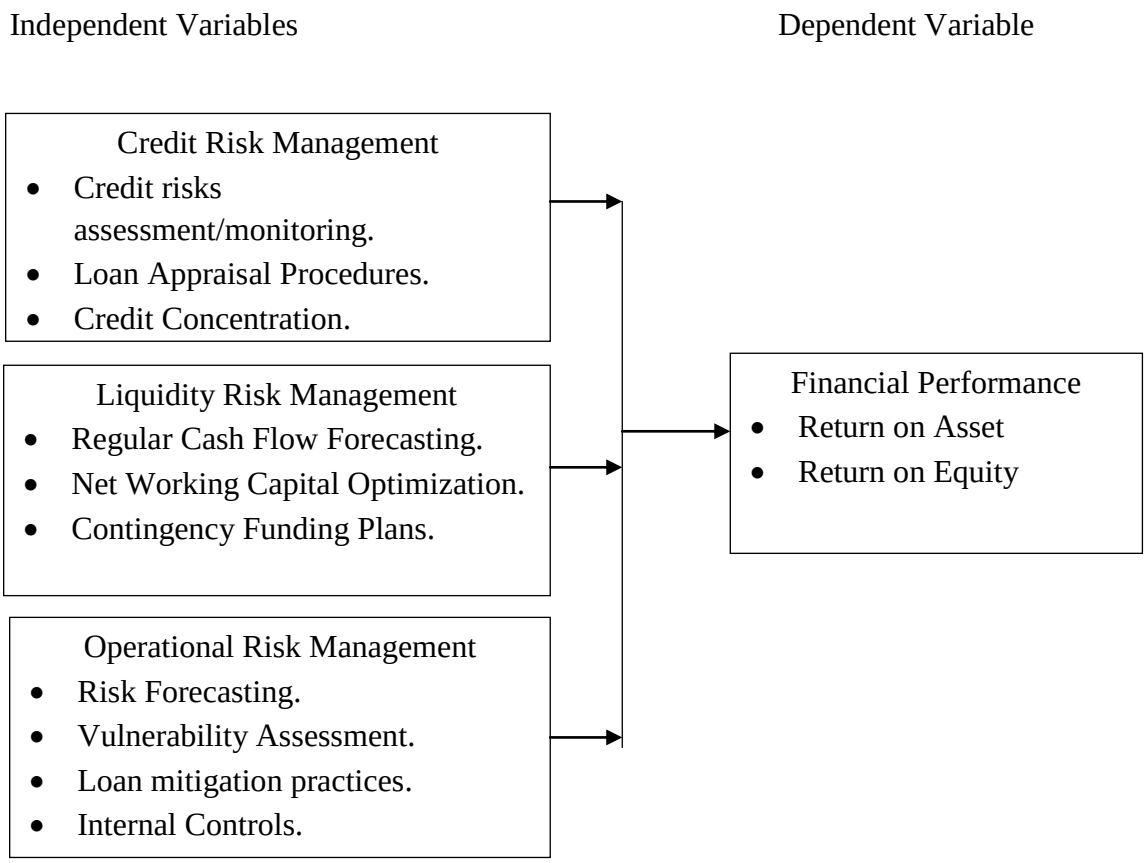
In Thailand, Annannab, Bakar, and Khan (2022) researched on the Operational risk management and performance of cooperative microfinance. Survey research design was employed. The researchers applied structural equation modeling in analyzing data. Results revealed that people risk, internal and technology risks affect cooperative microfinance banks' performance.

2.4 Conceptual Framework

The conceptual framework examines the relationship between the independent variables and the dependent variable. Figure 2.1 illustrates the association between the selected financial risk management practices comprising credit risk management, liquidity risk management and operational risk management (Independent Variables) and financial performance (Dependent Variable). Effective management of financial risk management contribute to increase in financial performance. The researcher expects the credit risk management practices, liquidity risk management practices and operational risk management practices to have a positive effect on mobile based lenders' financial performance.

Figure 1

Conceptual Framework



Source: Researcher (2024)

2.5 Critique of Reviewed Literature

The empirical literature reviewed in this section provides valuable insights into the relationship between risk management practices and financial performance in banking institutions. However, several general observations can be made based on the reviewed studies.

First, it is important to acknowledge the limited generalizability of many of the studies. It is crucial to consider the diversity of banking systems and regulatory environments across different regions to understand the effectiveness of risk management practices (Kamau, 2018). Methodological considerations should be considered. Some studies heavily rely on secondary data sources, such as financial statements, which may have

limitations in terms of accuracy and availability. Incorporating primary data collection methods, such as surveys or interviews, can provide more comprehensive insights into the relationship between risk management and financial performance (Catherine, 2020).

Furthermore, the focus of many studies is often limited to specific dimensions of risk management, such as credit risk or liquidity risk. While these dimensions are important, a comprehensive analysis should consider multiple types of risks, including operational risk and market risk, to provide a holistic perspective on the impact of risk management practices on financial performance (Leo *et al.*, 2019). Additionally, variations in indicators and measures used to assess risk management practices and financial performance pose a challenge in comparing findings across studies. Each study employs its own set of indicators, making it difficult to establish consistent benchmarks or best practices in risk management (Olalekan *et al.*, 2018).

Moreover, certain important variables that could influence the relationship between risk management practices and financial performance are often omitted in the reviewed studies. Factors such as corporate governance, regulatory compliance, and macroeconomic conditions may play a significant role but are not always adequately addressed (Fadun & Oye, 2020). Establishing a causal relationship between risk management practices and financial performance is challenging. Many studies rely on correlational analysis, which does not allow for strong causal inferences. It is important for future research to employ rigorous research designs that can establish causal relationships between risk management practices and financial performance (Muriithi & Waweru, 2017).

While the empirical literature reviewed provides valuable insights, there are certain limitations that need to be addressed. Future research should adopt a more comprehensive and cross-country approach, incorporate both primary and secondary data

sources, consider a broader range of risk types, employ standardized measures, account for omitted variables, and use rigorous research designs that allow for causal inferences. By addressing these limitations, researchers can enhance our understanding of the relationship between risk management practices and financial performance in the banking sector.

2.6 Summary Literature and Research Gaps

The reviewed studies on the credit risk management's influence on the financial performance focused majorly on the commercial banks. In this context, Nzioki (2019) researched on the credit risk control and its influence on performance of the Ezzy loans at Equity bank. On the other hand, Sitotaw (2020) analyzed fraud risks management and their effect on credit and saving institutions' performance in Ethiopia. These studies focused on the management of credit risks in respect to commercial banks which differs from the mobile lenders in terms of the aspects that ought to be considered in the practices of credit risk management. Empirical studies on liquidity risk focused on measures or indicators of liquidity and did not adequately address the liquidity risk management practices. For instance, Muriithi and Waweru (2017) investigated the liquidity risk and financial performance of commercial banks in Kenya. Results revealed that net stable funding ratio affect profitability negatively while liquidity coverage ratio had insignificant influence on banks' financial performance. The above parameters are indicators of liquidity level. The present study focuses on cash flow forecasts and seeks to evaluate its effect on financial performance. Similarly, Alim, Ali, and Metla (2021) found that liquid assets to total assets ratio, liquid assets to total deposit ratio, and balance due to other banks to total assets ratio influence financial performance. Those parameters are indicators of liquidity level and are not liquidity risk management

practices. The present study looks into contingency funding plans and working capital optimization and their effect on financial performance of mobile-based lenders.

Kamau (2018), examined the effect of operational risk management on financial performance of commercial banks in Kenya. The research was limited to tier two and tier three banks. The researcher looked into financial performance in general. However, the present study focuses on financial performance in regard to Mobile-Based Lenders in Nakuru County, Kenya. A research by Lyambiko (2015) examined operational risk management practices and the variables comprised credit risk, insolvency risk and operations' efficiency. The present study adopts variables that are actually the operational risk management practices. They include risk forecasting, vulnerability assessment and internal controls.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

The research methodology in this study examined diverse components of the research process. These components included research designs, target population, census design, and instrumentation of the study, procedures of data collection, analysis, and the ethical considerations applicable to this study.

3.2 Research Design

The research design employed in this study was a quantitative cross-sectional research design, which aimed to address the research objectives by analyzing numerical data. According to Peters and Fontaine (2020), a quantitative cross-sectional research design is an action plan that allows for the examination of relationships between variables without the researcher's manipulation.

3.3 Location of the Study

The study focuses on mobile-based lenders in Nakuru County, Kenya, a dynamic urban setting. Nakuru County was chosen as the study area due to its diverse urban dynamics, offering a representative sample of Kenya's mobile lending landscape. Its demographic and economic variability makes it an ideal microcosm for understanding how selected financial risk management practices impact the financial performance of mobile-based lenders, ensuring the study's relevance and applicability.

3.4 Target Population

The population of the study, as defined by Murata (2020), encompasses the target population— a group of individuals on which the study aims to focus and derive conclusions. The specific target population for the study included general managers, credit officers, and debt collectors from mobile-based lenders in Nakuru County, Kenya. The total number of respondents in the study was 64 individuals, comprising representatives from the mobile-based lending institutions such as Timiza by Absa, Ezzay Pay by Equity Bank, Whizz by Housing Finance, Loop by NCBA, Vooma by KCB, MCo-Op Cash by Coop Bank, and Pesa Pap by Family Bank. These lenders were selected based on their significance and relevance in the Nakuru County mobile-based lending market, reflecting the broader population involved in mobile-based lending practices in the region. The distribution of the target population is as shown in Table 1.

