FIRM CHARACTERISTICS AND CREDIT PERFORMANCE OF MICROFINANCE BANKS IN KENYA

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OCTOBER, 2023

DECLARATION

This research is totally unique to me, and it hasn't given to any universities seeking review or awarded any other type of degree award.

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DEDICATION

I dedicate this research project to my family for their support and love during my study. More thanks my parents for being source of inspiration, and for believing in me.

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I give special thanks God the All Mighty for granting me good health, grace, wisdom and resources that have enabled me come this far in my studies. I' am grateful to Dr. Moses Odhiambo Aluoch for the continuous guidance and supervision in my research work. I thank my family, friends and colleagues for the encouragement. Special thanks to my loving wife Rachael Nyambura for the endless support, understanding and for being my pillar during this journey.

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ABBREVIATIONS AND ACRONYMS

BSD	Business Specification Document
CAR	Capital Adequacy Ratio
CBK	Central Bank of Kenya
CLRM	Classical Linear Regression Model
CR	Credit Risk
DPRM	Dynamic Panel Regression Model
GMM	Generalized methods of moments
GOK	Government of Kenya
IFRS	International Financial Reporting Standards
NACOSTI	National Commission for Science, Technology and Innovation
NPL	Non-Performing Loan
SGMM	System Generalized Method of Moment
MFB	Microfinance Bank

OPERATIONAL DEFINITION OF TERMS

Term	Definition
Firm Characteristics	Refer to the specific attributes and features of a microfinance bank that define its operational and structural aspects. These characteristics include the bank's size, ownership structure, governance, business model, age, and the markets it serves. Understanding a microfinance bank's firm characteristics is essential for assessing its overall performance and its ability to serve its clients effectively
Liquidity	Implies to a microfinance bank's ability to meet its short-term financial obligations as they come due. It involves having enough liquid assets, such as cash or easily marketable securities, to cover operational expenses, repay deposits, and honor other liabilities promptly. This was measured using cash flow volatility ratio
Asset Quality	Refers to the quality of the microfinance bank's loan portfolio and other assets. It assesses the risk associated with loans and determines the likelihood of loan defaults and non-performing assets. High asset quality indicates that the bank has effective credit risk management practices and is less exposed to potential losses from bad loans. This was measured using non-performing loan Ratio.
Capital Adequacy	It refers to the sufficiency of the bank's capital to absorb potential losses without jeopardizing its solvency and ability to meet its financial obligations. Adequate capital is essential for maintaining trust among depositors and investors and for ensuring that the bank can absorb unexpected losses and maintain its creditworthiness. This was measured using core capital to total assets ratio

Credit Performance	Assesses how well a microfinance bank manages its lending activities and the repayment behavior of its borrowers. It includes metrics such as loan portfolio quality, loan delinquency rates, and the overall performance of loans disbursed. Good credit performance indicates that the bank effectively evaluates creditworthiness, monitors borrower behavior, and takes appropriate actions to mitigate credit risk. This was measured using payment history.
Management Efficiency	Refers to how well a microfinance bank utilizes its resources, including human capital, technology, and financial assets, to achieve its objectives. It assesses the effectiveness of the bank's leadership and decision-making processes in maximizing returns and minimizing costs. High management efficiency can lead to improved financial performance and better credit management. It was measured using cost-income ratio.

ABSTRACT

Microfinance banks play a crucial role in providing financial services to low-income individuals and marginalized communities. However, these institutions face a significant challenge: ensuring the reliability of credit performance. The primary concern for microfinance banks revolves around the creditworthiness of their clients. Serving individuals with limited financial resources and no collateral presents a higher risk of loan defaults. These clients often have low credit scores or no formal credit history, making it difficult to accurately assess their ability to repay loans. The inherent risks associated with the operational environment of microfinance banks further intensify concerns about credit performance. These institutions operate in economies marked by various economic, social, and political uncertainties. Unforeseen events such as economic recessions, natural disasters, or changes in government policies can hinder borrowers' ability to meet loan obligations, increasing credit risk for microfinance banks. Deficiencies in the loan origination, disbursement, and repayment processes lead to delays, inaccuracies, and a higher level of credit risk. Regulatory compliance plays a crucial role in the realm of credit performance for microfinance banks. These entities are subject to regulatory frameworks and prudential standards designed to protect credit performance and clients. The aim of this study was to assess the impact of firm characteristics on the credit performance of microfinance banks in Kenya. The study had four objectives: to investigate the effect of management efficiency, capital adequacy, liquidity, and asset quality on the credit performance of Microfinance Banks in Kenya. The theoretical framework of the study was based on efficiency structure theory, theory of buffer capital, liquidity shift ability theory, information asymmetry theory, and credit risk theory. These theories formed the foundation for the hypothetical connections explored in the study. A causal research strategy was employed to determine the causal-effect relationship between firm characteristics and credit performance in microfinance banks in Kenya. The target population for this study consisted of thirteen licensed and operational Microfinance Banks in Kenya for the period from 2018 to 2021. The study adopted a census method to select the sample. Time series data for the years between 2018 to 2021 and cross-sectional data were collected from these Microfinance Banks. Information on Management Efficiency, Capital Adequacy, Liquidity, and Asset quality was obtained from the banks' published annual financial reports. The null hypotheses of the research study were tested using regression analysis with a significance threshold of 0.05. Relevant diagnostic tests for panel regression analyses, such as multicollinearity, autocorrelation, stationarity, heteroscedasticity, normality, and model specification tests, were performed. Ethical considerations guided the research process, ensuring that the study was conducted with integrity and adherence to ethical principles. The correlation analysis revealed that capital sufficiency and managerial efficiency showed a moderately significant correlation with credit performance. Liquidity exhibited a strong positive correlation, while management efficiency had a noticeable negative correlation. The study also found that microfinance banks with higher loan portfolios relative to their capital demonstrated better credit performance ratios, while those with excessive cash holdings had lower credit performance ratios. In conclusion, the study recommends that management should prioritize capital adequacy, liquidity, and asset quality in the management of credit for microfinance banks in Kenya. Additionally, it encourages future research to explore conceptual and contextual areas not covered in this study.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

The importance of Microfinance Banks to an economy cannot be overstated, as they provide global banking services and play a vital role in lifting people out of poverty. They contribute to improving the income levels of individuals and serve as a medium for the expansion of small and medium enterprises (Ngumo, Collins & David, 2017). In Kenya, the microfinance sector stands out as one of the most vibrant in East Africa. The banks have been instrumental in mobilizing credit for businesses and promoting welfare, thereby contributing to Kenya's economic growth and development. However, despite these remarkable achievements, credit performance within the sector has been declining due to a high number of defaulted loans.

The firm characteristics of Microfinance Banks significantly impact their credit performance. Effective management practices, adequate capitalization, proper liquidity management, optimal bank size, and sound asset quality are essential for ensuring positive credit performance outcomes (Njue, 2020). Recognizing and understanding the influence of these firm characteristics is crucial for policymakers and microfinance bank managers to formulate effective strategies and policies that promote sustainable credit performance and financial inclusion (Thisaranga & Ariyasena, 2021). By focusing on improving these characteristics, Microfinance Banks can enhance their capacity to provide inclusive financial services and contribute to the economic development of underserved communities (Otieno & Onditi, 2016).

Nyabaga and Wepukhulu (2020) emphasize the dual role of Microfinance Banks in providing credit financing, particularly for small loans that often lack traditional safeguards, with the aim of improving the well-being of their customers and promoting economic growth. The objective of Microfinance Banks is to promote wealth and economic expansion. As a result, the distinctive characteristics of these entities influence their role in facilitating the flow of money between different sectors of the economy. Nyabaga and Wepukhulu (2020) highlight the importance of corporate traits assessed through the CAMELS framework, including capital adequacy, management effectiveness, earnings, liquidity, and sensitivity, as factors that significantly impact bank performance. Inefficient and ineffective company characteristics hinder countries' growth and economic development (Iraya and Ochieng, 2022) due to their weak intermediation capabilities. To address the need for financial inclusion in many countries, the number of Microfinance Banks in Africa has been growing. Microcredit is extended to marginalized groups, enabling them to create wealth and escape poverty (Kibet, Dennis & Omwono, 2015). Given, their extensive reach across geographically diverse locations with high volatility due to a large client base, Microfinance Banks must maintain high capital adequacy (Arun & Murinde, 2018). However, Microfinance Banks often have limited funds available to meet the credit demands of their members, which can affect the performance of their loan portfolio.

In Kenya, Microfinance Banks experienced an increase in net loans from Ksh. 44.2 billion in 2018 to Ksh. 46.7 billion in 2019, representing a percentage-point rise. This upward trend was driven by increased loan demand from various key sectors and advancements in reliable technology and lending platforms (Ahmed, 2021). However, the performance of

microfinance credit has declined due to the impact of COVID-19, leading to a drop in bond yields caused by significant asset quality concerns (Central Bank of Kenya, 2020). Furthermore, non-performing loans (NPLs) increased by 32% from Ksh. 9.8 billion in 2019, while lending rates decreased by 11% from Ksh. 11.2 billion in 2019. The impairment provision of Microfinance Banks rose by 219% to Ksh. 539 million in 2019. Because of this unfavorable outcome, significant administrative, staffing, and financial costs, representing 19%, 29%, and 24% of total expenses respectively, were incurred. Ten institutions, including Faulu Bank Limited and Kenya Women Microfinance Bank, suffered losses due to the declining credit performance (Simiyu, 2022).

1.1.1 Firm Characteristics

Microfinance firm characteristics play a pivotal role in determining the success or failure of firms, serving as essential factors in assessing the performance of microfinance banks (Shkodra & Ibishi, 2021). These characteristics reflect the inherent traits of firms in managing their organizational activities to achieve growth and sustainability, as noted by Abdul (2020). The effectiveness and efficiency of a firm's operational activities hinge on the optimal utilization of these internal features, which are instrumental in ensuring success within the organization (Ngungu & Abdul, 2020).

Firm characteristics are instrumental in effectively assessing and determining the optimal performance of credit-oriented firms, including banks and other financial institutions (Subanidja, 2019). Subanidja, Rajasa, Suharto, and Atmanto (2019) have established the significant influence of these characteristics on the financial performance of banks. Therefore, the operational efficiency of a firm's credit performance is contingent upon the optimal utilization of these characteristics. In this context, the management of

microfinance banks plays a crucial role in ensuring optimal credit performance by strategically manipulating these firm characteristics to achieve the banks' goals (Kamukama, 2017). According to the Banking Survey (2018), company characteristics such as asset quality, liquidity, capital adequacy, managerial efficiency, earnings, and sensitivity are utilized to assess the soundness of microfinance banks. The CAMELS Model incorporates various firm features as predictors, with managerial efficiency evaluated as operating profits to net sales (Wafula, 2020). The second explanatory variable is capital adequacy, which is measured as core capital to Payment Historys. The third parameter is bank liquidity, with Payment Historys used as the measurement (Sporta, 2018).

Management efficiency refers to the optimal utilization of a bank's resources to achieve its set targets or goals (Schermerhorn & Bachrach, 2023). It represents the capacity of bank management to judiciously allocate resources in a manner that optimizes shareholder value. This allows for risk assessment and the monitoring of credit progress in the market to achieve the best possible performance (Bhatia and Dash, 2018). As suggested by Al-Rdaydeh, Matar, and Alghzwai (2017), financial ratios of firms serve as a reliable measurement of management performance in organizations. Efficient management systems optimize the value of shareholders and the income of the organization (Alghzwai, 2017). They provide the foundation for evaluating profit ratios and operational income (Ouhibi & Hammami, 2015). Management efficiency plays a significant role in the performance of bank credit and can be measured by the cost-income ratio (Ward, 2017).

Kamande (2017) highlights that a bank's capital capability refers to the resources available for the bank to efficiently achieve its organizational goals. The availability of these

resources determines the level of organizational effectiveness in terms of customer satisfaction and meeting credit demand (Mendoza & Rivera, 2017). Adequate resources also serve as a buffer against the impact of shocks arising from non-performing loans, preventing profit erosion for the banks. Banks' capital adequacy significantly affects the performance of bank credit. Banks maintain capital in excess of their minimum requirements to mitigate the shocks that could result from bank intermediation, such as lending to customers. This enables banks to meet their financial obligations and minimize the impact of defaulted loans on their net income, which is measured by the core capital ratio to total assets (Amaliah et al., 2019).