Table 1

Target Population

Mobile-Based Lender	Credit Officers/General Managers	Debt Collectors	Total
Timiza – By ABSA Bank	2	6	8
Loop by NCBA	3	4	7
HF Whizz	6	6	12
Eazzy by Equity	5	4	9
KCB Vooma	4	4	8
PesaPap by Family bank	4	5	9
MCo-Op Cash by Coop Bank	4	7	11
Total	28	36	64

Source: County Government of Nakuru (2023)

3.5 Sampling Procedure and Sample Size

Census design involves the intensive study of the population, thus leading to the collection of reliable data and avoidance of sampling bias (Queirós, Faria, & Almeida, 2017). Therefore, detailed data about every unit was obtained. Census was adopted in the present study as the target population was relatively small and manageable. Therefore, all the senior managers, credit officers and debt collectors were involved.

3.6 Data Collection Procedures

According to Gao, Hutchins, and Beardall (2020), data collection refers to the process of obtaining data from targeted respondents with a view to gaining information that is used to achieve the research objectives. Gathii, Wamukuru, Karanja, Muriithi, and Maina (2019) emphasized the importance of obtaining various field authorizations before undertaking the data collection process due to ethical considerations. In this context, the researcher sought data collection authorization from the Institute of Post Graduate Studies (IPGS) of Kabarak University, the National Commission of Science, Technology, and Innovation (NACOSTI), and the individual firms in which the research was conducted. According to Gathii*et al*. (2019), seeking authorization from NACOSTI is not only an ethical issue but also a statutory requirement for researchers undertaking research in Kenya. This is done to safeguard the rights of the respondents and adhere to government regulatory requirements. The researcher then presented a consent statement to individual respondents before self-administering the questionnaires using the drop and pick method.

To ensure the completeness and integrity of the data during data collection, the researcher utilized structured questionnaires or data collection instruments that captured all necessary information and underwent pre-testing to identify any issues. Regular

quality control checks were conducted, including the review of collected data, random spot checks, and double-data entry. Data validation techniques such as range checks and logic checks were employed, along with cross-validation using external sources. The researcher and supervisors provided supervision and monitoring throughout the data collection process, addressing any queries and conducting regular visits. Collected data was entered promptly into a secure database, ensuring timely storage and implementing backup procedures to prevent data loss or alteration. You have not discussed actual data collection procedures.

3.7 Data Collection Instruments

This study employed structured questionnaires in the data collection process. Kershner, Hennessy, Wegerif, and Ahmed (2020) asserted that structured questionnaires are often used in surveys due to their capacity to obtain high response rates. Schuster and Dunn (2020) further posited that structured questionnaires are also easy to analyze using IBM SPSS software. The structured questionnaire used in this study had categorical questions for the demographic characteristics. The study also used Likert-based questions for the measurement of the research variables, with a five-point Likert scale for measuring the financial risk management practices and the financial performance of mobile-based lenders.

The following were the inclusion criteria for the study detailed in the excerpt: Participants required to be credit officers or debt collectors currently working for Absa's Timiza, Equity Bank's Ezzay Pay, Housing Finance's Whizz, NCBA's Loop, KCB's Vooma, Family Bank's Pesa Pap, or Coop Bank's MCo-Op Cash. They also had to be working in Nakuru County, Kenya, and in the targeted departments.

Those who were not credit officers or debt collectors employed by the indicated mobile-based lenders or those who were not linked with the listed lenders, and those working outside Nakuru County were excluded. Participants with inadequate experience or tenure in their professions, as well as those who refused to grant permission, were also eliminated from the study.

3.7.1 Pilot Study

The pilot study was undertaken to achieve diverse objectives before the final full-scale study was conducted. This preliminary study was undertaken within Uasin Gishu County, which shared demographic characteristics with Nakuru County, which was the focus of the study. Orodho and Kombo (2002) further asserted that at least 10% of the sample size should have been utilized in the pilot study. This study thus utilized 10% of the population. The results were then used for the improvement of the questionnaire and the logistical considerations for the final undertaking of the study.

3.7.2 Validity of the Research Instrument

According to Kauffman and Witt (2020), validity was the instrument's ability to measure what it was designed to measure. There are different aspects of validity that can be examined in a study, such as face validity and content validity. According to Flewitt*et al.* (2020), face validity referred to whether, at face value, the research instrument measured what it purported to measure. This was established by ensuring that each of the variables had a set of questions that were clearly marked to measure that variable. In this context, there were clearly designated sections measuring specific variable items to ensure face validity.The study also examined the research instrument's content validity. According to Andrassy (2020), content validity expressed the representation of the entire domain of the variable as operationalized in the study. This study used Lawshe's methodology in

the examination of the content validity ratio. In this context, the experts were asked to judge each item as either essential, useful but not essential, or not necessary.

In this study, ensuring the validity of the questionnaire was a priority. To achieve this, a systematic process was followed, starting with a comprehensive literature review to identify the relevant constructs. Subsequently, questionnaire items were developed based on the findings from the literature review. The next step involved seeking input from a panel of experts in the field who carefully reviewed the questionnaire for its relevance and appropriateness. Incorporating their valuable feedback, revisions were made to improve the questionnaire. By employing content validity, the researcher established that the questionnaire was a valid instrument for measuring the specific concepts under investigation. This rigorous approach to questionnaire development and validation contributes to the reliability and credibility of the study's findings, instilling confidence in the measurement of the variables and the subsequent analysis and interpretation of the results.

3.7.3 Reliability of the Research Instrument

According to Noblit (2020), internal consistency reliability is the consistency of the responses across a multi item scale that is being used to measure a summated scale. There is an expectation of the items in such multi –item scale to have high correlations amongst the items which is what the internal consistency seeks to measure. For the reliability of the research instruments, the researcher conducted a pilot test at Vooma by KCB Eldoret branch using 10% of the total questionnaire. The aim was to observe if the results yielded were consistent and reliable.

The selection of Vooma by KCB Eldoret branch for the pilot test is because Eldoret is a similar in size to Nakuru city in Kenya, and the branch has a significant customer base.

As such, it is expected to provide a representative sample for the pilot test. Additionally, Vooma by KCB is a well-established mobile-based lending platform that has been in operation for several years, which makes it a suitable choice for the pilot test of the research instruments. According to Noblit (2020), the internal consistency is determined by use of Cronbach alpha coefficient and the threshold is 0.7. The study determined reliability through Cronbach alpha coefficient. The reliability test results presented in presented in Table 2, demonstrate the internal consistency of various financial risk management practices and financial performance.

Table 1

Reliability Test Results

Variables	Items Tested	Cronbach Alpha Value
Credit Risk Management	5	0.764
Liquidity Risk Management	5	0.803
Operational Risk Management	5	0.797
Financial Performance	5	0.736

Source: Research Findings (2023)

Table 2 presented the Cronbach alpha value for credit risk management as α=0.764. These results showed that the statements on credit risk assessment, loan appraisal procedures, and credit concentration, as indicators of credit risk management were consistent. Similarly, in the liquidity risk management section, the questionnaire demonstrates reliability with a Cronbach alpha value of α=0.803. This indicates that the questions pertaining to regular cash flow forecasting, net working capital optimization, and the use of contingency funding plans were reliable.

Furthermore, the operational risk management section also exhibited reliability with a Cronbach alpha value of α=0.797. This signified those statements concerning risk forecasting, vulnerability assessment, and internal controls were consistent. Lastly, the response variable (financial performance) was reliable, with a Cronbach alpha value of α=0.736 meeting the threshold. In summary, the overall results affirm the questionnaire's reliability, confirming that the tool was consistent for data collection in the main study.

3.8 Data Analysis and Presentation

Data analysis involved a systematic process of utilizing statistical and, to some extent, logical techniques in the description, illustration, and analysis of data (Queirós*et al.*, 2017). The effective analysis of data aimed to contribute to accuracy and reliability in presentation by minimizing statistical errors, addressing outlier challenges, and avoiding data alterations. Descriptive analysis utilized percentages, standard deviations, and mean responses to summarize and describe the data. Under inferential analysis, correlation and regression methods were used. The correlation coefficient (r) was employed to establish associations between predictor variables and response variables, quantifying the strength and direction of the relationships.

For the regression analysis, various statistical measures were utilized. The coefficient of determination (R^2), beta coefficients, standard errors, t-values, and the signs of the coefficients were applied to predict financial performance based on variations in the predictor variables. The analysis was aided by the Statistical Package for the Social Sciences (SPSS), a software program commonly used for statistical analysis in social sciences research.

The regression model specified for this study was as follows:

$Yi=\beta 0+\beta 1X1i+\beta 2X2i+\beta 3X3i+\varepsilon i$

Where:

Y= Financial Performance

X_1= Credit Risk Management

X_2= Liquidity Risk Management

X_3= Operational Risk Management

ε = Error term

B_0 = Constant Term

β_1-β_3= Beta coefficients X_1, X_2andX_3

Diagnostic tests are essential in determining the suitability of research data for analysis (Mishra, Pandey, Singh, Gupta, Sahu, &Keshri, 2019). Therefore, the following diagnostic tests were conducted:

The normality test aimed to determine whether the data followed a normal distribution (Mishra *et al.*, 2019). In the study, the normality test was used to determine if the data had a normal distribution. Because many statistical studies and hypothesis testing assume a normal distribution, this test is critical. Normality is determined through the Kolmogorov-Smirnov test and Shapiro-Wilk test. The Kolmogorov-Smirnov test (KS test) assesses if a data sample matches a specific distribution, like the normal one, by measuring the largest difference between the data's distribution and the expected distribution. It helps decide if the data conforms to the chosen distribution or if there are notable deviations. The Shapiro-Wilk test was preferred for the current study. The Shapiro-Wilk test checks if data follows a normal distribution by comparing it to the expected values and calculating a test statistic. If the statistic is close to what's expected

for a normal distribution, it implies the data is likely normally distributed; otherwise, it suggests departure from normality. When data is normally, distributed, it has a symmetric bell-shaped curve. A p-value greater than 0.05 in the test indicates that the data is not significantly different from a normal distribution, satisfying the assumption of normality and allowing the use of parametric statistical tests like t-tests and regression, which rely on this assumption. Obtaining precise and dependable results in the analysis requires ensuring the data's approaching normalcy.

Multicollinearity refers to the presence of multiple correlations among predictor variables. This issue could lead to unreliable regression results (Daoud, 2017). In the study, the multicollinearity test was used to detect and address the presence of multicollinearity among the predictor variables. High correlations between predictors might lead to inaccurate regression findings due to multicollinearity. Variance Inflation Factor (VIF) was used to determine multicollinearity. The Variance Inflation Factor (VIF) is a statistical technique commonly applied in regression analysis to evaluate and mitigate multicollinearity, a condition arising from strong correlations among independent variables in a model. VIF quantifies how much inflation occurs in the variance of the regression coefficients because of multicollinearity.

In essence, it helps gauge the impact of correlated predictors on the stability and precision of the regression model. VIF values within the range of 1 to 10 are indicative of the absence of a significant multicollinearity problem in a regression model. This range implies that while some level of correlation may exist among predictor variables, it is generally moderate and not strong enough to unduly inflate the variance of the estimated coefficients. As a result, the researcher can interpret the effects of individual variables on the dependent variable with a reasonable level of precision and reliability.

Heteroscedasticity refers to a condition in which the variability of residuals or error terms varies throughout the dataset (Ghasemi & Zahediasl, 2012). This issue is significant as it can lead to an inflation of standard errors, increasing the likelihood of type two errors failing to reject a false hypothesis regarding a coefficient. In this study, the Breusch-Pagan/Cook-Weisberg test for Heteroscedasticity was executed in SPSS at a 0.05 significance level. The null hypothesis assumes homoscedasticity, where error terms exhibit constant variance across entities. Rejection of the null implies heteroscedasticity, indicating that the variance of error terms across entities is not constant. The rejection criterion is met when the p-value ratio test is below 5%.

3.9 Ethical Considerations

Ethical considerations are paramount in the research as they uphold moral principles and ensured the protection of participants (Neuman, 2020). In this study, several ethical considerations were considered to ensure the welfare and rights of the participants.

Anonymity and confidentiality were strictly maintained throughout the data collection process. All personal information and data collected from participants was treated with utmost confidentiality. Any identifying information was anonym zed, ensuring that individual participants could not be identified in any research outputs or publications.

The researcher obtained informed consent from participants before recruitment by following a structured process. Participants were provided with a clear explanation of the study, including its purpose, procedures, potential risks and benefits, and confidentiality measures. They had the opportunity to ask questions and receive honest responses. Emphasis was placed on voluntary participation, and participants were asked to sign a consent form to indicate their agreement. Confidentiality of participant data was assured.

Moreover, the study ensured voluntary participation, meaning that respondents could choose to participate or withdraw from the study at any point without facing any form of coercion or penalty. Participants were fully informed about the study and its requirements, allowing them to make an informed decision about their participation.

To ensure data safety, all collected data was securely stored and protected from unauthorized access. The research team adhered to data protection laws and regulations to safeguard the privacy and confidentiality of the participants' information.

Furthermore, the study sought authorization from the Kabarak University Research Ethics Committee (KUREC). This committee was responsible for reviewing and approving research projects to ensure adherence to ethical guidelines. Additionally, authorization was sought from the National Council of Science, Technology, and Information (NACOSTI), which governed research activities in Kenya.

Confidentiality and data safeguarding were of utmost importance in this study. The handling and storage of data were conducted with strict adherence to confidentiality protocols. All collected data, whether electronic or physical copies, were treated with utmost confidentiality and stored securely. Electronic data was stored on encrypted servers or password-protected databases, ensuring that only authorized personnel had access. Physical copies, if any, were stored in locked cabinets or secure storage areas to prevent unauthorized access.

The data retention period was determined based on relevant regulations, ethical guidelines, and institutional policies. The duration for which data was retained was carefully assessed, ensuring compliance with legal requirements. Once the retention period expired or the data was no longer necessary for the study, appropriate steps were taken to securely dispose of the data. This involved permanent deletion of electronic data

or shredding of physical documents. The disposal process was carried out in accordance with data protection regulations to prevent any potential breaches.

Access to the collected data was strictly controlled and limited to authorized personnel involved in the research project. The principal investigator, research assistants, and designated team members with a legitimate need to access the data were granted specific permissions. Access controls, such as unique login credentials and restricted access permissions, were implemented to ensure data security and prevent unauthorized access.

The principal investigator (PI) assumed responsibility for overseeing and managing all aspects of data handling, storage, access, retention, and disposal. The PI ensured that data confidentiality was maintained throughout the study and that all data-related activities aligned with the required ethical and legal standards. By implementing these measures, the study safeguarded participant data, maintained confidentiality, and ensured compliance with data protection regulations.

The study faced the challenge of implementing rigorous data security measures, including strict access controls, secure storage, and participant data anonymization. This challenge was overcome to ensure limited access, encrypted storage, and the removal of personal identifiers, maintaining participant anonymity, and complying with data protection regulations.

The study faced the challenge of prioritizing participant privacy through informed consent and limited data collection. Overcoming this challenge, only necessary information was obtained, minimizing risks associated with sensitive or unnecessary data. This approach safeguarded participants' confidentiality and aligned with ethical data handling practices.

During the reported period, the study faced the challenge of implementing secure communication channels and file sharing. Overcoming this challenge enhanced the overall security framework, preventing unauthorized access and maintaining the integrity of data exchanges.

The study faced the challenge of adhering to relevant data protection and privacy regulations. Overcoming this challenge involved maintaining compliance with legal requirements and guidelines, establishing a robust framework to safeguard participants' privacy and ensure ethical research practices.

The study faced the challenge by implementing robust security measures. Overcoming this challenge, emphasis was placed on restricted access controls, encryption, and clear communication of confidentiality guidelines, providing reassurance to all involved parties, and fostering a secure research environment.

Recognizing the challenges of tight schedules, the study faced the challenge of prioritizing effective project management in the past. Overcoming this challenge involved systematically organizing tasks, prioritizing them, and communicating transparently to the team. Contingency plans were in place, ensuring efficient time management and proactive communication to alleviate stress.

CHAPTER FOUR

DATA ANALYSIS PRESENTATION AND DISCUSSION

4.1 Introduction

This chapter presents the data findings, including response rate, demographic information, descriptive statistics, diagnostic tests, correlation analysis, regression analysis, and the interrelation of the study results. The chapter utilizes tables to present the data in an organized manner and provides a comprehensive overview of the characteristics and trends observed. It explores the relationships between variables and examines the effect of independent variables on the dependent variable.

4.2 Response Rate

Out of the 64 questionnaires distributed, 55 were returned, resulting in a response rate of approximately 85.9%. This indicates a high level of engagement and willingness among the participants to provide their input and contribute to the research.

4.3 Demographic Information of the Respondents

The Demographic Information include the highest level of education of the respondents. The findings are presented in Table 3.

Table 3

Highest Level of Education of the Respondents

	Frequency	Percent (%)
Certificate	3	5.5
Diploma	5	9.1
Bachelor's Degree	35	63.6
Master's Degree	7	12.7
PhD	5	9.1
Total	55	100.0

The analysis of the provided table on academic qualifications reveals that among the 55 respondents, the majority held bachelor's degrees, accounting for 63.6% of the participants. The respondents with certificates were 3 (5.5%), master's degrees (12.7%), and PhDs (9.1%). Moreover, 9.1% of the respondents had diploma as the highest level of education. Adding these percentages gives a total of 85.4%, indicating that 85.4% of the respondents have completed at least an undergraduate degree. This high percentage suggests a significant majority of the surveyed population possesses a solid educational foundation.

4.4 Descriptive Statistics

Descriptive analysis was conducted to establish the effect of financial risk management practices on the mobile-based lenders financial performance.

4.4.1 Credit Risk Management

The study aimed to assess the effect of credit risk management on mobile-based lenders with the results presented in Table 4.