Bank liquidity refers to the ability of a bank to meet its short-term financial obligations and fulfill customer demands for withdrawals and loans. It is a measure of the bank's ability to quickly and effectively convert its assets into cash (Berger & Bouwman, 2017). Maintaining adequate liquidity is essential for banks to ensure their ongoing operations, meet deposit withdrawals, and provide loans to customers. Insufficient liquidity can lead to liquidity crises, where a bank may face difficulties in meeting its obligations and may need to borrow funds at higher interest rates or even face bankruptcy (Bholat & Sen, 2018). Banks hold liquid assets such as cash, government securities, and short-term marketable securities to cover potential cash outflows (Sen, 2018). Additionally, banks rely on funding sources such as customer deposits, interbank borrowing, and central bank borrowing to ensure they have sufficient liquidity to meet their obligations (Buyinza, 2018). The level of liquidity a bank maintains is influenced by various factors, including regulatory requirements, risk management policies, market conditions, and the bank's assessment of potential risks and cash flow needs. Regulatory bodies often impose minimum liquidity

standards to ensure the credit performance and soundness of the banking system (Edem, 2017).

Monitoring and managing liquidity is a critical function of bank management (Pyka & Nocoń, 2021). Banks use liquidity risk management tools and techniques to assess and monitor their liquidity positions, conduct stress testing scenarios, and create contingency plans to address potential liquidity challenges. By effectively managing liquidity, banks can enhance their credit performance, maintain customer confidence, and support their overall operations (Abdel Megeid, 2017). According to Abdo and Onour (2020), bank managers often use indicators such as cash flow from banks, the availability of government securities for sale, and the availability of sale securities over banks' Payment Historys. Banks with low levels of liquidity are vulnerable to risks associated with daily operations, while those with high liquidity levels have a lower risk in operational activities. Therefore, the amount of liquidity that a bank possesses determines its lending power and, consequently, its credit performance in the market (Abdo, 2020). Liquidity is measured using the cash flow volatility ratio.

Asset quality represents the total volume of assets held by banks over a given period of time, as stated by Bholat & Sen (2018). Credit performance is known to have an established link with asset quality. Credit and loans are the major sources of income for banks, which, according to Kwakwa (2016), increase banks' income by translating banks' assets into income due to efficient and effective utilization and maximization of funds. A bank with a higher asset base benefits from spreading fixed costs into a smaller average cost, which is advantageous for the operational activities of the banking institution (Stulz, 2019). This expands the operational scale of the banks, resulting in greater operational

efficiency through specialization. Asset quality is measured by the total amount of assets that the bank possesses (Buyinza, 2018).

1.1.2 Credit Performance

Management efficiency plays a pivotal role in determining credit performance. Efficient management involves the optimal allocation and utilization of resources to achieve organizational goals (Ahmadyan & Shahchera, 2018). In the context of credit performance, efficient management ensures effective risk evaluation, monitoring of credit progress, and adherence to sound credit policies (Ahmadyan et al., 2018). By effectively managing credit operations, banks can minimize non-performing loans (NPLs) and enhance loan repayment rates, thereby improving credit performance (Ochonogor, 2020).

Capital adequacy is another critical factor influencing credit performance (Mendoza & Rivera, 2017). Adequate capital provides a buffer against potential losses, enhances the institution's capacity to absorb credit defaults, and ensures the fulfillment of financial obligations (Mendoza et al., 2017). Banks with sufficient capital are better equipped to withstand economic downturns and mitigate the impact of non-performing loans on their profitability (Gallati, 2022). Capital adequacy ratios, such as the core capital to Payment Historys ratio, serve as indicators of a bank's financial strength and its ability to support credit operations effectively (Gallati, 2022).

Liquidity is vital for banks to meet their short-term obligations and fund customer demands (Allen & Gale, 2018). Adequate liquidity ensures the availability of funds to disburse loans and fulfill deposit withdrawals promptly. Banks with high liquidity levels have a greater ability to respond to unforeseen events and maintain a steady flow of credit (Kozak, 2021). Insufficient liquidity can lead to liquidity crises, hampering the bank's ability to provide

loans and negatively impacting credit performance. Monitoring and managing liquidity through effective liquidity risk management strategies are crucial for maintaining credit performance (Restrepo, 2019). The quality of a bank's assets significantly impacts credit performance. Asset quality refers to the overall health and reliability of the loan portfolio (Kozak, 2021). High-quality assets signify low credit risk and a higher likelihood of loan repayment. Banks with a portfolio consisting of loans with lower default rates and lower NPL ratios tend to exhibit better credit performance. Effective credit assessment, loan monitoring, and proactive measures to mitigate credit risk contribute to maintaining high asset quality, thereby enhancing credit performance (Musembi, 2018). In this study, Payment Historys are used to measure credit performance.

1.1.3 Kenya Microfinance Bank

Microfinance Banks have long been recognized as one of the most active financial institutions that stimulate economic growth and development (Ochonogor, 2020). According to Ngungu and Abdul (2020), they enhance financial service accessibility for low-income groups in society, thereby improving their living standards. In Kenya, Microfinance Banks collect deposits from members and the public for business purposes. Based on this, the Microfinance Act (2006) asserts that Microfinance Banks are business entities whose daily responsibility is to accept deposits, as they hold themselves out (Ali, 2015).

The Microfinance Act (2006) provides guidelines for the operations of banks in Kenya. The microfinance sector in Kenya is considered the most vibrant in Sub-Saharan Africa. According to the Association of Microfinance Institutions (2018), the microfinance industry in Kenya comprises 1 Sacco, 1 developmental organization, 2 wholesaler funders,

43 credit-only microfinance providers, and 13 licensed microfinance institutions offering services. These banks have branches distributed across the country, with a relatively extensive network of activities aimed at providing the poor with necessary financial assistance at lower interest rates (CBK, 2020).

The microfinance industry in Kenya consists of various types of institutions, including deposit-taking microfinance banks, Rotation Savings Credit Associations (ROSCA), non-governmental organizations, carousels (Chama), Church Savings Credit Associations (ASCAS), and investment groups. The industry has continued to expand due to the comprehensive non-regulatory framework and the emphasis on financial inclusion in the country (Ali, 2015). However, the performance of microfinance credit has suffered due to the impact of COVID-19, resulting in a decline in interest rates and a high number of non-performing loans (NPLs) (Central Bank of Kenya, 2020). NPLs witnessed a 32% increase from Ksh. 9.8 billion in 2019, with a decline of 11% in portfolio loan interest from Ksh. 11.2 billion in 2019. This led to a 219% increase in impairment provisions for microfinance banks, from Ksh. 539 million in 2019. The declining credit performance has also led to higher administrative, staff, and finance costs, accounting for 19%, 29%, and 24% of total expenses, respectively.

Table 1.1: Performance of Loans Restructured in 2019-2020 – Microfinance Banks

Among the Microfinance Banks in Kenya, a significant number of loan restructurings took place in 2020, totaling 74.8%. This consisted of 24.5% in defaults and 0.7% paid in full.

When categorized by company type, micro enterprises had the highest percentage of fully repaid restructuring loans, accounting for 20.5% in 2019 and 1.8% in 2020.

Table 1: Performance of Loans Restructured in 2019-2020 – Microfinance Banks

2020	Performance of RLs in Percentage - MFBs		
	Fully Repaid (%)	Performing (%)	Non-Performing (%)
Micro Enterprises	1.8	95.9	2.3
Small Enterprises	1.4	91.5	7.1
Medium Enterprises	0.9	55.6	43.5
Overall	**0.7**	**74.8**	**24.5**
2019	**Performance of RLs in Percentage - MFBs**		
	Fully Repaid (%)	**Performing (%)**	**Non-Performing (%)**
Micro Enterprises	20.5	2.0	77.5
Small Enterprises	3.1	18.0	78.9
Medium Enterprises	1.3	10.4	88.4
Overall	**2.2**	**11**	**87.1**

Source: MSME Survey Data, 2020

Table 1.2 Deposits Held in Microfinance Banks

Table 1.2 below reveals the value of deposits held in Microfinance Banks as in December, 2020 and as in December 2018 as a proportion of overall microfinance banking sector deposit.

Deposits Held in Microfinance Banks	**MSME Deposits**	**Total Customer Deposits**	MSME Deposits/Total Customer Deposits (%)
Year ending Dec	(KSh Billion)	(KSh Billion)	
2020	25.7	49	52.2
2018	27.5	39	70.7

Source: 2018 and 2020 BSD Annual Report Survey Data

1.2 Statement of the Problem

The credit performance within the microfinance sector in Kenya has become a cause for concern. The COVID-19 pandemic has resulted in low credit uptake, disrupted business activities, decreased interest rates, and increased non-performing loans (NPLs) (Central Bank of Kenya, 2020). Data provided by the Central Bank of Kenya shows a 32% increase in NPLs, amounting to Ksh. 13 billion, and an 11% decline in portfolio loan interest, amounting to Ksh. 9.9 billion, compared to the previous year. This has led to a significant 219% increase in the provision for loan impairment by microfinance banks, amounting to Ksh. 1.7 billion. Consequently, microfinance banks have incurred high expenses in administrative, staff, and finance costs. Some institutions, such as Faulu Microfinance Bank and Kenya Women Microfinance Bank, have experienced losses before tax (CBK, 2020). These unfavorable financial performances have impacted lending rates and the overall welfare and development of the economy.

Limited research has been conducted on the effects of firm characteristics on the creditworthiness of microfinance banks in Kenya. However, studies in other countries have indicated that factors such as asset quality, operational efficiency, capital adequacy, and macroeconomic factors play a significant role in determining non-performing loans. Research has also shown that debt, credit performance, and liquidity have substantial effects on the performance of microfinance banks (Ahmed et al., 2021; Yulianti & Aliamin, 2018; Olarewaju, 2020; Kajola et al., 2019; Awuor, 2015). Therefore, further investigation is needed to understand the specific impacts of these firm characteristics on the credit performance of microfinance banks in Kenya.

1.3 Objectives of this study

1.3.1 General Objective

The study sought to examine the effect of firm characteristics on credit performance of Microfinance Banks in Kenya.

1.3.2 Specific objectives

Specifically, the study objectives are:

i) To establish the effect of management efficiency on credit performance of Microfinance banks in Kenya

ii) To determine the effect of capital adequacy on credit performance of Microfinance Banks in Kenya

iii) To examine the effect of liquidity on credit performance of Microfinance Banks in Kenya

iv) To assess the effect of asset quality on credit performance of Microfinance Banks in Kenya

1.4 Research Hypotheses

H_{01}: Management efficiency has no significant effect on credit performance of Microfinance Banks in Kenya.

H_{02}: Capital adequacy has no significant effect on credit performance of Microfinance Banks in Kenya.

H_{03}: Liquidity has no significant effect on credit performance of Microfinance Banks in Kenya.

H_{04}: Asset quality has no significant effect on credit performance of Microfinance

Banks in Kenya.

1.5 Significance of the Study

The study offers insights into the firm characteristics that impact credit performance. Microfinance Banks (MFBs) can use this information to make informed decisions regarding loan disbursement, risk management, and portfolio diversification. Understanding the factors affecting credit performance helps MFBs develop improved credit assessment models, resulting in more precise borrower evaluation and reduced default rates. By identifying key firm characteristics associated with credit performance, MFBs can proactively adopt risk management strategies to mitigate potential defaults and enhance their overall financial sustainability.

The findings of the study can inform policymakers about the impact of various firm characteristics on credit performance. This knowledge can assist in shaping regulatory frameworks, establishing appropriate standards, and designing supportive policies that promote the growth and credit performance of the microfinance sector. By comprehending the factors influencing credit performance, policymakers can design interventions to address specific challenges faced by MFBs, thereby promoting financial inclusion and access to credit for underserved populations.

The study contributes to the existing body of research by examining the relationship between firm characteristics and credit performance in the context of MFBs. It enhances the scholarly literature on microfinance, offering valuable insights for further academic inquiry and building a more comprehensive understanding of microfinance dynamics. The study's methodology and analytical framework can serve as a reference for future

researchers investigating related topics. It provides a template for studying the impact of firm characteristics on credit performance in other sectors or countries.

The study's findings provide investors with insights into the factors that influence credit performance in MFBs. This knowledge can guide investment decisions, enabling them to allocate funds to MFBs with better firm characteristics associated with improved credit performance. Understanding the relationship between firm characteristics and credit performance helps investors assess the risks associated with investing in MFBs. This knowledge can assist in making more informed investment choices and reducing potential losses.

The study contributes to the government's efforts to promote economic development and poverty reduction by supporting the microfinance sector. The findings can help the government design policies and initiatives that facilitate the growth and sustainability of MFBs, fostering financial inclusion and entrepreneurship. By understanding the influence of firm characteristics on credit performance, the government can refine and strengthen the regulatory framework for MFBs, ensuring proper governance, risk management, and oversight, leading to a more robust and stable microfinance sector.