Table 4

Credit Risk Management

	N	SA 5	A 4	U 3	D 2	SD 1	Mean	Std. Dev
The credit risks assessment/monitoring procedures are effective in identifying potential defaulters.	55	54.5%	29.1%	10.9%	5.5%	0%	4.33	0.893
Loan appraisal procedures are comprehensive and sufficient in determining the creditworthiness of borrowers.	55	36.4%	43.6%	12.7%	3.6%	3.6%	4.05	0.989
The loan frauds mitigation policies and strategies are effective in preventing and detecting fraudulent activities.	55	30.9%	34.5%	21.8%	10.9%	1.8%	3.82	1.056
The company provides adequate training to employees on credit risk management practices.	55	27.3%	25.5%	30.9%	10.9%	5.5%	3.58	1.166
The credit risk management policies and procedures are regularly reviewed and updated to reflect changes in the lending environment.	55	38.2% 38.2	40% 78.2	18.2% 96.4	3.6% 100	0% 100	4.13	0.840

The descriptive findings established that 83.6% of the respondents agreed (Mean=4.33; Std. Dev.=0.893) that the credit risks assessment/monitoring procedures are effective in identifying potential defaulters. This high level of agreement among respondents shows the credit risk assessment and monitoring procedures vitally help mobile-based lenders identify and manage potential defaulters more efficiently. Effective credit risk

assessment and monitoring can lead to sound, lending decisions. Lending to lower default risks customers enhance financial performance by increasing the interest income from loans that are more likely to be repaid. 80% of the respondents also agreed (Mean=4.05; Std. Dev.=0.989) that loan appraisal procedures are comprehensive and sufficient in determining the creditworthiness of borrowers. Effective appraisal procedures affect the financial performance of mobile-based lenders by reducing default risks and enhancing the quality of loans extended.

While 65.4% of the respondents agreed (Mean=3.82; Std. Dev.=1.056) that loan frauds mitigation policies and strategies are effective in preventing and detecting fraudulent activities, 21.8% were unclear and 12.7% disagreed with the same assertion. The findings indicated that the fraud mitigation is effective in some mobile-based lenders and are ineffective in others. Similarly, 52.8% of the respondents agreed but 30.9% had differing views (Mean=3.58; Std. Dev.=1.166) that mobile-based lenders provide adequate training to employees on credit risk management practices. The finding suggests the need for improvement and standardization in the training programs regarding credit risk management among the mobile-based lenders. Moreover, 78.2% of the respondents agreed (Mean=4.13; Std. Dev.=0.840) that credit risk management policies and procedures are regularly reviewed and updated to reflect changes in the lending environment. This enhances the lender's ability to proactively manage risks and potentially lead to improved financial performance through better risk management practices.

This study concurs with Nzioki's (2019) research, which examined the influence of credit risk control on the performance of Ezzy loans in Equity Bank Kenya. The results of the studyrevealed a link between credit risk control practices and the performance of mobile

loans. The quantification of credit risks, individual risk control, and portfolio risk control were identified as the key determinants of performance levels at Equity Bank.

4.4.2 Liquidity Risk Management

The objective of the study was to investigate the effect of liquidity risk management on mobile-based lenders with the pertinent results illustrated in Table 5.

Table 5

Liquidity Risk Management

	N	SA 5	A 4	U 3	D 2	SD 1	Mean	Std. Dev
Regular cash flow forecasting has helped the company to manage its liquidity position effectively.	55	49.1%	32.7%	14.5%	1.8%	1.8%	4.25	0.925
The company has implemented strategies to optimize its net working capital and improve its liquidity position.	55	49.1%	23.6%	14.5%	10.9%	1.8%	4.07	1.120
The contingency funding plans have been useful in managing unexpected cash shortfalls.	55	14.5%	10.9%	67.3%	7.3%	0%	3.25	0.966
The company has maintained adequate levels of cash and cash equivalents to meet its short-term obligations.	55	54.5%	20%	7.3%	10.9%	7.3%	4.04	1.319
The liquidity risk management policies and procedures are regularly reviewed and updated to reflect changes in the operating environment.	55	18.2%	16.4%	32.7%	21.8%	10.9%	3.09	1.251

The findings show that 81.8% of the respondents agreed (Mean=4.25; Std. Dev.=0.925) that regular cash flow forecasting has helped the mobile based lenders to manage their liquidity position effectively. Similarly, 72.7% of the respondents agreed (Mean=4.07; Std. Dev.=1.120) that mobile-based lenders have implemented strategies to optimize their net working capital and improve its liquidity position. However, the descriptive findings showed that 67.3% of the participants did not agree nor disagree (Mean=3.25;

Std. Dev.=0.966) that contingency funding plans have been useful in managing unexpected cash shortfalls in their mobile-based lenders. According to the findings, 74.5% of the respondents concurred (Mean=4.04; Std. Dev.1.319) that their respective mobile-based lenders have maintained adequate levels of cash and cash equivalents to meet its short-term obligations.

Furthermore, 34.6% of the respondents agreed while 32.7% had differing views (Mean=3.09; Std. Dev.=1.251) on whether liquidity risk management policies and procedures are regularly reviewed and updated to reflect changes in the operating environment.

Overall, the descriptive research findings showed that mobile-based lenders' financial performance greatly hinges on the management of liquidity risks, as it guarantees the availability of ample cash reserves for operational requirements and adeptly addresses unforeseen liquidity issues.Effective liquidity risk management, when executed effectively, can enable these lenders to sustain stable operations and foster desirable financial performance. The results relate with those of Tamunosiki *et al*. (2017), who observed that effective liquidity risk management serves as a key indicator of financial health and offers insights into a lending institution's capacity to meet short-term financial needs, with the goal of mitigating the risk of inadequate liquidity to fulfill obligations.

4.4.3 Operational Risk Management

The study’s aim was to determine the effect of operational risk management. The findings are illustrated in Table 6.

Table 6

Operational Risk Management

	N	SA 5	A 4	U 3	D 2	SD 1	Mean	Std. Dev
The risk forecasting techniques are effective in identifying potential operational risks.	55	34.5%	52.7%	10.9%	1.8%	0%	4.20	0.704
The vulnerability assessment procedures have helped the company to identify areas of weakness and implement appropriate controls.	55	38.2%	34.5%	21.8%	5.5%	0%	4.05	0.911
The internal control procedures are sufficient in preventing and detecting operational risks.	55	25.5%	30.9%	32.7%	7.3%	3.6%	3.67	1.055
The company provides adequate training to employees on operational risk management practices.	55	16.4%	25.5%	36.4%	16.4%	5.5%	3.31	1.103
The operational risk management policies and procedures are regularly reviewed and updated to reflect changes in the operating environment.	55	38.2%	41.8%	16.4%	3.6%	0%	4.15	0.836

The findings showed that 87.2% of the respondents agreed (Mean=4.20; std. Dev.= 0.704) that the risk forecasting techniques are effective in identifying potential operational risks. Additionally, 72.7% of the research participants agreed (Mean=4.05; Std. Dev. =0.911) that the vulnerability assessment procedures have helped their respective companies to identify areas of weakness and implement appropriate controls. Although 56.4% of the respondents agreed, 32.7% had differing views (Mean=3.67; Std.

Dev.=1.055) that their internal control procedures are sufficient in preventing and detecting operational risks. Similarly, 41.9% of the respondents agreed while 36.4% were indifferent (Mean=3.31; Std. Dev.=1.103) that the mobile-based lenders provide adequate training to employees on operational risk management practices. Moreover, 80% of the respondents agreed (Mean=4.15; Std. Dev=0.836) that the operational risk management policies and procedures are regularly reviewed and updated to reflect changes in the operating environment. The results agree with those of Leo *et al.* (2019), who found that operational risks are inherent in all processes, activities, and products/services, emphasizing that in mobile lending, the effectiveness of managing operational risks reflects the quality of administering these processes, activities, and loan product portfolios.

4.4.4 Financial Performance of Mobile-Based Lenders

The study sought the views of the respondents on mobile-based lenders. The findings are illustrated in Table 7.

Table 7

Financial Performance of Mobile-Based Lenders

	N	SA 5	A 4	U 3	D 2	SD 1	Mean	Std. Dev
Over the past three years, our company has experienced a steady improvement in the return on assets (ROA).	55	56.4%	29.1%	7.3%	7.3%	0%	4.35	0.917
We have consistently achieved better returns on equity (ROE) in the last three years.	55	41.8%	32.7%	25.5%	0%	0%	4.16	0.811
Our net profit margin has shown a consistent upward trend over the past three years.	55	34.5%	38.2%	21.8%	5.5%	0%	4.02	0.892
The company maintains a healthy balance sheet, characterized by low debt levels and adequate reserves.	55	29.1%	49.1%	14.5%	7.3%	0%	4.00	0.861
Our financial performance metrics are regularly reviewed and updated to reflect changes in the operating environment, which has contributed to our overall success.	55	45.5%	32.2%	12.7%	9.1%	0%	4.15	0.970

According to the findings, 85.5% of the respondents agreed (Mean =4.35; Std. dev.=0.917) that for the past three years, the mobile lenders have experienced a steady improvement in the return on assets. The findings indicate that the financial performance of mobile-based lenders has increased for stated period. 74.5% of the respondents also agreed (Mean=4.16; Std. Dev.=0.811) that the mobile lenders have consistently achieved better returns on equity (ROE) in the last three years. Moreover, 72.7% of the respondents agreed (Mean=4.02; Std. Dev.=0.892) that the mobile lenders' net profit margin has shown a consistent upward trend over the past three years. 78.2% of the

respondents concurred (Mean=4.00; Std. Dev.=0.861) that their respective mobile based lenders maintain a healthy balance sheet, characterized by low debt levels and adequate reserves. Additionally, 77.7% of the respondents agreed (Mean=4.15; Std. Dev.=0.970) that the financial performance metrics are regularly reviewed and updated to reflect changes in the operating environment, which has contributed to our overall success. The results are linked to the study conducted by Fadun and Oye (2020), which explored the influence of operational risks on the financial performance of commercial banks in Nigeria.

4.5 Inferential Analysis

Inferential analysis was done to establish the relationship between financial risk management practices and the mobile-based lenders' financial performance. Before conducting this analysis, diagnostic tests were carried out, including the normality and multicollinearity.

4.5.1 Diagnostic Test Results

Conducting diagnostic tests prior to inferential analysis is essential as they help maintain data integrity, validate assumptions, and identify potential issues that may compromise the accuracy and reliability of analysis. These comprised tests of normality and multicollinearity. The findings are presented in Tables 8 and 9.

Table 8

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Credit Risk Management	.105	55	.200*	.959	55	.056
Liquidity Risk Management	.130	55	.021	.966	55	.120
Operational Risk Management	.118	55	.056	.966	55	.116
Financial Performance	.121	55	.042	.961	55	.070

a. Lilliefors Significance Correction

The results indicate that the p-values were credit risk management (p=0.056), liquidity risk management (p=0.120), operational risk management (p=0.116), and financial performance (p=0.070). All the variables surpassed the 0.05, which indicates that the data exhibited a normal distribution. This shows that the data's distribution met the assumption of normality. The Lilliefors Significance Correction is utilized for the Shapiro-Wilk test to address potential concerns related to sample size and maintain the accuracy of the normality assessment.

Table 9

Multicollinearity Test Results

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	.694	.311		2.233	.030		
Credit Risk Management	.139	.059	.181	2.362	.022	.903	1.107
Liquidity Risk Management	.255	.056	.351	4.562	.000	.897	1.115
Operational Risk Management	.499	.062	.619	8.108	.000	.913	1.095

a. Dependent Variable: Financial Performance

Table 9 presents Collinearity statistics concerning the study's variables. The findings revealed that credit risk management had a VIF value of 1.107 and a tolerance of 0.903. Similarly, liquidity risk management had a VIF value of 1.115 and a tolerance of 0.897, while operational risk management showed a VIF of 1.095 and a tolerance value of 0.913. The results of the multicollinearity test indicated that all VIF values were within the range of 1-10, indicating the absence of any multicollinearity issues.

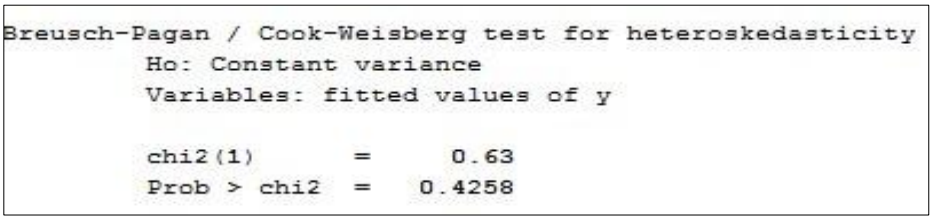
The VIF values for credit risk management, liquidity risk management, and operational risk management are all close to the lower limit of 1, suggesting low levels of collinearity among the variables. While VIF values between 1 and 10 generally indicate the absence of severe multicollinearity, the proximity to the lower limit could imply a minimal risk of collinearity. However, in this case, as the values are still within the acceptable range, it suggests that the variables are relatively independent, contributing to the robustness of the study's findings and supporting the validity of the regression analysis.

4.5.2 Tests for Heteroscedasticity

The heteroscedasticity of the data was examined through the implementation of the Breusch-Pagan test, and the outcomes are presented in Figure.

Figure 2

Breusch Pagan Test for Heteroscedasticity



As seen in the analysis, the outcomes of the Breusch-Pagan test do not exhibit statistical significance. Consequently, we retain the null hypothesis, indicating constant variance (Homoscedasticity), since the chi-squared value exceeds 0.05. This leads to the conclusion that the error term variance remains consistent. Therefore, it can be inferred that there is no evidence of heteroscedasticity within the dataset.

4.5.3 Correlation Analysis

The correlation analysis establishes the relationship between the four variables: credit risk management, liquidity risk management, and operational risk management and financial performance. The correlation matrix shows the correlation coefficients and their corresponding p-values. The findings are shown in Table 10.

Table 10

Correlations Matrix

		Financial Performance	Credit Risk Management	Liquidity Risk Management	Operational Risk Management
Financial Performance	Pearson Correlation	1	.414**	.548**	.745**
	Sig. (2-tailed)		.002	.000	.000
	N	55	55	55	55
Credit Risk Management	Pearson Correlation	.414**	1	.262	.227
	Sig. (2-tailed)	.002		.053	.096
	N	55	55	55	55
Liquidity Risk Management	Pearson Correlation	.548**	.262	1	.241
	Sig. (2-tailed)	.000	.053		.077
	N	55	55	55	55
Operational Risk Management	Pearson Correlation	.745**	.227	.241	1
	Sig. (2-tailed)	.000	.096	.077	
	N	55	55	55	55

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

As per the results derived from correlation statistical analysis, it is evident that there exists a positive and statistically significant relationship between credit risk management and the financial performance of mobile-based lenders. This was depicted by the

correlation coefficient (r=0.414**; p=0.002). The results means that the indicators of credit risk management comprising credit risk assessment, loan appraisal procedures, and credit concentration affected the mobile-based lenders' financial performance. The positive correlation coefficient signifies that an increased effectiveness of credit risk management lead to an increase in the financial performance of these lenders. The findings relate to those of Serwadda (2018), who examined how credit risk management practices influence the financial performance of commercial banks.

The findings revealed a significant correlation between credit risk management and the financial performance of these banks. The correlation statistical results also revealed that the relationship between liquidity risk management and the financial performance of mobile-based lenders was significant (r=0.548**; p=0.000) at a 1% significance level. This implies that elements including regular cash flow forecasting, net working capital optimization, and the utilization of contingency funding plans play a major role in influencing the performance of mobile-based lenders. Once again, the positive correlation coefficient indicates that an enhancement in liquidity risk management practices leads to increase in the financial performance of the lenders. The findings relate to the findings of Muriithi and Waweru (2017) who conducted a study on the liquidity risk and financial performance of commercial banks in Kenya. The results revealed that there was an adverse correlation between the net stable funding ratio and profitability, both in the short term and the long term. Variations in liquidity risk were found to be indicative of the banks' overall financial performance.

Moreover, the correlation analysis results revealed a highly positive and significant relationship (r=0.745**; p=0.000) at the 1% significance level between operational risk management and the financial performance of mobile-based lenders. This implies that components comprising risk forecasting, vulnerability assessment, and the

implementation of internal controls within the framework of operational risk management influence the mobile-based lenders' financial performance. The positive correlation coefficient in this context highlights that increase in the effectiveness of operational risk management practices contributes to an increase in the mobile-based lenders' financial performance. The findings contrast with those of Sharifi*et al.,* (2016) regarding the connection between bank size, ownership, and the handling of operational risks in banks. The results indicated a negative correlation between bank size and the capital allocated for managing operational risks.

4.5.4 Regression Analysis

The regression analysis establishes the association between financial risk management practices and the mobile-based lenders' financial performance of mobile-based lenders. The pertinent results are illustrated in Tables 10, 11, and 12, which include the model summary, Analysis of Variance (ANOVA), and regression coefficients respectively.

Table 11

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.854[a]	.729	.713	.28144

a. Predictors: (Constant), Operational risk management, credit risk management, Liquidity risk management

The model summary revealed that the correlation coefficient was R=0.854 with a coefficient of determination of R^2=0.729. This indicates that there exists a statistically significant relationship between the financial risk management practices and the financial performance of mobile-based lenders. The financial risk management practices are attributable to the 72.9% of the variation observed in the financial performance of

mobile-based lenders. The findings are consistent with a study conducted by Ngotho (2020), which revealed that the identification and monitoring of risks, along with loan collection policies, had effects on mobile loans.

Table 12

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	10.845	3	3.615	45.759	.000[b]
	Residual	4.040	51	.079		
	Total	14.884	54			

a. Dependent Variable: Financial Performance

b. Predictors: (Constant), Operational risk management, credit risk management, Liquidity risk management

Based on the results, the F-value =45.759 was significant (p=0.000) at a 95% confidence level, signifying the overall significance of the model. Consequently, the credit, liquidity, and operational risk management practices collectively affected the mobile-based lenders' financial performance. This underscores the importance of considering these risk management factors as a holistic framework in understanding and enhancing financial performance. The results relate with Catherine's (2020) research, which delved into how credit risk management affects the financial performance of Bank of Africa in Uganda and uncovered those elements like credit risk appraisal, risk diversification, and risk control significantly impact the financial performance of commercial banks.

Table 13

Regression Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.694	.311		2.233	.030
	Credit Risk Management	.139	.059	.181	2.362	.022
	Liquidity Risk Management	.255	.056	.351	4.562	.000
	Operational Risk Management	.499	.062	.619	8.108	.000

a. Dependent Variable: Financial Performance

The interpretation of the regression model $Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \varepsilon$ is as follows:

$Y = 0.694 + 0.139X_1 + 0.255X_2 + 0.499X_3 + \varepsilon$. The regression coefficients provide valuable insights into the relationships between the independent variables (credit risk management, liquidity risk management, and operational risk management) and the dependent variable (financial performance) in the context of mobile-based lenders. The regression coefficients offer precise quantification of these relationships, allowing the researcher to make informed inferences. For instance, a one-unit increase in credit risk management is associated with an increase of 0.139 units in the financial performance of mobile-based lenders, suggesting that improving credit risk management practices can have a positive effect on financial performance. Similarly, a one-unit change in liquidity risk management is linked to a 0.255 unit change in financial performance and a one-unit change in operational risk management lead to a 0.499 unit change in financial performance. These findings provide actionable insights for optimizing risk management strategies in mobile-based lending institutions to enhance their financial performance.