1.6 Scope of the Study

The focus of this study was to evaluate the effect of firm characteristics on credit performance of Microfinance Banks in Kenya. The investigation made use of fourteen microfinance banks, which was obtained through census for the period 2019 to 2021. The choice of this period is attributed to the increasing number of Microfinance Institutions which has made it one of the vibrant sub-sectors in Africa in terms of credit performance

and the effect of covid-19 which affect the sector's credit performance. The study was conducted from Dec. 2022 to January 2023. Liquidity Shift ability Theory, Efficiency Structure Theory and Capital Buffer Theory formed the investigation's hypothetical underpinning. The investigation was evaluated using techniques of panel and correlation.

1.7 Limitations of the Study

The study's findings were constrained by several limitations. Firstly, the sample size was small and not sufficiently diverse, making it challenging to generalize the results to the entire population of Microfinance Banks (MFBs). Moreover, the study heavily relied on the quality and availability of data, and in some instances, the data used was incomplete, inconsistent, or outdated, impacting the accuracy and reliability of the findings. To mitigate this limitation, the researcher exercised caution when interpreting the results and acknowledged the constraints related to data. Establishing a causal relationship between firm characteristics and credit performance presented difficulties. Although the study identified correlations, it could not definitively establish whether specific firm characteristics directly caused changes in credit performance or if other underlying factors were at play. Additionally, concerns about reverse causality arose, where credit performance might have influenced firm characteristics rather than the reverse.

Furthermore, the study's findings were context-specific, tied to the particular conditions in which the research was conducted. Microfinance sectors vary significantly across countries or regions, limiting the generalizability of the results. To address this limitation, the researcher considered contextual factors and potential variations in microfinance practices when interpreting the findings. Lastly, the study's timeframe influenced the observed relationships between firm characteristics and credit performance. It's important to

recognize that the dynamics between these factors may evolve over time, and the study's results should be understood within the specific time period in which they were examined.

1.8 Organization of the study

This project is structured into five chapters, each serving a distinct purpose.

Chapter One encompasses the introductory section, delving into the background of the study, articulating the problem statement, outlining the objectives, formulating hypotheses, defining the scope of the study, elucidating its significance, highlighting any limitations, and providing an overview of the organization of the study.

Chapter Two is dedicated to the literature review, a comprehensive examination that consists of a conceptual framework, a theoretical review, an empirical review, and an identification of gaps in the existing literature, all summarized for clarity and coherence.

Chapter Three, titled the methodology, presents the research approach and methods employed, including details on data sources, the chosen research design, the methods of data collection, and the techniques used for data analysis.

Chapter Four is devoted to presenting the research findings and facilitating their discussion, providing an in-depth analysis and interpretation of the data gathered. Chapter Five, the final chapter, serves as a culmination of the study, offering a summary of the research, drawing conclusions based on the findings, and presenting recommendations stemming from the study's outcomes.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This section of the study entails the related literature that is associated to the study. This comprised of hypothetical evidence, empirical works and gaps in literature, summary and conceptual underpinning of the study.

2.2 Theoretical Review

The theoretical review encompasses efficiency structure theory, theory of buffer capital, liquidity shift ability theory, information asymmetry theory and credit risk theory which set the basis for the hypothetical linkage of this study.

2.2.1 Efficient Structure Theory

Demsetz (1973) proposed further development of this theory. The theory argued that the activity of a company in the market was related to efficiency. Low-cost Microfinance Banks are called profit-maximizing Microfinance Banks. However, the idea of this theory is summarized in X-efficiency and economies of scale. X-efficiency means that efficient resource management reduces costs incurred and increases bank profits. Therefore, as Sami (2016) points out, banks operating at an effective production scale can benefit significantly from low operating costs. (Chand, 2017). Efficiency structure theory believes that increased market concentration is the primary source of market power.

Mensi and Zouari (2018) hypothesized that the power of each market by its participants was the direct source of market power, regardless of the ultimate source of such power. Because of the criticism-hypothesis, the emergence of relative market power (RMP). Only

banks with a large market share and a diverse product offering could profitably set prices. As a result, specific market share accurately determines market power and market deficiencies under the RMP hypothesis. This theory is related to the goal of the capital adequacy ratio under consideration. This is due to the fact that X-efficiency necessitates management and effective operating costs in order to increase the efficiency of microfinance banks.

Efficiency structure theory is linked to the first objective; of effect of management efficiency on credit performance This because efficiency structure theory emphasizes lower operational cost efficiency, which is important for the performance of microfinance bank lending in Kenya. Microfinance institutions are committed to achieving and maintaining effective corporate operational levels and the optimal levels of efficiency required by financial systems. Therefore, low and high efficiency levels have a management efficiency impact on the lending performance of Microfinance Banks (Mekonnen, 2015).

2.2.2 Theory of Buffer Capital

Calem and Rob are proponents of this theory (1996).Theoretically, when the minimum capital requirement is announced, banks are motivated to hold large amounts of capital above the required level in order to limit operations below the minimum required capital. Therefore, established standards have been set to counter the cyclical fluctuations that may result from inadequate capital due to bank lending (Wakaba, 2016). Therefore, insurers bear the risk of bankruptcy, and financial institutions with less capital face greater risk. On the other hand, large Microfinance Banks with huge capital have led to high-risk investments in the hope that continued use of capital will increase profitability (Kibet,

Dennis & Omnis & Omnis, 2015). (Guidara, and Tchana 2013), for banks, "interest margin rates increase over time, especially by introducing short-term conservative capital buffer conditions in commercial banks, but others are constant. Buffer capital theory is linked to the second objective of capital adequacy and credit performance of microfinance banks. This is so because Microfinance Banks hold surplus fund to mitigate the risk of falling below the required minimum levels. Importantly, the capital of Microfinance Banks allows banks to plan loans. Therefore, the ability of Microfinance Banks to raise sufficient deposits prevents the depletion of their capital base.

2.2.3 Liquidity Shift ability Theory

Moulton was a proponent of this notion (1915). The theory's cornerstone is that institutions possessing assets can be sold for funds to cover a liquidity shortage. This helps the bank to handle potential liquidity-management methods. This approach also enables money-related managers alter their liquidity capability when they regulate the structures and levels of retaining assets. Rather than depending on the Central Bank for assistance in addressing unexpected circumstances, microfinance institutions can manage changeable resources ahead of time to avoid blunders caused by urgent scenarios (Safitri, and Primadhita, 2022).

Microfinance institution has a sufficient amount of assets that can be transferred to another institution for trading without incurring significant losses in the event of a crisis, a compelling reason to rely on maturity is. It is claimed that it is not (Bala and Abubakar, 2021). For this reason, fully convertible assets must be able to be transferred quickly when liquidity needs arise, even without negative returns. This is especially true for rapidly tradable assets such as commercial buildings and the Treasury. Institutions that want to

earn income at any time (Casu et al., 2006) can sell it immediately. Al-Rdaydeh, et al. (2017) criticizes the liquidity shift theory as having its own drawbacks. First, the mere liquidity of an asset provide no liquidity to the banking system. It depends entirely on the economic situation. Second, this theory ignores a serious recession and stocks and bonds cannot be transferred from one bank to another. This theory is linked to the third objective under study; of liquidity and credit performance of MFBs. If a microfinance institution needs to raise funds to offset administrative costs, resulting in faster credit repayments, individuals to solve liquidity issues within the sector and achieve Credit performance of the system. May need to do so through the money markets. The proportion of loans to deposits was used as a substitute for bank liquidity. A higher ratio is desirable to ensure the creditworthiness of microfinance institutions.

2.2.4 Information Asymmetry Theory

Michael Spence, Joseph Stiglitz, and George Akerlof were supporters of the further developed theory of 1970. Their contribution to this economic theory awarded them the Nobel Prize. Akerlof (1970) argued that market failure is likely to occur in situations where both parties have asymmetric information. Also Nobel laureates Marlies and Vickrey studied real economic transactions. There, players have different level of information of the organization about the costs and benefits of a particular transaction. A situation in which an employer has a better understanding of business dynamics and risks than a lender is known as information asymmetry. Information asymmetry represents a scenario in which all parties involved in a transaction lack relevant facts. Information asymmetry occurs in the credit market when the lender seeking to lend have way better

data about potential returns and risks associated with the asset performance at which the funds are measured (Ryu and). Yang, Yu, 2022).

However, this theory criticizes financial institutions for having difficulty overcoming the above challenges, as monitoring and valuation requires enormous resources and can be expensive when small amounts of money are needed. Have received. This is primarily due to the lack of the appropriate information that bank lenders need to confirm loan applications and monitor borrowers. According to Gatuhu (2016), information asymmetry issues often arise when evaluating loan applications. Bankers are exposed to two types of risks because the information needed to assess an entrepreneur's commitment and capabilities and business outlook is accessible or expensive to obtain.

The theory of information asymmetry is related to the fourth objective of asset quality "asset quality with respect to credit performance". This is because the lender lacks the proper facts about the borrower. According to Gatuhu (2016), when information asymmetry is recognized, banks are exposed to two major problems. Adverse selection (making inappropriate lending decisions) and moral hazard (monitoring corporate behavior).

2.2.5 Credit Risk Theory

Credit Risk theory was proposed by Melton (1974) and is also known as structural theory. It states that the default event arises from a company's asset performance modeled by a constant parameter diffusion process. Such models are commonly defined as "structural models" and are based on variables that are specific to a particular publisher. One evolution in this category is represented by an asset model in which losses from defaults

are exogenously inherent. In these models, defaults can occur not only during the life of the bond, but throughout its life (Miller and Ward, 2018).

Credit risk theory is liked to dependent variable under study; credit performance. This is because Kenyans have been exposed to credit risk from an early age and credit risk has been extensively studied over the last three decades. Early credit literature used traditional actuarial methods of credit risk, the main difficulty of which was the complete reliance on data from the past. To date, there have been three quantitative approaches to analyzing credit risk. Structural approaches, guided assessments, and incomplete informational approaches.

2.3 Empirical Review

2.3.1 Management Efficiency and Credit Performance

Bolarinwa and Akinyele (2021) analyzed the inter-temporal link between management efficiency, credit performance, and efficiency in Nigeria's banking industry from 2018 to 2018. The study found that efficiency played a vital role in curbing the spread of non-performing loans after the policy of recapitalization in the industry. Efficiency, in conjunction with management efficiency and recapitalization, was found to reduce non-performing loans. While the study focused on Nigeria, this research will specifically investigate the credit performance of Kenyan microfinance banks. Ahmed, Majeed, Thalassinos, and Thalassinos (2021) conducted a study in Pakistan to investigate the impact of bank particulars and management efficiency on nonperforming loans (NPLs) in commercial banks from 2016 to 2018. They used the system generalized method of moment technique for analysis and found that net interest margin, credit growth, loan loss provision, and bank diversification significantly increased NPLs, while asset quality,

operating efficiency, and return on assets (ROA) decreased NPLs. The study also revealed that interest rate, exchange rate, and political risk significantly increased NPLs, while GDP growth decreased NPLs. However, these findings are limited to Pakistani commercial banks only, and this study aims to investigate whether they can be applied to Microfinance Banks in Kenya. Unlike the previous study that examined macroeconomic factors, this study will focus on credit performance as a bank-specific factor.

Sandada and Kanhukamwe (2019) conducted a study in Zimbabwe to investigate the factors influencing credit risk in the banking sector. They used association, linear, and discussion of the data to analyze macroeconomic and institution-specific factors and found that they were the main factors influencing the banking industry in Zimbabwe. However, industrial variables did not significantly affect the rise in credit risk in Zimbabwe's banking system. Given that Zimbabwe is still emerging, this study will be conducted in Kenya, which has one of the most prominent subprime industries in Eastern Africa. Musyoki and Kadubo (2017) evaluated the impact of efficient credit risk management on the financial performance of Kenyan commercial banks between 2000 and 2006. They examined various parameters related to credit risk management, including default rates and costs per loan asset, and used financial reports from ten commercial banks to calculate the rate of return over a seven-year period. The study found that all these parameters had an inverse effect on a bank's financial performance, but the default rate was the most reliable indicator of a bank's financial health. However, the size of the banks used for the analysis was larger than most microfinance banks, which is a limitation of the study.

Barus et al. (2017) conducted research on the impact of management efficiency on the financial performance of savings and credit societies in Kenya. The study utilized survey

data to assess management practices, including risk management, governance, and strategic planning. The findings indicated that microfinance institutions (MFIs) with more effective management practices experienced better credit performance, including lower default rates and higher portfolio quality. The study emphasized the importance of strong managerial capabilities in mitigating credit risk and ensuring sustainable lending operations. Amersdorffer and Wolz (2015) analyzed the financial and social performance of agricultural credit cooperatives in Bulgaria. The study employed data envelopment analysis (DEA) to measure management efficiency and credit performance metrics, such as loan portfolio quality and return on assets. The results demonstrated a positive correlation between management efficiency and credit performance. Banks with higher efficiency scores exhibited lower loan default rates, reduced credit losses, and improved profitability.