4.5.5 Hypotheses Testing

The first null hypothesis was $H0_1$: There is no statistically significant effect of credit risk management practices on the financial performance of mobile-based lenders in Nakuru County, Kenya. As per the regression analysis results, the t-value (t=2.362; p=0.022) was significant at 95% confidence level. This contributed to the rejection of the first null hypothesis. It was concluded that credit risk management has a significant effect on the mobile-based lenders' financial performance. This study is in line with the research conducted by Mburu, et al,. (2020), which investigated credit management practices and their impact on the loan performance of banks in Kenya. The results revealed that the loan performance is significantly influenced by lending and loan collection policies, highlighting the crucial role of effective credit management practices in determining loan performance. The study also aligns with Ngotho's (2020) findings regarding the management of credit risks and mobile loans, indicating that risk identification, monitoring, and loan collection policies significantly affect mobile lending. Based on empirical studies and current findings, the credit risk management practices are crucial for attaining positive financial results in lending activities. These studies emphasize the pivotal role of thorough risk identification, diligent monitoring, and sound loan collection policies in fostering sustainable and effective lending operations, which enhance financial performance.

The second null hypothesis was $H0_2$: There is no statistically significant effect of liquidity risk management practices on the financial performance of mobile-based lenders in Nakuru County, Kenya. The findings showed that the t-value (t=4.562; p=0.000) was significant at 95% confidence level. The second null hypothesis was rejected, and the researcher concluded that the mobile-based lenders' financial performance is affected by the liquidity risk management. The result converges with the

research by Alim, et al., (2021) regarding the effect of liquidity risk management on the financial performance of commercial banks. The results indicated a strong influence of liquidity measures, including the liquid assets to total assets ratio, liquid assets to total deposit ratio, and balance due to other banks to total assets ratio, on financial performance. Ratemo and Ndede (2021) conducted an evaluation of liquidity risk and financial performance among Commercial Banks in Kenya. The findings indicated a positive and significant impact of bank size coefficient on the financial performance of commercial banks. Additionally, the study found a negative and significant effect of asset quality coefficient on commercial banks' financial performance. In light of these findings, liquidity risk management plays a critical role in shaping the financial performance of mobile-based lenders. As such, these lenders tend to exhibit better financial performance, potentially due to their ability to manage liquidity risks more effectively. Conversely, inadequate liquidity risk management adversely affects the mobile-based lenders' financial performance.

The third null hypothesis was $H0_3$: There is no statistically significant effect of operational risk management practices on the financial performance of mobile-based lenders in Nakuru County, Kenya. According to the regression analysis results, the t-value (t=8.108; p=0.000) was significant at 95% confidence level. This led to the rejection of the first null hypothesis. It was concluded that operational risk management has a significant effect on the mobile-based lenders' financial performance. The results are consistent with the research conducted by Annannab et al. (2022) regarding the effect operational risk management on the performance of cooperative microfinance institutions. The results demonstrated a significant relationship between people risks, internal risks, technology risks, and the cooperative microfinance banks' financial performance. The results also align with Lyambiko's (2015) study, which investigated

the effect of operational risk management practices on the financial performance of commercial banks in Tanzania. It indicated a positive relationship between operational efficiency and financial performance. The study further relates to Kamau (2018) who explored the association between operational risk management and the financial performance of tier two and tier three banks in Kenya. The findings showed a significant negative relationship between operational risk and the banks' financial performance.The results underscore the critical significance of operational risk management for the mobile-based lenders' financial performance of mobile-based lenders. They highlight the necessity of adeptly handling operational risks such as those related to internal processes to ensure desirable financial outcomes for the mobile-based lenders.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter provides a summary, conclusions, and recommendations based on the findings of the research study conducted. This chapter provides a comprehensive overview of the study's outcomes, draw meaningful conclusions, and offer recommendations for practical applications and future research.

5.2 Summary of Findings

This section presents the summary of study’s major findings pertaining to the effect of financial risk management practices on mobile-based lenders financial performance.

5.2.1 Credit Risk Management and Finance Performance

The descriptive findings established that credit risk management affected the mobile-based lenders’ financial performance. The credit officers and the debt collectors strongly agreed that credit risk assessment and monitoring procedures are effective in identifying potential defaulters. Therefore, effective credit risk assessment and monitoring contribute to making prudent lending decisions, and when loans are extended to customers with lower default risks, it will boost financial performance. Additionally, the respondents agreed that loan appraisal procedures are comprehensive and sufficient for evaluating borrowers' creditworthiness. Appraisal procedures positively determine the financial performance of mobile-based lenders by lowering default risks and improving the quality of loans that mobile-based lenders provide. There were also differing views on whether the company provides adequate training to employees on credit risk management practices. A considerable percentage of respondents agreed that credit risk management policies and procedures are regularly reviewed and updated to adapt to changes in the

lending environment. This implied that financial performance of mobile-based lenders is affected by the credit risk management.

The inferential analysis revealed a significant positive correlation (r=0.414, p=0.002) between credit risk management practices and the financial performance of mobile-based lenders. The regression analysis further supported this, with a substantial effect (t=2.362, p=0.022) of credit risk management on financial performance. The model, explaining 72.9% of the observed variation, emphasized the pivotal role of credit risk management practices in influencing the financial performance of mobile-based lenders. The results aligned with existing research, confirming the importance of credit risk assessment, loan appraisal procedures, and credit concentration in enhancing financial outcomes for mobile-based lenders in Nakuru County.

5.2.2 Liquidity Risk Management

The findings revealed that liquidity risk management affected the financial performance of mobile-based lenders. The respondents strongly agreed that regular cash flow forecasting has been effective in helping mobile-based lenders manage their liquidity position. Cash flow forecasting improves mobile-based lenders' operational efficiency and performance by optimizing resource allocation and managing liquidity risks. The senior managers, credit officers and debt collectors also agreed that these lenders have implemented strategies to optimize net working capital and improve liquidity. Optimizing net working capital enhances the financial performance of mobile-based lenders by promoting efficient resource utilization, bolstering liquidity, and facilitating business growth. However, a majority of participants did not express a clear opinion on the usefulness of contingency funding plans for managing unexpected cash shortfalls. In addition, a notable percentage of respondents concurred that their respective mobile-

based lenders have maintained adequate levels of cash and cash equivalents to meet short-term obligations. On the other hand, the respondents had differing views on whether liquidity risk management policies and procedures are regularly reviewed and updated to reflect changes in the operating environment. Based on the correlation and regression statistical results, there existed a significant relationship between relationship betweenliquidity risk management and mobile-based lenders' financial performance.

Correlation analysis indicated a highly significant positive relationship (r=0.548, p=0.000) between liquidity risk management and the financial performance of mobile-based lenders. The regression analysis supported this finding, revealing a substantial effect (t=4.562, p=0.000) of liquidity risk management on financial performance. The model's overall significance (p=0.000) emphasized the collective influence of liquidity risk management practices on financial outcomes. These results suggested that factors such as regular cash flow forecasting, net working capital optimization, and contingency funding plans played a crucial role in shaping the financial performance of mobile-based lenders in Nakuru County.

5.2.3 Operational Risk Management

The findings indicated that financial performance of mobile-based lenders is affected by operational risk management to a great extent. The senior managers, credit officers and debt collectors agreed that risk forecasting techniques are effective in identifying operational risks and that vulnerability assessment procedures have helped identify weaknesses and implement controls. Risk forecasting significantly affects the financial performance of mobile-based lenders by enabling proactive risk assessment and management, leading to reduced losses and enhanced performance. However, there were varying opinions about the sufficiency of internal control procedures in preventing and

detecting operational risks, and participants were indifferent about the adequacy of training provided by mobile-based lenders in operational risk management practices. Additionally, respondents generally agreed that operational risk management policies and procedures are regularly reviewed and updated to reflect changes in the operating environment. Effective operational risk management positively impacts mobile-based lenders' financial performance, reducing disruptions, enhancing efficiency, and boosting profitability, while inadequate management can lead to disruptions, higher costs, and potential financial challenges. The correlation and regression analysis results showed that the relationship betweenoperational risk management and mobile-based lenders' financial performance was significant.

Correlation analysis demonstrated a highly positive and significant relationship ($r=0.745$, $p=0.000$) between operational risk management and the financial performance of mobile-based lenders. The regression analysis echoed this, revealing a substantial effect ($t=8.108$, $p=0.000$) of operational risk management on financial performance. The model's explanatory power ($R^2=0.729$) underscored the significance of operational risk management practices in determining financial outcomes. This suggested that components such as risk forecasting, vulnerability, assessment, and the implementation of internal controls within the operational risk management framework significantly contributed to the financial performance of mobile-based lenders in Nakuru County. The findings were consistent with prior research, reinforcing the importance of robust operational risk management practices in optimizing financial performance.

5.2.4 Financial Performance of Mobile-based Lenders

According to the descriptive findings, the respondents strongly agreed that mobile lenders have experienced a steady improvement in their return on assets (ROA) over the

past three years. They also agreed that mobile lenders consistently achieved better returns on equity (ROE) during the same period. Additionally, a significant portion of respondents agreed that financial performance metrics are regularly reviewed and updated to adapt to changes in the operating environment, contributing to the overall success of mobile lending institutions. Overall, the findings showed that financial risk management practices are essential for the financial performance of mobile-based lenders; as they help mitigate financial risk, reduce potential losses, ultimately leading to enhanced financial performance.