Kisala (2014) examined the effect of credit risk management practices on loan performance in microfinance institutions in Nairobi, Kenya. The research employed qualitative and quantitative methods, including interviews with MFI managers and analysis of financial data. The findings indicated that effective risk management systems, robust internal controls, and transparent governance structures were associated with better credit performance. The study also highlighted the importance of continuous monitoring and evaluation of management practices to adapt to changing market dynamics and enhance credit performance.

Onaolapo (2012) conducted a comprehensive analysis on the efficiency of credit risk management in the Nigerian commercial banking sector. The study utilized various financial ratios as indicators of management efficiency and credit performance. The results revealed a positive and significant relationship between management efficiency and credit

performance. Specifically, banks with higher management efficiency ratios demonstrated lower default rates, reduced non-performing loans, and higher profitability.

2.3.2 Capital Adequacy and Credit Performance

Barngetuny (2021) examined the requirement for capital adequacy ratio effect on loan demand of Kenya's commercial banks by using exploratory design. Qualitatively, the study was analyzed and the result showed that KCB loan might have been affected by capital adequacy ratio requirements. It was advocated that an intense bank regulation be stressed on liquidity and financial regulations. After the survey was conducted in Kenya, the focus was on commercial banks, which focused on the credit performance of microfinance banks. While the main focus of the study was on credit demand, this study will focus on credit performance. Religiosa and Surjandari (2021) investigated the relationship between capital adequacy ratio, liquidity, corporate risk and leverage of the Indonesian banking industry from 2016 to 2018. Of an Indonesian banking company. Similarly, liquidity and capital adequacy have had a significant impact on the earnings management of Indonesian banking Microfinance Banks. The capital adequacy easing effect was exposed to the liquidity and revenue management of the association. This study was conducted in Indonesia and the results are quite different from those obtained from Kenya. We used some key elements in this study as well, but they are different because of the added quality and management efficiency of our assets.

Nyumoo, Mwambia and Rintari (2020) studied the significance of management functions on SACCO's financial performance in Meru County. The study focused on Mel's 14 deposit acquisition SACCOs using data from SACCO's certified financial records. The results of the panel regression method show that the percentage of organizational assets

had a particularly strong impact on the rate of return on investment used to assess SACCO's performance. Nevertheless, this study was small in population and was confined to a single site in Kenya. The study concentrated on SACCO in Nairobi City, Kenya. This study will increase the sample size and focus on microfinance banks. Olarewaju (2020) analyzed the both firm detailed and factors of macroeconomics in determining nonperforming loans of commercial banks in nine countries for the period 2018 to 2017. This result observed that lower middle income countries loans nonperformance was affected significantly by capital adequacy, real interest rate, and ratio of cost income and growth of credit. The modification and institution of regulations and policies were suggested for credit advancement in the study area. Nine countries were used for the study and it did not include Kenya, therefore the environmental setting of these countries are different from Kenya, thus this study will only be concentrated on Kenya's Microfinance Banks credit performance.

Yulianti and Aliamin (2018) carried out the analysis of capital adequacy and Asset quality among public banks in Indonesia to determine their NPL rates. Using 2017 to 2019 and employing 81 sampled banks, the results from the multiple linear panel analysis showed that NPLs was affected positively and significantly by the ratio of capital adequacy. NPL was also affected significantly and negatively by Asset quality while inversely with loan to deposit ratio. This study will be investigated in Kenya using Microfinance Banks whereas Indonesia was used to determine NPL of banks. The time scope of the study will be different from this study as the scope will be from 2018-2021.

2.3.3 Liquidity and Credit Performance

Mennawi (2020) conducted a study to examine the influence of leverage, credit, and liquidity risk on the performance of Sudanese Islamic banks from 2016 to 2018. The study employed the panel regression technique on a sample of 13 banks. The findings indicated that leverage, credit, and liquidity risk had a substantial negative impact on the overall performance of Sudanese Islamic banks. However, the performance of these banks was not significantly affected. Notably, liquidity risk had a positive and significant effect on the performance of Sudanese Islamic banks. While Mennawi's study focused on the context of Sudanese Islamic banking, this research aims to investigate the credit performance of microfinance banks in Kenya.

Afifa (2020) looked at how financial, debt, and liquidity risk in developing countries affected banking. The study was only performed from 2018 to 2018. The study utilized a generalized point of method technique. The institution and evidence of the analysis exposed that banks capital, credit and liquidity risk impacted significantly on emerging markets banks profitability. Requirement of Basel guided the study stipulations for domestic and external banks minimization of risk exposure. Emerging economies of the world was the study anchored premise however; this study will be emphasized on Kenya microfinance banks. The study was guided by BASEL, while this study will be guided by, CAMELS. Wanjiru and Muturi (2019) investigated the factors influencing the efficiency of SACCOs in the Kiambu Region of Kenya. The study utilized a descriptive research approach and secondary data covering a five-year period from 2016 to 2018. Descriptive and inferential statistics were employed to analyze the dataset. The regression results indicated a weak and negative relationship between liquidity and SACCO efficiency.

However, it's important to note that the study did not conduct panel data diagnostic tests for stationarity, multicollinearity, normality, and fixed and random effects testing, which will be addressed in the current study.

Noble, Adisa, and Terina (2018), undertook a review of the effects of liquidity on credit performance of commercial banks in Nigeria in 2019. For the research study, paneled modelling of the conditional variance was used. Asset quality had a significant and immediate effect on financial firms' operations. Yet, default risk or operational effectiveness had a detrimental and considerable impact on commercial banks' profitability. The study uncovered the finding that adequate capital substantially but proactively promotes growth and enhances capital adequacy management effectiveness, which impacts institutions' ability to extend credit.

Njeru (2016) conducted a study to examine the impact of liquidity management on the financial performance of Deposit Taking Saving and Credit Co-operative Societies (SACCOs) in Kenya. The study had several specific objectives, including investigating the effect of cash management, loan repayment, investment in non-core business, liquidity decisions, management competency, and the moderating effect of SACCO regulation on the financial performance of deposit-taking SACCOs. The target population consisted of thirty licensed deposit-taking SACCOs in Kenya, and a sample size of 92 respondents was selected using simple random sampling. The study employed a descriptive survey to gather information on the effects of liquidity management on the financial performance of deposit-taking SACCOs in Kenya. The results indicated that while SACCOs implemented strict cash flow forecasts, external variables could still affect cash management, posing significant risks to the institutions' operations. Therefore, it is crucial to conduct a thorough

review of both the external and internal factors that can influence cash management within the institution and establish appropriate mitigation measures. The study also found a high level of gross loan portfolio, highlighting the significant demand for loans by members, which aligns with the key mandate of deposit-taking SACCOs.

Maaka (2013) conducted a study in Kenya to investigate the relationship between liquidity risk and the financial performance of commercial banks. The study utilized a correlation research design and collected data from the balance sheets, income statements, and notes of 33 Kenyan banks from 2008 to 2012. Multiple regressions were applied to analyze the impact of liquidity risk on banks' profitability. The findings revealed that an increase in the liquidity gap and leverage negatively affected the profitability of commercial banks in Kenya. A significant liquidity gap may require banks to borrow from the repo market at higher rates, thereby increasing their costs. On the other hand, the level of customer deposits was found to have a positive effect on banks' profitability. Therefore, it is recommended for banks to expand and open more branches in the country to attract deposits. It's important to note that the study's sample period was limited to 2008-2012 due to data availability. However, this limitation doesn't undermine the findings as the sample included 14 banks, which represent a significant portion of the Kenyan banking system. The study focused solely on profitability, and future research should consider other variables such as the prevailing economic conditions during a given period.

2.3.4 Asset quality and Credit Performance

Yulianti and Aliamin (2018) conducted an analysis of capital adequacy and asset quality among public banks in Indonesia to determine their non-performing loan (NPL) rates. The study utilized data from 2017 to 2019 and included a sample of 81 banks. The results

obtained through multiple linear panel analysis indicated that NPLs were positively and significantly influenced by the capital adequacy ratio. Additionally, NPLs were significantly and negatively affected by asset quality, while demonstrating an inverse relationship with the loan-to-deposit ratio. This study aims to investigate similar factors in the context of Microfinance Banks in Kenya, as opposed to analyzing NPLs in banks in Indonesia.

Barus and Koima (2017) examined the effect of asset quality on the financial performance of savings and credit societies (SACCOs) in Kenya. The study employed an explanatory research design and targeted 83 registered deposit-taking SACCOs that had been in operation for the past five years. The sample size for the study consisted of all 83 SACCOs that had remained operational from 2011 to 2015, using a census methodology. Both primary and secondary data sources were utilized, and multiple linear regression models were employed for data analysis using statistical software packages such as SPSS and STATA. The reliability and validity of the research instruments were assessed through a pilot study. Descriptive and inferential analyses were conducted, and the data were presented using tables and graphs. The study concluded that asset quality had a positive influence on the financial performance of savings and credit societies in Kenya, as evidenced by the regression results indicating a magnitude of 5.827 units by which asset quality influenced their financial performance.

Nzoka (2015) conducted a study to examine the impact of asset quality on the financial performance of commercial banks in Kenya. The objective of the study was to determine the effects of asset quality on the financial performance of commercial banks in Kenya between the years 2010 and 2014. Asset quality, also known as loan quality, refers to the

overall risk associated with the various assets held by an individual or institution. It measures how well a financial institution predicts the credit risk of its assets and how effectively it manages them. Financial performance, on the other hand, is a measure of how well a firm utilizes its assets from its primary business activities to generate revenues. It is also used as a general indicator of a firm's overall financial health over a specific period and can be used for comparisons within the same industry or across different sectors. The study employed a descriptive research design, focusing on commercial banks due to the availability of required data and convenience. All 43 commercial banks in Kenya were included as the target population. Secondary data was obtained from the annual reports of the Central Bank of Kenya's Banks Supervision Reports. Data analysis was performed using SPSS version 20.0. The study utilized the t-test at a 5% level of significance, calculated the correlation coefficient (r), coefficient of determination, and conducted an analysis of variance (ANOVA).

The analysis revealed that all the factors related to asset quality had a statistically significant impact on financial performance. However, it was noted that asset quality alone could not determine the financial performance of commercial banks; other factors such as capital adequacy, management efficiency, earnings performance, and liquidity also needed to be considered. The study confirmed a negative relationship between asset quality and financial performance. Based on the findings, the study recommended measures to achieve higher levels of asset quality, including improved investment asset levels and a low rate of non-performing assets through effective credit risk identification, measurement, monitoring, and control. The study also emphasized the importance of further research on

factors influencing asset quality in commercial banks in Kenya to enhance the performance of local banks and contribute to academic literature.

Abata (2014) conducted a study to investigate the impact of asset quality on the performance of commercial banks in Nigeria. The study utilized secondary data obtained from the annual reports and accounts of the six largest banks listed on the Nigeria Stock Exchange, with a sample period spanning fifteen years from 1999 to 2013. Ratios were used as measures of bank performance and asset quality, as they provide a reliable means of assessing the level of activities within the firms. The data were analyzed using Pearson correlation and regression analysis tools in SPSS 17.0. The findings of the study revealed a statistically significant relationship and influence of asset quality on bank performance. Based on these findings, the study recommends the implementation of policies that promote revenue diversification, minimize credit risk, and encourage banks to reduce their liquidity holdings. Additionally, the study suggests that further research on factors influencing the liquidity of commercial banks in Nigeria could contribute to enhancing bank profitability and academic literature in the field.

2.4 Discrepancies in Knowledge as Study Reviewed

Table 2.1 contains a summary of empirical literature that highlights literature gaps to illustrate the ties between corporate characteristics and the creditworthiness of microfinance banks.