5.3 Conclusions

5.3.1 Credit Risk Management on Financial Performance of Mobile-based Lenders

In conclusion, the study showed that credit risk management affect the mobile-based lenders' financial performance. Specifically, the study indicated that the components within credit risk management, including credit risk assessment/monitoring, loan appraisal procedures, and credit concentration, determine the level of financial performance to a large extent. The study thus shows that the focus on accurate and thorough credit assessments, robust loan appraisal processes, and proactive measures to combat loan fraud are of importance in enhancing the financial performance. Finally, the findings emphasized that a comprehensive and well-executed approach to credit risk management is essential for enhancing the financial performance and sustainability of mobile-based lenders.

5.3.2 Liquidity Risk Management on Financial Performance of Mobile-based Lenders

The findings showed that the mobile based lenders' financial performance is dependent on the effectiveness of the management of liquidity risks. Effective liquidity risk

management enhance the ability to meet financial obligations and minimizing the potential for insolvency by mobile-based lenders. Specifically, the key indicators within liquidity risk management, comprising regular cash flow forecasting, net working capital optimization, and the utilization of contingency funding plans affected the financial performance. Therefore, mobile-based lenders that focus their efforts on maintaining robust liquidity risk management practices are able to attain a desirable financial performance. Based on the inferential findings, there was a significant relationship between liquidity risk management and financial performance.

5.3.3 Operational Risk Management on Financial Performance of Mobile-based Lenders

The study concluded that operational risk management affected the mobile-based lenders' financial performance. Therefore, the effective operational risk management can diminish the occurrence of operational setbacks, costly errors, and fraudulent activities, thus safeguarding operational efficiency and effectiveness. The presence of a robust and positive correlation underscores the importance of implementing effective operational risk management practices within these organizations. By proactively engaging in risk forecasting, conducting vulnerability assessments, and maintaining stringent internal controls, mobile-based lenders can mitigate operational risks, enhance their overall financial performance, and ensure long-term sustainability.

5.4 Recommendations

5.4.1 Policy Recommendations

As per the findings on the credit risk management, it is recommended for mobile-based lenders to prioritize the enhancement of their credit risk management practices to bolster their financial performance. Lenders should take proactive measures to establish robust

credit assessment and monitoring procedures, enabling them to accurately evaluate the creditworthiness and repayment capacity of borrowers. To mitigate credit risk effectively, it is essential for lenders to fortify their risk mitigation strategies, including the formulation of clear loan approval criteria and the implementation of proactive collection methods to minimize instances of non-performing loans and defaults. Additionally, conducting routine portfolio reviews and diligently monitoring loan quality are pivotal steps in identifying potential credit risks and making well-informed decisions to mitigate them. The responsibility for implementing these policies should rest with the management and risk management departments of the mobile-based lending institutions, with vigilant oversight and support from the senior management and board of directors.

To enhance their financial performance, mobile-based lenders in Kenya should place a strong emphasis on effective liquidity risk management. It is recommended that these lenders maintain sufficient liquidity reserves to address unexpected funding demands and ensure the seamless operation of their financial activities. Implementing regular liquidity stress testing and scenario analysis can help assess potential liquidity risks and establish suitable liquidity buffers. Optimizing cash flow management practices, such as punctual loan repayments and efficient loan disbursement processes, can effectively minimize liquidity gaps and contribute to improved financial performance. Moreover, diversifying funding sources can mitigate reliance on a single channel and bolster liquidity positions. Exploring strategic partnerships with other financial institutions or alternative sources of capital can provide access to a wider array of funding options and help mitigate liquidity risks. Responsibility for the implementation of these policies should be assigned to the finance and treasury departments of the mobile-based lending institutions, under the guidance and supervision of senior management and the board of directors.

To enhance their financial performance further, mobile-based lenders in Kenya should direct their attention toward strengthening their operational risk management practices. This can be achieved by establishing comprehensive internal control systems that encompass stringent policies and procedures, routine internal audits, and the appropriate segregation of duties. Embracing technological advancements and automation can streamline operational processes, thereby reducing the likelihood of errors and fraud. Investment in digital solutions for loan origination, disbursement, and collection can significantly enhance operational efficiency and augment risk management capabilities. Furthermore, the provision of comprehensive training programs for employees on operational risk management is paramount. Such training, encompassing aspects of fraud prevention, data security, and operational risk identification and mitigation, can contribute significantly to the effective implementation of operational risk management practices. Responsibility for implementing these policies should be entrusted to the operational and risk management departments of the mobile-based lending institutions, with ongoing oversight and guidance from senior management and the board of directors.

5.4.2 Recommendations for Further Research

Based on the findings derived from this research study, several recommendations for future research can be formulated:

The current study primarily concentrated on credit risk management, liquidity risk management, and operational risk management, future research should delve into the influence of additional risk management practices, including market risk management, reputation risk management, and compliance risk management, on the financial performance of mobile-based lenders. Such an expanded investigation would offer a

more comprehensive insight into the spectrum of risk management practices and their ramifications on financial performance.

The present study was conducted in Nakuru County, Kenya. To enhance the applicability of the findings, future research should consider broadening its scope to encompass mobile-based lenders from diverse regions. A comparative analysis conducted across varied contexts would provide valuable insights into the disparities in risk management practices and their consequential effects on financial performance within different settings.

This study assessed the relationship between risk management practices and financial performance within a one-year timeframe. Subsequent research should contemplate conducting longitudinal studies spanning a more extended period to gauge the long-term effect of risk management practices on financial performance. This approach would enable researchers to track potential changes or trends in the relationship over time, yielding a more robust comprehension of the impact of risk management practices.

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APPENDICES

Appendix I: Research Questionnaire

Dear Respondent,

I am writing to request your participation in an upcoming research study on the "Effect of Selected Financial Risk Management Practices on Financial Performance of Mobile-Based Lenders in Nakuru County, Kenya." The research is being conducted as part of my Master of Science in Finance degree at Kabarak University.

Participation in this study will involve answering a questionnaire that will take approximately 10-15 minutes to complete. The information provided will be kept confidential and used only for the purposes of this research. Your participation is voluntary, and you may choose to withdraw from the study at any time without any penalty.

I kindly request your consent to participate in this study and your willingness to provide honest and accurate responses. Your contribution will be greatly appreciated, and the findings of this study may contribute to a better understanding of financial risk management practices in the mobile lending industry.

Thank you in advance for your participation.

Sincerely,

Daisy Chepkirui.

Part 1: Demographic Information

What is your highest level of education?

Certificate	[ ]	Diploma	[ ]
Bachelor's Degree	[ ]	Master Degree	[ ]
Doctor of Philosophy (PhD)	[ ]		

Part Ii: Credit Risk Management

Kindly indicate in a five Likert-based scale, your level of agreement with the following metrics using. KEY: 5. Strongly Agree, 4. Agree, 3. Undecided, 2. Disagree, 1. Strongly Disagree

Statement	**Strongly Agree 5**	**Agree 4**	**Undecided 3**	**Disagree 2**	**Strongly Disagree 1**
The credit risks assessment/monitoring procedures are effective in identifying potential defaulters.					
Loan appraisal procedures are comprehensive and sufficient in determining the creditworthiness of borrowers.					
The loan frauds mitigation policies and strategies are effective in preventing and detecting fraudulent activities.					
The company provides adequate training to employees on credit risk management practices.					
The credit risk management policies and procedures are regularly reviewed and updated to reflect changes in the lending environment.					

Part III: Liquidity Risk Management

Kindly indicate in a five Likert-based scale, your level of agreement with the following metrics using. KEY: 5. Strongly Agree, 4. Agree, 3. Undecided, 2. Disagree, 1. Strongly Disagree

Statement	**Strongly Agree 5**	**Agree 4**	**Undecided 3**	**Disagree 2**	**Strongly Disagree 1**
Regular cash flow forecasting has helped the company to manage its liquidity position effectively.					
The company has implemented strategies to optimize its net working capital and improve its liquidity position.					
The contingency funding plans have been useful in managing unexpected cash shortfalls.					
The company has maintained adequate levels of cash and cash equivalents to meet its short-term obligations.					
The liquidity risk management policies and procedures are regularly reviewed and updated to reflect changes in the operating environment.					

Part IV: Operational Risk Management

Kindly indicate in a five Likert-based scale, your level of agreement with the following metrics using. KEY: 5. Strongly Agree, 4. Agree, 3. Undecided, 2. Disagree, 1. Strongly Disagree

Statement	**Strongly Agree 5**	**Agree 4**	**Undecided 3**	**Disagree 2**	**Strongly Disagree 1**
The risk forecasting techniques are effective in identifying potential operational risks.					
The vulnerability assessment procedures have helped the company to identify areas of weakness and implement appropriate controls.					
The internal control procedures are sufficient in preventing and detecting operational risks.					
The company provides adequate training to employees on operational risk management practices.					
The operational risk management policies and procedures are regularly reviewed and updated to reflect changes in the operating environment.					

Part V: Financial Performance

Kindly indicate in a five Likert-based scale, your level of agreement with the following metrics using. KEY: 5. Strongly Agree, 4. Agree, 3. Undecided, 2. Disagree, 1. Strongly Disagree

Statement	**Strongly Agree 5**	**Agree 4**	**Undecided 3**	**Disagree 2**	**Strongly Disagree 1**
Over the past three years, our company has experienced a steady improvement in the return on assets (ROA).					
We have consistently achieved better returns on equity (ROE) in the last three years.					
Our net profit margin has shown a consistent upward trend over the past three years.					
The company maintains a healthy balance sheet, characterized by low debt levels and adequate reserves.					
Our financial performance metrics are regularly reviewed and updated to reflect changes in the operating environment, which has contributed to our overall success.					