Table 2.1: Review of Literature and Summary of Research Gaps

Author	Target	Main results	Study gap	Divergence of Current research
Warue (2013)	Analyzed the	Asset quality	Kenyan	Credit performance of Microfinance Banks .This

Author	Target	Main results	Study gap	Divergence of Current research
	connection exposed by microeconomic, banks specific and NPLs variables in Kenya	significantly affected non-performing loans. Small banks, ROA was described to possess an inverse and significant level of impact on the level of NPL likewise that of medium banks	commercial banks was the study focus. The time scope of the study was from 1995-2018.	study will be from 2018-2021
Makri, Tsagkanos and Bellas (2016)	Determined majorly the factors that affect NPL degree	A strong relationship exist between asset quality and commercial bank NPLs.	Commercial banks in the Eurozone. The data which was used in this study was Micro and macro data.	Data will be from financial records of Microfinance Banks in Kenya.
Hassana, Ilyas and Rehman (2015)	Investigated Pakistan NPL of banks.	Loan performance in Pakistani banks was greatly affected by asset quality.	On Pakistani banks' loan performance	Kenya's microfinance banks.
Awuor (2015)	Examination of firm characteristic	Asset quality had a major impact on loan	Kenya commercial banks was the	Microfinance Banks in Kenya

Author	Target	Main results	Study gap	Divergence of Current research
	effect on Kenya's NPLs level	performance of Pakistani banks.	focal point of the research	
Sandada and Kanhukamwe (2019)	Investigated causes of increased credit risk in the banking industry.	Banks specific and macroeconomic determinants are the leading variables affecting the banking industry in Zimbabwe. However, industrial factors had insignificant impact on increased credit risk in Zimbabwe's banking industry	Was conducted in Zimbabwe's banking industry	Microfinance sector in Kenya
Yulianti and Aliamin (2018)	Analysis of capital adequacy and Asset quality was carried out among public	NPL was affected positively and significantly by the ratio of capital	Public banks in Indonesia. The time scope was from 2017-2019	MF Banks Kenya Time scope will be from 2018-2021.

Author	Target	Main results	Study gap	Divergence of Current research
	banks in Indonesia to ascertain their NPL rates	adequacy. NPL was also affected significantly and negatively by Asset quality while inversely with the loan-to-deposit ratio.		
Kajola, Alao, Sanyaolu and Ojurongbe (2019)	Examined the impact of leverage and liquidity on the performance of listed enterprises at the stock exchange market.	Leverage was revealed to have impacted on listed firms' performance in a significant way.	The conduct of this study was in Nigeria	Effect of firm characteristics on credit performance in Microfinance Banks Kenya.
Solomon, Odekina, and Gabriel (2019)	The impact of credit risk, capital adequacy, and operational efficiency on the performance of commercial banks	Commercial bank performance was directly and significantly affected by capital adequacy. However, commercial banks performance was affected by credit risk and operating efficiency negatively and significantly.	Nigeria was the setting of the research.	Kenya's Microfinance Banks will be the study context
Olarewaju (2020)	Both firm-specific and macroeconomic factors were	This study discovered that capital adequacy, real	Nine countries were applied in the research.	This study focuses only on the creditworthiness of Kenyan microfinance banks.

Author	Target	Main results	Study gap	Divergence of Current research
	looked at in order to determine commercial banks' bad debt.	interest rate, cost-income ratio, and credit growth all had a significant impact on loan nonperformance in lower middle-income countries. Credit, leverage Liquescence jeopardy had a weighty bad result scheduled concert. It had only a minor impact on the performance of Sudan's Islamic banks.		
Manawa (2020)	Examined how debt, debt, and liquidity risk affected research operation of Islamic banks throughout Sudanese.	Sudanese Islamic banks performance were greatly affected by Liquidity risk.	Study area was Sudan.	This study will be conducted in the context of Kenya's Microfinance Banks credit performance.

Author	Target	Main results	Study gap	Divergence of Current research
Yemen (2020)	In global markets, the effects of bank capital, loan, or liquidity were explored.	The institution and evidence of the analysis exposed that banks Capital, credit, and liquidity risk all had a significant effect on the profitability of banks in emerging markets.	Emerging economies of the world was the study anchored premise. The study was guided with BASEL characteristics.	The focus of this study will be on Kenyan microfinance banks. This study will be guided with CAMELS characteristics.
Bolarinwa, Akinyele and Vo (2021)	Analyzed the inter-temporal link that is flanked by banks capitalization, nonperforming loan and efficiency	Documentation from the study showed that efficiency play a crucial role in curtailing nonperforming loans spread after the policy of recapitalization in the industry with the platform passing through nonperforming loans as well as the efficiency	Nigeria was the study area	The lending quality of Kenya's microcredit will indeed be examined in this research.

Author	Target	Main results	Study gap	Divergence of Current research
		and nonperforming loans-recapitalization connection.		
Ahmed, Majeed, Thalassinos and Thalassinos (2021)	Examined specific macro-economic factors of commercial banks nonperforming loans	Credit growth, net interest margin, loan loss provision and bank diversification lead to an increase in NPLs significantly. Asset quality, operating efficiency and ROA decreases NPLs. Interest rate, exchange rate and political risk increased significantly NPLs while the growth of GDP decreases Pakistani commercial banks NPLs.	Study was only applied to Pakistani commercial banks. The study also looked at bank specific on macroeconomic factors	This study will investigate those which can be applied to Microfinance Banks in Kenya. This study will be observing bank specific on credit performance.
Barngetuny (2021)	Capital adequacy ratio effect was examined on loan demand of Kenya's commercial banks	KCB loan might have been affected by capital adequacy ratio requirements	commercial banks in Kenya were the study focus	This research will be stressed on Microfinance Banks credit performance
Religiosa and	The impact of	Company risk	The study was	Kenya Microfinance

Author	Target	Main results	Study gap	Divergence of Current research
Surjandari (2021)	capital adequacy, liquidity, company risk, and leverage on the earnings of the Indonesian banking industry was investigated.	affected positively the earning management of Indonesian banking Microfinance Banks. Liquidity and capital adequacy significantly affected banking Microfinance Banks earning management in Indonesia in an inverse manner. Capital adequacy moderation effect was exposed on the association liquidity and earning management	considered in Indonesia. Some important parameters that will be used for this study is not acknowledged here	Banks credit performance. This study will input important bank specific like managerial deficiency.

Source: Literature Reviewed (2023)

2.5 Conceptual Framework

The conceptual framework in figure 2.1 demonstrates visually the relationship of the variables of the student. The independent variables include Management Efficiency, Capital Adequacy, Liquidity and Asset Quality. The dependent variable is the Credit Performance.

Management efficiency refers to the ability of MFB management team to effectively and optimally utilize the available resources to achieve the organization's goals and objectives. Capital adequacy is a measure of MFB's financial strength and its ability to absorb potential losses and risks. Liquidity refers to the ease with which an asset or investment can be converted into cash without significant price discounts or delays. Asset quality refers to the overall health and value of a MFB's assets, particularly in the context of financial institutions such as banks. Credit performance refers to the ability of borrowers to fulfill their financial obligations, particularly in relation to loans and credit facilities.

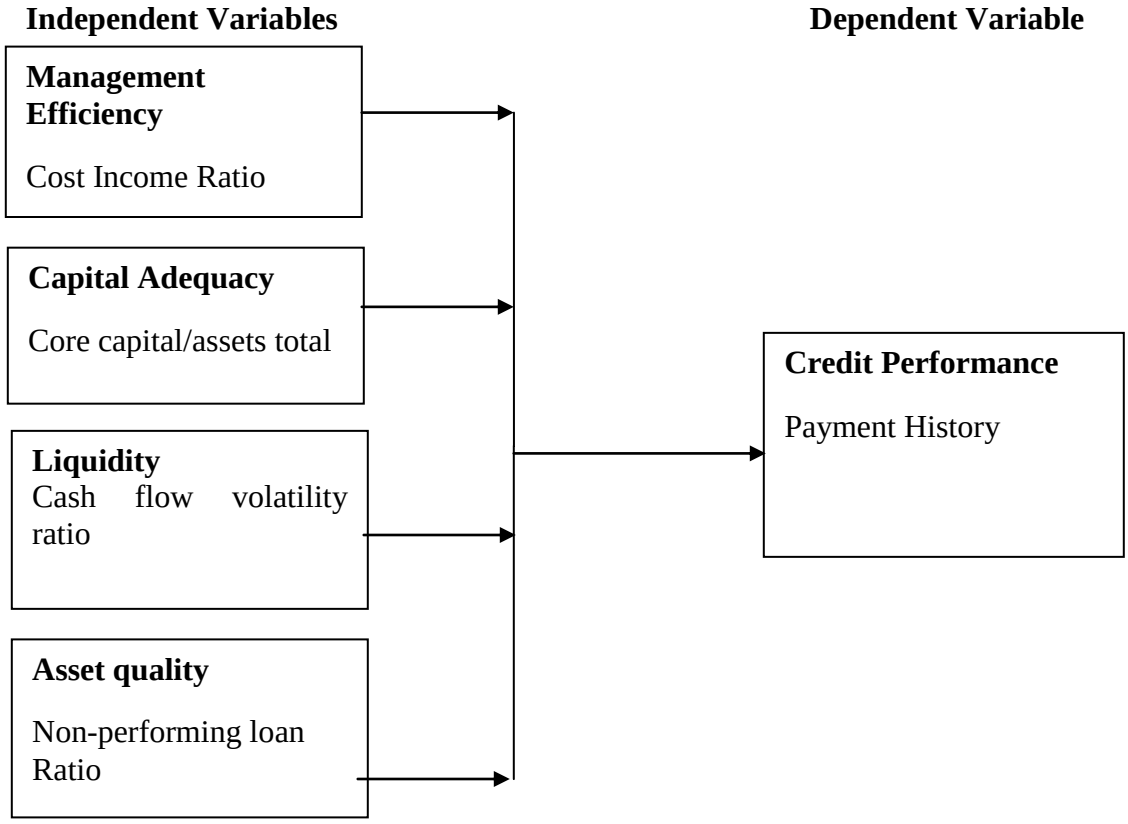

Figure (2.1) Conceptual Framework
Source (2023)

The Cost-Income Ratio measures the efficiency of a microfinance bank by comparing its operating costs to its income. It is calculated as follows:

CIR = (Operating Expenses / Total Income) x 100. A lower CIR indicates better efficiency, as it implies that a smaller portion of the bank's income is being spent on operating expenses. Lower CIR is generally considered favorable for microfinance banks as it allows them to allocate more resources towards income-generating activities and maintaining healthy credit performance. Core capital represents the permanent or long-term capital of a microfinance bank, typically comprising equity capital and retained earnings. The Core Capital/Assets Total ratio assesses the bank's capital adequacy in relation to its total assets. A higher Core Capital/Assets Total ratio indicates greater capital adequacy, which is essential for absorbing losses and maintaining financial stability. Microfinance banks with higher capital ratios are better positioned to manage credit risk and improve credit performance.

The Cash Flow Volatility Ratio measures the stability of a microfinance bank's cash flows. It assesses how predictable and consistent the bank's cash inflows and outflows are over time. Cash Flow Volatility Ratio = (Standard Deviation of Cash Flows / Average Cash Flows) x 100. A lower cash flow volatility ratio suggests more stable cash flows, which can help microfinance banks meet their financial obligations, including loan repayments. Stable cash flows are vital for maintaining a healthy credit performance.

Non-Performing Loan Ratio (NPL Ratio)

The Non-Performing Loan Ratio is a critical indicator of credit performance. It measures the proportion of loans in a microfinance bank's portfolio that are not being repaid according to the agreed terms. It is calculated as follows: NPL Ratio = (Total Non-

Performing Loans / Total Loan Portfolio) x 100 A lower NPL ratio is desirable as it indicates that a smaller portion of loans is at risk of default. Effective credit risk management strategies are essential for microfinance banks to maintain a low NPL ratio and ensure their financial stability. Payment history refers to the track record of borrowers in making timely loan repayments. It is a crucial factor in assessing credit performance. Lenders typically evaluate borrowers' payment history to determine their creditworthiness and the likelihood of future loan repayments. A positive payment history, where borrowers consistently make on-time payments, is indicative of good credit performance. Conversely, a negative payment history with frequent delinquencies and defaults can be a red flag for microfinance banks, suggesting higher credit risk.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This segment of the study establishes the approach that the study employed in arriving at the research conclusion. Population, sampling, collection of data, instrument for data collection, method of analysis is going to be incorporated in this study chapter.

3.2 Research Design

Research design shows the direction of the study which the research intends to apply. It maps out strategies to be followed by the researcher in arriving at study outcomes (Turner, & Burton, 2017). The road map shows how the researcher intends to answer questions that are linked to the study statement of the problem (Schoonenboom, & Froehlich2018). This plan provides details of the research information sources, the norms and values to be upheld by the researcher as well as the possible limitations to be spotted in the course of the study. The design of the study showed the way in which the research findings are validated in the study area by providing evident and the strategies that were followed by the researcher. Causal research strategy was applied to determine the linkage between the study variables. This is to establish the causal-effect connection among firm characteristics and credit performance of microfinance in Kenya.

3.3 Target Population

The target population for this study detailed the number of Microfinance Banks that were used for the study. The investigation's population were thirteen Microfinance Banks that

are licensed and operational for the period of 2018 to 2021. From each MF 4 respondents were requested to purpose information on the trends on how firm characteristics affect their Firms' credit performance. See Appendix II

3.4 Sampling Design

The study adopted census method to select the sample. It is justified, because according to (Etikan, & Bala, 2017). "when target population of study is small "Census Method" was ideal for picking a sample for any academic research. Therefore the entire thirteen (13), Microfinance Banks that are licensed and operational for the period of 2018 to 2021, formed the sample size.

3.5 Empirical Model

The model establishes the substantial connection between the study variables. This link between firm characteristics and microfinance credit performance was established in an empirical form. The mathematical model took into account the information gotten from Microfinance Banks that was used in arriving at the study conclusion. The credit performance of Microfinance Banks was expressed as a relation of managerial efficiency, capital adequacy, liquidity, and Asset quality using panel data methods. This is expressed as thus:

$CP_{it} = \beta_0+\beta_1 ME_{it}+\beta_2 CA_{it}+\beta_3 LQ_{it} + \beta_4 BS_{it} +\varepsilon$ …...3.1

Where:

CP = Credit Performance (Payment History)

ME = Management Efficiency (Cost Income Ratio)

CA = Capital Adequacy (Core Capital/Assets Total)

LQ = Liquidity (Cash Flow Volatility Ratio)

AQ = Asset Quality (Non-Performing Loan Ratio)

t = Time period

i = Bank

ε = Error term

$\beta_1, \beta_2, \beta_3,$ and β_4 = Coefficients

3.6 Operationalization and Measurements of Variables

The variables for measurement are captured in Table 3.2. This presents the indices, which the study employed in ascertaining the variables outcome of the investigation. This shows the breakdown of the variables that the study intends to employ to arrive at the results of the investigation.

Table 3.2: Variable Operationalization and Measurement

Type	**Variable**	**Putting parameters into action**	**Measurement of variables**	**Measurement Scale**	**Hypotheses Direction**
Dependent Variable	Credit Performance	The ability of the banks to efficiently and effectively retrieve their loans from creditors	Payment History	Ratio	-/+
Explanatory Variable	Management Efficiency	Bank capability to turn asset to revenue	Cost Income Ratio	Ratio	
Explanatory Variable	Capital Adequacy	Amount of resources that keeps the banks running smoothly	Capital adequacy ratio	Ratio	-/+
Explanatory Variable	Liquidity	The amount Payment Historys which can easily be converted	Cash flow volatility ratio	Ratio	-/+

Explanatory Variable	Asset quality	Total amount of resources by the bank	Non-performing loan Ratio	Log	-/+

Source: Researcher (2023)

3.7 Data Collection Instrument

To fulfill the study's purpose, a structured plan was used to obtain the investigation information. This plan was clear, straight to the point and understandable in retrieving information that is relevant for the study. The information that was used in the study was based on documented annual financial reports of microfinance banks. The information on the performance of Microfinance Banks was obtained from information provided by the Kenya's apex bank that is published yearly. The sources of secondary data was MFB financial reports, credit bureau data, regulatory reports and past research studies on credit performance. Secondary data was collected and analyzed using panel and descriptive methods. In this case, a secondary data schedule plan was used in retrieving such information for the research. The times series data for the years between 2018 to 2021 while cross-sectional data consisted of MFB. Data on Management Efficiency, Capital Adequacy, Liquidity and Asset quality was derived from the MFB's published annual financial reports for the years 2018 to 2021.

3.8 Data Collection Procedure

This entails the manner in which the information used for the study was obtained. In view of this, Kenyatta University Graduate School was provided the researcher with the authorization. More so, National Commission for Science, Technology, and Innovation (NACOSTI) provided the study permit, which the researcher used in obtaining information

from the target microfinance banks. Information was employed in the study was obtained from microfinance statement of finance and apex bank (CBK) of Kenya's yearly reports. Data collection schedule is shown on Appendix 1.

3.9 Data Analysis and Presentation

Analysis of data refers to the measures of processing collected investigation data into useable forms (Greene, 2012). This entails various steps in data preparation, applying statistical models and reporting key outcomes in line with stated objectives (Kyngäs, 2020). The study applied panel data cutting across the thirteen microfinance banks in Kenya for the time scope 2018 to 2021. The data analyses were carried out using STATA, where the data was entered in an excel shift and then imported to the statistical software. The data analyses for the study were based on descriptive, correlation and regression analyses. Statistical values such as mean, standard deviation, percentages and an observations sum total are contained in the descriptive analysis. Correlation analysis is performed on study variables to ascertain the direction and extent of associations among variables (Gogtay, 2017). Analysis of correlation was adopted to determine the direction and potency of associations among Firm Characteristics and Credit Performance**.** Pearson's correlation method was applied to evaluate correlation analysis. Regression analysis was done using panel regression methods, which was in accordance with the null hypotheses and definite objectives. The null hypotheses of the research study were tested through the adoption of regression analysis based on the p-value of 0.05 thresholds. Relevant diagnostic tests for panel regression analyses were undertaken. After satisfying these requirements, the panel regression model was applied.

3.10 Diagnostic Tests

In order to ensure that the assumptions of the classical linear regression model (CLRM) are met, various diagnostic tests were conducted. Violating any of these assumptions can result in inefficient and biased parameter estimates (Seeram, 2019). Diagnostic tests applicable to panel regression analyses, including multicollinearity, autocorrelation, stationarity, heteroscedasticity, normality, and model specification tests, were performed.

3.10.1 Multicollinearity Test

Multicollinearity refers to the situation when the explanatory variables used in the regression model are highly or moderately correlated (Ahmad& Jha 2019). High levels of multicollinearity among independent variables lead to wider confidence intervals and inaccurate p-values. The Variance Inflation Factor (VIF) was used to assess the level of multicollinearity. Multicollinearity occurs when the association among independent variables is high ($r \geq 0.9$). A threshold of 2 was used to determine if the multicollinearity level among variables is low and adequate for inclusion in the regression analysis. Variables with high multicollinearity may need to be dropped or transformed into a single variable.

3.10.2 Normality Test

The data set used in the study should ideally follow a normal distribution. Non-normally distributed data can lead to incorrect inferences (Pek, & Wong, 2017). Normality was assessed using the Shapiro-Wilk test, which tests the null hypothesis that the data set is normally distributed. The test is conducted with a significance level of 0.05. In case of distributional issues, non-parametric (distribution-free) tests can be used or the issue can be addressed in an appropriate manner.

3.10.3 Heteroscedasticity Test

Heteroscedasticity refers to the situation where the residual variances are not constant across observations (Wiedermann 2017). In a regression model, it is desirable to have homoscedastic (constant) error terms. Heteroscedasticity can result in biased confidence intervals and p-values. The Breusch-Pagan test was employed to test for heteroscedasticity in the data set (Wiedermann 2017). The test assumes a null hypothesis that the residuals are homoscedastic. A threshold probability value of >0.05 is used. In case of heteroscedasticity, robust standard errors can be utilized.

3.10.4 Autocorrelation Test

Autocorrelation occurs when the error term in a model is correlated across different periods (Wiedermann 2017). It implies that the residuals in a model are correlated over time. Autocorrelation can lead to inefficient parameter estimates and incorrect conclusions about the relationship between variables. The Wooldridge test for autocorrelation was employed to assess the presence of autocorrelation in this study. The test assumes a null hypothesis that there is no first-order autocorrelation, and a threshold of 0.05 is used. Standard errors are adjusted if autocorrelation is present (Wiedermann 2017).

3.11 Stationarity Test

In panel regression analysis, it is important to test for stationarity since panel data often includes a time series component (Beenstock, & Felsenstein, 2019). Ignoring stationarity can result in spurious regression due to the use of non-stationary variables. The Fisher-type (Phillips-Perron) unit-root test was applied in assessing the stationarity of data. A 0.05 threshold guides the test. The null hypothesis states that the unit root is contained in the

panels. In the scenario of the various containing unit root, such variables are differenced, and the transformed variables are used.

3.12 Model Specification Tests

In a panel regression technique, the regression is based on two models where the best or most appropriate among the two is selected using a Hausman test (Zulfikar, 2018). The test is utilized in selecting desired random or fixed effects model. The random effect model was preferred and utilized as a result of the outcome of the test which presented a threshold of 0.05. The fixedeffect is evaluated, and the random effect model is dropped in cases where the null hypothesisfor random effect is rejected.

3.13 Ethical Considerations

Ethics refers to the procedures and behaviors that researchers are anticipated to follow in carrying out a study (Asenahabi, 2019). These moral ethics guided the process of a research conducted. It provided the guidance to the researcher on the interaction and actions to be taken in arriving at the study findings. This was done to ensure that the research adheres to the practices that are in line with the research best practices. The guide adhered to was provided by Kenyatta University where further procession for the research conduct was licensed by National Science, Technology, and Innovation Commission .The information obtained was kept in strict confidence.

CHAPTER FOUR

RESEARCH FINDINGS AND DISCUSSION

4.1 Introduction

This chapter presents the results of the research endeavor, documenting the findings and discussions arising from the investigation. The outcomes of descriptive statistics, correlation analysis, and panel regression analysis are presented and discussed. Finally, the research findings are connected with the existing literature, allowing for comparisons to be made.

4.2 Descriptive Analysis

The descriptive analysis is documented in this section which is based on minimum and maximum values, standard deviation and means. Table 4.1 below contains the investigation descriptive statistics.

Table 4.2 Summary of the Descriptive Statistics

	Credit performance	Management Efficiency	Capital Adequacy	Liquidity	Asset quality
Minimum	-644	0.165	-0.52	-33	-0.542
Mean	20.386	0.406	0.27	3.05	-0.072
Maximum	901	1.039	0.836	53.526	0.038
Std. Deviation	136.941	0.173	0.246	8.302	0.128

Source: Author (2023)

Table 4.1 demonstrates research variables descriptive statistics. Credit performance had mean and standard deviation values of 20.386 and 136.941 respectively. This therefore indicates high fluctuations in Kenya's Microfinance Banks Credit performance over

the investigative period. Management Efficiency relatively fluctuated as indicated by mean and standard deviation values of 0.406 and 0.173 respectively, which signifies minimal fluctuations. Capital adequacy of Kenya's Microfinance Banks had a mean of 0.270 and standard deviation value of 0.246. The implication of this is that over the research period, the capital adequacy of Microfinance Banks in Kenya was relatively stable. The mean of 0.27 on capital adequacy indicates that the Microfinance banks had a 27% capital adequacy which was above the 14.5% minimum requirements. This further indicates that the MFBs were well placed within the study period to positively deal with economic shocks due to adequate capital. This is further explained by the earning ability of the MFBs. A minimum value of - 0.542 and maximum value of 0.038 were obtained for Asset quality. Asset quality, this indicates that there were high fluctuations in earning ability of microfinance banks over the study period. This is in line with the profits and losses reported by the banks over the study period. The negative values indicate that some MFBs were losing making over the study period. The negative mean of 7.2% indicate that MFBs were on average making a loss of 7.2% of their investment within the study period.

4.3 Correlation Analysis

In assessing the associations between the study variables, Pearson correlation method was applied. This provided the direction of relationship between the study variables. The correlation test outcomes are contained in Table 4.3.

Table 4.3: Correlation Test Results

Variable	Credit performance	Management Efficiency	Capital Adequacy	Liquidity	Asset quality
Credit performance	1.0000				
Management Efficiency	0.0433	1.0000			
Capital Adequacy	0.2054	-0.1694	1.0000		
Liquidity	0.5750	-0.0754	-0.0567	1.0000	
Asset quality	0.0993	-0.6294	0.0945	0.1411	1.0000

Source: Study Data (2023)

Table 4.3 offers the direction of association between firm characteristics and Credit performance of Microfinance Banks in Kenya. Management Efficiency had a weak positive association (0.0433) with Credit performance of Microfinance Banks in Kenya. Thus, this demonstrates that increases in Management Efficiency results to relative improvements in Kenya's Microfinance Banks financial Credit performance. Muriithi (2014) similarly found that Management Efficiency positively affects Credit performance of commercial banks in Kenya. Adusei (2015) similarly documented that Management Efficiency had positive relationship with banks' Credit performance in Ghana. Capital adequacy had a feeble positive (02054) connection with Credit performance of Microfinance Banks in Kenya. A unit Increase in capital adequacy therefore translate to 20.54 % increase in Credit performance of Microfinance Banks in Kenya. Onuonga (2014) similarly found that capital potency of a bank has direct relationship with its financial Credit performance. Additionally, Bowa (2015) equally documented that capital adequacy had positive effect on Kenya's commercial banks Credit performance. Moussa (2015) also

that capital adequacy had important influences on the Credit performance of Tunisian banks' Credit performance.