Thank You For Your Participation

Appendix II: List of Mobile Based Lenders in Nakuru Town

Timiza – By ABSA Bank

Loop by National Central Bank of Africa

HF Whizz

Eazzy by Equity

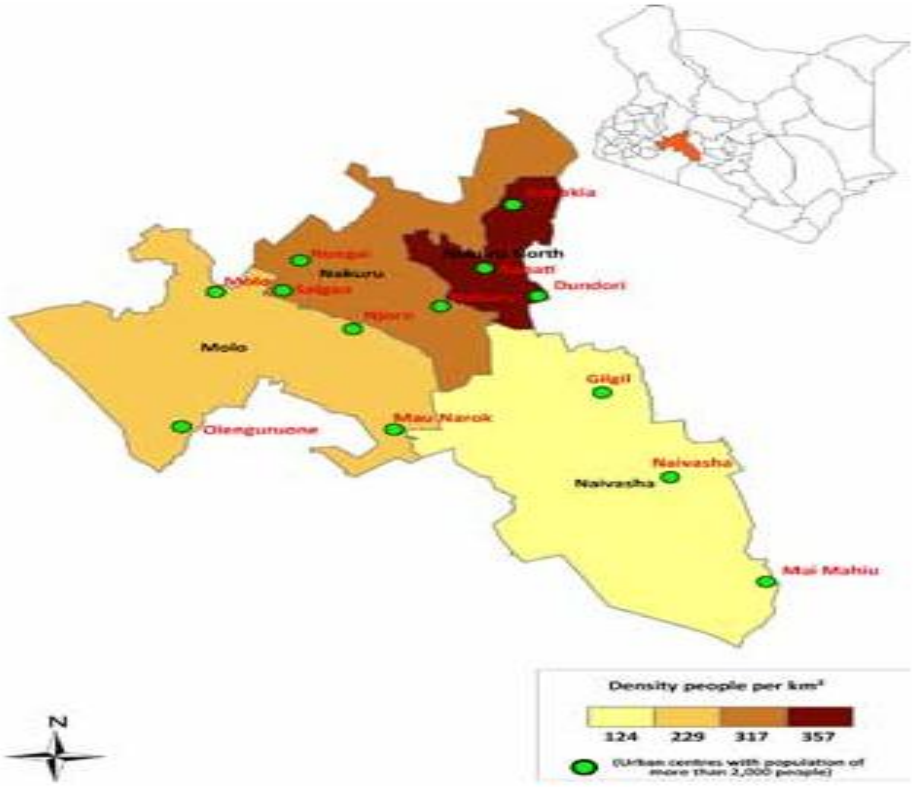
KCB Vooma

PesaPap by Family bank

MCo-Op Cash by Coop Bank

Source: County Government of Nakuru (2023)

Appendix III1: Map of the Study Location



Appendix IV: KUREC Approval Letter

KABARAK UNIVERSITY RESEARCH ETHICS COMMITTEE

Private Bag - 20157
KABARAK, KENYA
Email: kurec@kabarak.ac.ke

Tel: 254-51-343234/5
Fax: 254-051-343529
www.kabarak.ac.ke

OUR REF: KABU01/KUREC/001/09/06/23

Date: 13th June, 2023

Daisy Chepkirui,
Reg. No: GMF/NE/0372/01/21
Kabarak University,

Dear Daisy,

RE: EFFECT OF SELECTED FINANCIAL RISK MANAGEMENT PRACTICES ON FINANCIAL PERFORMANCE OF MOBILE-BASED LENDERS IN NAKURU COUNTY, KENYA

This is to inform you that ***KUREC*** has reviewed and approved your above research proposal. Your application approval number is ***KUREC-090623.*** The approval period is ***13/06/2023 – 13/06/ 2024.***

This approval is subject to compliance with the following requirements:

i. All researchers shall obtain an introduction letter to NACOSTI from the relevant head of institutions (Institute of postgraduate, School dean or Directorate of research)
ii. The researcher shall further obtain a RESEARCH PERMIT from NACOSTI before commencement of data collection & submit a copy of the permit to **KUREC.**
iii. Only approved documents including (informed consents, study instruments, MTA Material Transfer Agreement) will be used
iv. All changes including (amendments, deviations, and violations) are submitted for review and approval by ***KUREC***:
v. Death and life-threatening problems and serious adverse events or unexpected adverse events whether related or unrelated to the study must be reported to ***KUREC*** within 72 hours of notification;
vi. Any changes, anticipated or otherwise that may increase the risk(s) or affected safety or welfare of study participants and others or affect the integrity of the research must be reported to ***KUREC*** within 72 hours;
vii. Clearance for export of biological specimens must be obtained from relevant institutions and submit a copy of the permit to KUREC;
viii. Submission of a request for renewal of approval at least 60 days prior to expiry of the approval period. Attach a comprehensive progress report to support the renewal and;
ix. Submission of an executive summary report within 90 days upon completion of the study to ***KUREC***

Sincerely,

KABARAK UNIVERSITY
INSTITUTIONAL RESEARCH ETHICS COMMITTEE
16 JUN 2023
APPROVED
P. O. PRIVATE BAG - 20157, KABARAK

Prof. Jackson Kitetu PhD.
KUREC-Chairman

Cc Vice Chancellor
DVC-Academic & Research
Registrar-Academic & Research
Director-Research Innovation & Outreach
Institute of Post Graduate Studies

Appendix V: NACOSTI Research Permit

REPUBLIC OF KENYA

NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Ref No: **360560**

Date of Issue: **02/July/2023**

RESEARCH LICENSE

This is to Certify that Ms.. Daisy Chepkirui Langat of Kabarak University, has been licensed to conduct research as per the provision of the Science, Technology and Innovation Act, 2013 (Rev.2014) in Nakuru on the topic: EFFECT OF SELECTED FINANCIAL RISK MANAGEMENT PRACTICES ON FINANCIAL PERFORMANCE OF MOBILE-BASED LENDERS IN NAKURU COUNTY, KENYA for the period ending : 02/July/2024.

License No: **NACOSTI/P/23/27330**

360560

Applicant Identification Number

Director General
NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Verification QR Code

NOTE: This is a computer generated License. To verify the authenticity of this document, Scan the QR Code using QR scanner application.

See overleaf for conditions

Appendix VI: Certificate of Participation

Certificate of Participation

This is to certify that

<Daisy Chepkirui >

Participated in the Education Management Society of Kenya (EMSK) 9th International Conference Held in Collaboration with Egerton University, Rift Valley Reading Association and the Education and Social Sciences Research Association of Kenya on Thursday 12th & Friday 13th OCTOBER, 2023 Themed: RESTRUCTURING EDUCATION, TRAINING, RESEARCH AND INNOVATION FOR 21ST CENTURY AND BEYOND

She Presented a Paper Entitled: ***Effect of Selected Financial Risk Management Practices on Financial Performance of Mobile-Based Lenders in Nakuru County, Kenya***

Dr. Eliud Nyakundi
Chairman- EMSK

Dr. David Wamukuru
Secretary- EMSK

Appendix VII: List of Publication

IOSR Journal of Economics and Finance (IOSR-JEF)
E-ISSN: 2321-5933, P-ISSN: 2321-5925.Volume 14, Issue 5 Ser. 7 (Sept. – October. 2023),pp 55-62
www.Iosrjournals.Org

Effect of Credit Risk Management on Financial Performance of Mobile-Based Lenders in Nakuru County, Kenya

Daisy Chepkirui
Student, School of Business and Economics
Kabarak University, Kenya

Dr. Symon Kiprop
Lecturer, School of Business and Economics
Kabarak University, Kenya

Dr. Zakayo Tallam
Lecturer, School of Business and Economics
Kabarak University, Kenya

Abstract: *The rapid growth of mobile-based lending in Kenya has brought diverse financial risks potentially affecting the lenders' financial performance. The current study examined the effect of credit risk management on the financial performance of mobile-based lenders. The research was anchored by credit risk theory. A quantitative research design was adopted. The study's target population comprised 7 Mobile-based lenders in Nakuru County while the unit of analysis was 64 credit officers and debt collectors. Due to the limited number of respondents, a census technique was preferred, where all the credit officers and debt collectors were involved. Data collection was done through structured questionnaires. Data was analyzed using IBM SPSS software, employing descriptive and inferential methods. The study's descriptive research findings established credit risk management affected the mobile-based lenders' financial performance. As per the results of the correlation analysis, the correlation coefficient was ($r=0.414^{**}$; $p=0.002$). This implied that the relationship between credit risk management and financial performance was significant. As such, credit risk management affected the financial performance of mobile-based lenders. Additionally, the results of regression analysis indicated a coefficient of determination ($R^2=0.171$), signifying that 17.1% of the variation in mobile-based lenders' financial performance was explained by credit risk management. These findings highlight the critical importance of implementing effective credit risk management practices among mobile-based lenders to enhance their financial performance. Moreover, the study emphasizes the integration of risk management into the strategic decision-making processes of lending institutions. The study will help policymakers and regulators focus more on sound risk management in the mobile-based lending sector, fostering desirable financial performance and stability.*

Key Words: *Credit Risk Management, Financial Performance, Mobile-based Lenders*

Date of Submission: 17-10-2023 Date of acceptance: 27-10-2023