Liquidity had a correlation coefficient of 0.5750. Liquidity thereforehad a very significant positive relationship with the Credit performance of Microfinance Banks in Kenya. Similarly, Delechat *et al.* (2012) documented that Liquidity had positive relationship with Central American banks' Credit performance. Onuonga (2014) and Githinji (2016) also indicated that Liquidity has positive relationship with Kenya's commercial banks Credit performance. Earning ability had an association coefficient of 0.0993 which indicates a feeble positive connection. Asset quality would result to 9% change in the Credit performance of microfinance banks in Kenya. This can be credited to the notion that increases in earnings enhances the intermediation role of banks thereby improving on their Credit performance. Similarly, Kumar (2016) that Asset quality positively related to commercial banks' Credit performance in the United Arab Emirates. Hasanovica and Latic (2017) documented that earnings had direct connection with Credit performance of banks in Herzegovina and Bosnia.

4.4 Diagnostic Tests

Various diagnostic tests were carried in the investigation to provide appropriateness of the axioms of classical linear regression model (CLRM) were strictly adhered to. This is due to the fact that evaluation of regression models on violated CLRM assumptions would amount to inefficiency and inconsistent estimated parameters. These tests are: heteroscedasticity test, normality test, autocorrelation test, stationary test, multi-collinearity and random and fixed effecttest.

4.4.1 Multi-collinearity Test

The investigation multi-collinearity test was based on the Variance Inflation Factor (VIF) approach. In line with the threshold for the VIF test, a VIF value of the independent variables of below 2 is desired in order to eliminate the likelihood of high (excessive) multi-collinearity levels (Field, 2009). The result of the VIF test is documented in Table 4.3.1 below.

Table 4.4.1: Multi-collinearity Test Results

Variables	VIF	Remark
Management Efficiency	1.69	No Excessive Multi-collinearity
Capital Adequacy	1.03	No Excessive Multi-collinearity
Liquidity	1.03	No Excessive Multi-collinearity
Asset quality	1.68	No Excessive Multi-collinearity

Source: Study Data (2023)

Table 4.3.1 documents the outcome of the multi-collinearity test. Notably, all the independent variables had VIF values of less than 2. Specifically, Management Efficiency had VIF value of 1.69 while capital adequacy had VIF value of 1.03. Furthermore, Liquidity and Asset quality had VIF values of 1.03 and 1.68 respectively.

4.4.2 Normality Test

Normality test was undertaken using the Shapiro Wilk test, which is informed by a null hypothesis that states that the data set is distributed normally. The test is based on a 0.05 threshold. The output for the test for normality is presented in Table 4.3.2 below.

Table 4.4.2: Normality Test Results

Variable	Obs	W	V	Z	Prob>z
Credit performance	72	0.36366	44.304	7.335	0.00001
Management Efficiency	72	0.90944	6.305	3.563	0.00018
Capital Adequacy	72	0.94918	3.538	2.445	0.00724
Liquidity	72	0.45464	37.970	7.037	0.00001
Asset quality	72	0.72603	19.074	5.705	0.00001

Source: Study Data (2023)

Table 4.3.2 contains the outcomes for the normality test. The test is based on a null hypothesis that states that the data set is normally distributed. At 0.05 significance level, the null hypotheses was rejected. However, given this is a panel data with thirteen (13) firms based on a time scope of 2018 to 2022, non-normal distribution of data can be ignored.

4.4.3 Heteroscedasticity Test

Heteroscedasticity is a test used in checking whether the regression model has error terms that are homoscedastic that is, constant. The test for heteroscedasticity was carried out using Breusch-Pagan test based on the null hypothesis that states that the residuals are homoscedastic. The results are obtainable in Table 4.3.3 below.

Table 4.4:3 Heteroscedasticity Test Results

Breusch-Pagan / Cook-Weisberg test for heteroscedasticity

H_O: Constant variance

Variable: fitted values

chi2(15)	=	1.05
Prob> chi2	=	0.3048

Source: Study Data (2023)

In view of the findings in Table 4.3.3, a likelihood value of 0.3048 was obtained, as such, the residuals are homoscedastic as postulated by the null hypothesis was not discarded at 0.05 significance level. This therefore means that the problem of heteroscedasticity is not present in the residuals which are desired in a panel regression analysis.

4.4.5 Autocorrelation Test

The test for autocorrelation was done using the Wooldridge test for autocorrelation. The test is based on a null hypothesis that there is no first-order serial correlation guided by a 0.05 threshold. The results for the autocorrelation test are contained in Table 4.3.4

Table 4.4.5: Autocorrelation Test Results

Wooldridge test for autocorrelation
H0: no first-order autocorrelation
F(3, 65) = 0.58
Prob> F = 0.6332

Source: Study Data (2023)

The outcome in Table 4.4.5 demonstrates an F statistic 0.58 and corresponding p-value of 0.6332. Therefore, the null hypothesis which states that there was no first-order autocorrelation was not rejected at 0.05 significance level. As such, it was concluded that no autocorrelation problem exists.

4.4.6 Stationarity Test

The investigation carried out a stationarity test based on Fisher type (Phillips-Perron) unit roots test. The test was carried for purposes of avoiding the problems associated with spurious regressions. Table 4.4.6 below contains results of the stationarity test.

Table 4.4.6: Stationarity Test Results

Variable name	t-Statistic(adjusted)	P-value	Comment
Credit performance	1.9439	0.0260	Stationary
Management Efficiency	8.9273	0.0000	Stationary
Capital Adequacy	10.0037	0.0000	Stationary
Liquidity	14.8130	0.0000	Stationary
Asset quality	6.1087	0.0000	Stationary

Source: Study Data (2023)

Table 4.4.6 offers the outcome on the stationarity test. The test was based on a null hypothesis which stating unit root is contain in all panels. Notably, all the study variables namely Management Efficiency , Credit performance , capital adequacy, management efficiency, Liquidity and Asset quality with the exception of Credit performance had p-values of 0.0000. Credit performance had 0.0260 likehood value. Importantly, the likehood value for each variable was lower than the 0.05 threshold. The null hypotheses were therefore rejected for all the study varaiables. In view of the assertion by Gujarati (2003), the findings indicate that the outcome obtained is adequate and will not lead to spurious regression (results).

4.4.7 Model Specification Test

The model specification test was done based on Hausman test approach which entails selection of the most appropriate model from two models. The two models involved in a panel regression analysis are random effects and fixed effects models (Baltagi, 2005). Hausman test outcome is presented in Table 4.4.7.

Table 4.4.7: Hausman Test Results

	(b) Fixed	(B) Random	(b-B) Difference	Sqrt (diag(V_b-V_B)) S.E.
Management Efficiency	234.900	167.712	67.187	80.433
Capital Adequacy	91.764	146.387	-54.623	52.601
Liquidity	9.737	9.704	0.032	0.793
Asset quality	150.726	132.603	18.123	166.080
chi2(3)	2.77			
Prob>chi2	0.596			

Source: Study Data (2023)

The Hausman test is based on the null hypothesis that the random effects model is the most appropriate model for estimation. In view of the findings on Hausman test in Table 4.3.6 above, chi-square of 2.77 and corresponding p-value of 0.596 were obtained. As such, the null hypothesis of the random effects model is the most appropriate model for evaluation due to its non-rejection; hence, the estimation adopted the random effect model.

4.5 Regression Analyses

The panel regression analyses are based on direct effect and moderation effect models. The firm characteristics effect on Credit performance of Microfinance Banks in Kenya is ascertained based on the direct effect model. The moderation effect on the relationship between firm characteristics and Credit performance of Microfinance Banks in Kenya was examined using the moderation effect (Step one) models.

4.5.1 Regression Model

This segment presents the results of firm characteristics effect on Credit performance of Microfinance Banks in Kenya. The results are contained in Table 4.5.1 below

Table 4.5.1: Regression Model

Credit performance	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
Management Efficiency	167.7121	97.14426	1.73	0.084	-22.68716	358.1114
Capital Adequacy	146.387	53.04589	2.76	0.006	42.41892	250.355
Liquidity	9.704185	1.562893	6.21	0.000	6.640969	12.76739
Asset quality	132.6036	130.0735	1.02	0.308	-122.3358	387.5429
_cons	-107.1746	41.792	-2.56	0.010	-189.0854	-25.26374
R^2 =0.4136						
Wald chi2 (4) =47.25						
Prob> chi2 =0.0000						

Source: Study Data (2023)

Table 4.5.1: Regression Model indicates the credit performance analysis, the P>|z| value (also known as p-value) is a statistical measure used to determine the significance of the relationship between a particular variable and credit performance. It is commonly derived from a logistic regression model, where each variable is assessed individually in relation to the dependent variable (credit performance in this case). The P>|z| value indicates the probability of obtaining a coefficient for a particular variable as extreme as the one observed, assuming that there is no true relationship between the variable and credit performance. In other words, it measures the likelihood that the observed relationship between the variable and credit performance is due to random chance.

Management Efficiency: P>|z| = 0.084 The P>|z| value for Management Efficiency is 0.084, which suggests that there is a moderately significant relationship between Management Efficiency and credit performance. This means that the Management Efficiency variable may have some influence on credit performance, but it is not highly statistically significant. Capital Adequacy: P>|z| = 0.006 The P>|z| value for Capital Adequacy is 0.006, indicating a highly significant relationship between Capital Adequacy

and credit performance. This suggests that Capital Adequacy has a strong influence on credit performance, and the observed relationship is unlikely to be due to random chance.

Liquidity: P>|z| = 0 The P>|z| value for Liquidity is 0, which indicates an extremely significant relationship between Liquidity and credit performance. This means that Liquidity has a strong influence on credit performance, and the observed relationship is highly unlikely to be due to random chance.

Asset quality: P>|z| = 0.308 The P>|z| value for Asset quality is 0.308, suggesting that there is no significant relationship between Asset quality and credit performance. This means that Asset quality may not have a substantial influence on credit performance, and the observed relationship could be due to random chance.

_cons: P>|z| = 0.01 The P>|z| value for the constant term (_cons) is 0.01, indicating a highly significant relationship between the constant term and credit performance. The constant term represents the baseline level of credit performance when all other variables are zero or not applicable.

4.6 Hypotheses Testing

This segment shows the domino effects of the hypotheses testing that were in accordance with the specific objectives of the study. Overall, based on the P>|z| values, Capital Adequacy and Liquidity appear to have the most significant relationships with credit performance. Management Efficiency shows some level of significance, while Asset quality does not appear to be statistically significant in relation to credit performance. The p-value technique was used in testing the null hypotheses of the study. The following null hypotheses were formulated and tested:

H01: Management Efficiency has no significant effect on Credit performance of Microfinance Banks in Kenya

The investigation sought to examine the effect of Management Efficiency on Kenya's Microfinance Banks Credit performance. In view of this specific objective, a null hypothesis, which stated that Management Efficiency has no significant effect on Kenya's Microfinance Banks Credit performance, was formulated and tested at 0.05 significance level. A p-value of 0.084 was obtained which is an indication that at 0.05 significance level Management efficiency has no significant effect on Kenya's Microfinance Banks Credit performance. As such, the study failed to reject the null hypothesis which stated that Management Efficiency has no significant effect on Kenya's Microfinance Banks Credit performance. This finding can be linked to the bureaucratic conditions associated with increasing Management Efficiency. Despite higher Management Efficiency indicating, larger assets, higher economies of scale, and possibility higher market share, it is however characterized by longer procedures and slow decision-making process.

The investigative outcomes on the effect of Management Efficiency on Credit performance are in line with some of the previous studies done. Muriithi (2014) studied the relationship of Management Efficiency and liquidity risk of commercial banks in Kenya. The multiple regression output revealed that banks' size positively and insignificantly affected the liquidity risk of commercial banks in Kenya. The focus of the study notably was Kenya's commercial banks. Adusei (2015) examined the impact of Management Efficiency on the banks' Credit performance in Ghana. Banks' size had insignificant effects on banks' Credit performance. Hasanovica and Latic (2017) explored the determinants of excess liquidity while focusing on the banking sector of Herzegovina and Bosnia. Based

on GMM estimators, it was documented that Management Efficiency had an insignificant positive effect on banks' Credit performance. Additionally, Ali and Puah (2018) sought to evaluate the link between Management Efficiency and bank Credit performance in Pakistan and documented that Management Efficiency had insignificant effects on banks' Credit performance.

On the contrary, a few studies found varying results on management efficiency effect on Credit performance Onuonga (2014) analyzed the Credit performance of Kenya's six (6) top commercial banks. The output from the inferential analyses indicates that management efficiency had a significant effect on the Credit performance of the studied commercial banks in Kenya. These discrepancies can be ascribed to the framework of the studies. Onuonga was based on a sample of top six Kenyan commercial banks. Furthermore, Odundo and Orwaru (2018) sought to establish the effect of Management Efficiency on the Credit performance of commercial banks in Kenya and revealed that Management Efficiency appreciably affected the banks' Credit performance. The research however applied ROA in assessing Credit performance, thus, the possible reasons for the varying results.

H02: Capital adequacy has no significant effect on Credit performance of Microfinance Banksin Kenya

The investigation sought to investigate capital adequacy effect on Kenya's Microfinance Banks Credit performance. In line with this, the study formulated and tested a null hypothesiswhich stated that capital adequacy has no significant effect on Kenya's Microfinance Banks Credit performance at 0.05 significance level. A p-value of 0.006 was reported hence a finding that Capital adequacy had a significant effect on Kenya's Microfinance Banks Credit performance at 0.05 significance level. The investigation

observed that capital adequacy has significant effect on Kenya's Microfinance Banks Credit performance. As such, the study rejected the null which stated that capital adequacy has no significant effect on Credit performance of Microfinance Banks in Kenya.

Buffer Capital Theory supports the outcomes on the effect of capital adequacy on Credit performance. Buffer is the surplus amount of capital within the reach of banks which is usually above the minimum capital adequacy prudential requirement stated. Banks with low levels of buffers strive to rebuild towards the appropriate capital buffer, and conversely, banks with adequate buffer levels strive to maintain their capital buffer. These higher levels of capital serve as cushions against adverse shocks, thereby lowering the likelihood of bank failure. When portfolio risk increases, banks, in turn, raise capital to keep up with their buffer levels, which links to the determinant of capital adequacy and banks' Credit performance. As such high capital adequacy improves the Credit performance of Microfinance Banks.

The investigation outcomes on the effect of capital adequacy on Credit performance are in agreement with existing literature, however with a few exceptions. Onuonga (2014) evaluated the Credit performance of the top six (6) commercial banks in Kenya, the outcome revealed thatthe capital strength of a bank had significant influences on its Credit performance. Bowa (2015) documented that capital adequacy had a significant positive effect on the Credit performance of commercial banks in Kenya. Moussa (2015) explored the determinants of Tunisian banks' Credit performance and reported that capital adequacy had significant influences on the Credit performance of banks. Also, Wangila (2017) studied capital adequacy and Kenya's commercial banks Credit performance. It was reported that capitalization significantly influences the Credit performance of commercial

banks. On the contrary, Yimer (2016) assessed the determinants of optimum liquidity levels of commercial banks in Ethiopia and observed that capital adequacy exerts insignificant influences on liquidlyof private commercial banks in Ethiopia. This changing outcome can be accredited to the diversemeasures used.

H03: Liquidity has no significant effect on Credit performance of Microfinance Banks in Kenya

The effect of liquidity on Credit performance of Microfinance Banks in Kenya was analyzed. In view of this specific objective, a null hypothesis, which stated that liquidity has no significant effect on Credit performance of Microfinance Banks in Kenya, was formulated and tested at 0.05 significance level. Based on the regression output, a p-value of 0.000 was reported which signifies that liquidity has a significant effect on Kenya's Microfinance Banks Credit performance at 0.05 significance level. The null hypothesis, which stated that liquidity has insignificant effect on Credit performance of Microfinance Banks in Kenya, was therefore rejected. The significance on liquidity on Credit performance can be attributed to fact that increases in operating profit to not income of banks smoothens intermediation activities and ultimately Credit performance. An efficiency of banks translates to a stable banking system (Central Bank of Kenya, 2018). The investigation outcomes of liquidity effect on Kenya's Microfinance Banks Credit performance concur with those contained in existing literature. Delechat *et al.*,(2012) documented that liquidity exerts a significant positive effect on Central American banks' Credit performance. Onuonga (2014) indicated that liquidity had a significant impact on Credit performance of commercial banks in Kenya. Ngaira and Miroga (2018) explored Kenya's listed commercial banks determinants. The investigation documented that liquidity had a significant effect on NSE listed commercial banks' Credit performance.

Liquidity of management is an integral aspect of banking, as such, the underlying significant effects.

H04: Asset quality has no significant effect on Credit performance of Microfinance Banksin Kenya

The investigation sought to establish the effect of Asset quality on Credit performance of Microfinance Banks in Kenya. In order to achieve this objective, a null hypothesis, which stated that Asset quality has no significant effect on Credit performance of Microfinance Banks in Kenya, was formulated and tested at 0.05 significance level. A p-value of 0.308 was documented hence a finding that Asset quality has no significant effect on Credit performance of Microfinance Banks in Kenya at 0.05 significance level. The null hypothesis, which stated that Asset quality has insignificant effect on Kenya's Microfinance Banks Credit performance, was therefore rejected. Asset quality though enhances the Credit performance of banks, however not in a significant magnitude. The Credit performance of Microfinance banks being a component anda function of variety of factors, improvements in Asset quality may not significantly enhance Credit performance. Natalya, Ratnovski and Vlahu (2015) documented that High earnings could loosen advantage constraints, which in turn bring about more risk-taking by banks, thus the insignificant effect on Credit performance.

The investigation outcomes are in agreement with those of previous studies. Ekweny (2014) assessed Asset quality volatility effect on nonperforming loans portfolio of commercial banks listed in Kenya. Based on regression analyses, it was documented that interest rate volatility and 91-Day Treasury Bill Rate had positive effects on NPLs of listed commercial banks in Kenya. Similarly, Ngaira and Miroga (2018) assessed the

determinants of the Credit performance of commercial banks listed in Kenya. The regression output observed that Asset quality had a significant positive influence on the NSE listed commercial banks' Credit performance.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This section contains the summary, conclusion as well as recommendations of the study. In addition, suggestions for advance studies and contributions to knowledge are contained in this section. These are done with respect to the specific objectives of the study as well as the respective findings obtained. This is based on the correlation and panel regression analyses undertaken in the study.

5.2 Summary

The study sought to examine the firm characteristics and credit performance of Microfinance Banks in Kenya. The specific objectives were to investigate the effect of management efficiency capital adequacy, liquidity and asset quality on credit performance of Microfinance Banks in Kenya. The summary of the study is guided by the outcome of the various analysis techniques used. The descriptive analyses indicated that except for management efficiency, firm characteristics had minimal fluctuations. Management efficiency relatively was relatively dispersed over the study period. Firm characteristics of Microfinance Banks had large dispersions over the investigative period. The inferential analysis of the investigation was based on correlation analysis and panel regression analysis. All the assumptions of panel regression analyses were met which impliesthat the study data used was adequate to allow for estimation.

In respect of the correlation analyses, management efficiency had positive association with Kenya's Microfinance Banks Credit performance. In view of the panel regression analysis, the studyoutcome indicated that management efficiency is not significant in predicting the

Kenya's Microfinance Banks Credit performance. Bureaucratic conditions in banks can lead to insignificant effects on Credit performance.

The correlation analyses provided evidence that capital adequacy had positive association with the Credit performance of Microfinance Banks in Kenya. With respect to the panel regression analyzes, capital adequacy as established in this study is a key determinant of Kenya's Microfinance Banks Credit performance. This is consistent with the prepositions of Buffer Capital Theory. Higher levels of capital serve as cushions against adverse shocks, thereby lowering the likelihood of bank failure. As such high capital adequacy improves the Credit Performance of Microfinance Banks.

In view of the correlation analyses, liquidity had positive association with Kenya's Microfinance Banks Credit performance. The panel regression method indicated that liquidity significantly predicted the Kenya's Microfinance Banks Credit performance. Liquidity of management in the utilization of organizational resources translate into higher Credit Performance of banks, thereby indicated the importance of having an efficient management team in banks. The correlation analyses provided that asset quality had positive association with Kenya's Microfinance Banks Credit performance. As documented by the panel regression analyses, asset quality however had insignificant effects on Kenya's Microfinance Banks Credit performance. Despite the insignificant effect, increases in asset lead to improvements in Credit performance of banks.

5.3 Conclusion

The study concluded that firm characteristics namely management efficiency, capital adequacy, liquidity and asset quality had positive linkages with the Credit performance of

Microfinance Banks in Kenya. With regard to the first specific objective, the investigation concluded that management efficiency was not a key predictor of Kenya's Microfinance Banks Credit performance. Despite the economies of scale connected with improved management efficiency, the potential benefits can be eroded by accompanying bureaucratic conditions. The study in view of the second specific objective, it was reported that capital adequacy is significant in predicting Kenya's Microfinance Banks Credit performance. It was concluded that capital adequacy is key in determining Credit performance. The study was of the conclusion that banks that have more extensive capital base have more Credit Performance, which is due to their ability to diversify operations of the business and strengthening their capacity in absorbing risk.

In view of the third specific objective, it was reported that liquidity had significanteffect on Credit performance. With respect to the fourth objective, it was found that asset quality had insignificant effect on Kenya's Microfinance Banks Credit performance. In consideration of this finding, it was concluded that asset quality is not important in determining the Credit performance of Microfinance Banks Credit performance. Increases in asset quality lead to corresponding improvements in Credit performance, however, not in a significant manner. Lastly, in view of the fourth specific objective, it was reported that interest rates had significance on the nexus between firm characteristics and Credit performance. The study in view of this outcome concluded that the nexus between firm characteristics and Credit performance of Microfinance Banks is significantly moderated by interest rates. Profitability which is a key component of Credit performance increases with rising interest rates and vice versa.

5.4 Policy Implications and Recommendations of the Study

The study presents the following recommendations to policy on firm characteristics in light of its results and derivations. First, it was discovered that management effectiveness significantly improved credit performance. According to the results of the hypothesis test, improving credit performance is correlated with increasing market share in the organizational finance structure of the MFB.

In order to benefit from the lower cost of capital and consequently improve credit performance, the study advises business managers to favor credit over stock. The research analysis also shows that increasing credit levels raise financial risk, which can counteract the advantages of interest tax shelter. As a result, it is advised that the increased advantage be at its highest possible level. To encourage the expansion of credit performance, the government should take a more aggressive approach to making sure that more affordable loan sources are available. The results showed that Kenyan microfinance banks' asset quality and credit efficiency. In light of this, the report advises company managers to take active steps to boost capital spending. According to the research that was done, corporate managers should use capital budgeting techniques to make sure that their capital investments are going toward things that will have positive net present values (NPVs).

Lastly, it was discovered that the credit performance was significantly impacted by capital adequacy. Particularly, it was discovered that capital ratio had a favorable impact on credit performance. The study so advises corporate managers to raise the dividend payout during profitable periods. This communicates positive information to the market, which raises market valuation. To increase the wealth of investors, MFB should develop the proper legislation about the minimum amount of dividends that a successful firm must pay.

5.5 Suggestion for Further Research

Further empirical investigations could be supported by the research gaps that were identified during the study effort. First, the study found that the R-squared for the overall model of the study's key variables was low. This is true notwithstanding the significance placed on the impact of company features on an organization's decision-making process for credit management unit. It is essential to do an empirical investigation to ascertain the reasons for such low R-squared, which will serve as the foundation for discovering other variables outside the financial management decision-making unit that may better explain variations in credit performance. Second, the analysis in the current study was entirely based on quantitative data. To gather information on the same subject, an empirical investigation utilizing the triangulation approach is required. By receiving some clarifications and explanations on specific issues, this would aid in improving the data gathered. For instance, there were a number of outliers in the data that was gathered during the study period for some variables.

REFERENCES

Abata, M. A. (2014). Asset quality and bank performance: A study of commercial banks in Nigeria. *Research Journal of Finance and Accounting*, *5*(18), 39-44.

Abbas, F., Ali, S., & Ahmad, M. (2021). Does economic growth affect the relationship between banks' capital, liquidity and profitability: empirical evidence from emerging economies. *Journal of Economic and Administrative Sciences*.

Abdel Megeid, N. S. (2017). Liquidity risk management: conventional versus Islamic banking system in Egypt. *Journal of Islamic Accounting and Business Research*, *8*(1), 100-128.

Abdo, M. M., & Onour, I. (2020). Liquidity risk management in full-fledged Islamic banking system. *Management and Economics Research Journal*, *6*(2).

Adom, P. K., & Kwakwa, P. A. (2016). Effects of changing trade structure and technical characteristics of the manufacturing sector on energy intensity in Ghana. *Renewable and Sustainable Energy Reviews*, *35*, 475-483.

Ahmadyan, A., & Shahchera, M. (2018). Effect of Asset and Liability Management on Liquidity Risk of Iranian Banks. *Journal of Money and Economy*, *13*(1), 107-123

Ahmed, A. (2021). *The Effect of Organisation Size on Efficiency of Microfinance Banks in Kenya* (Doctoral dissertation, University of Nairobi).

Ahmed, S., Majeed, M. E., Thalassinos, E., & Thalassinos, Y. (2021). The impact of bank specific and macro-economic factors on non-performing loans in the banking sector: evidence from an emerging economy. *Journal of Risk and Financial Management*, *14*(5), 217.

Akter, R., & Roy, J. K. (2017). The impacts of non-performing loan on profitability: An empirical study on banking sector of Dhaka stock exchange. *International Journal of Economics and Finance*, *9*(3), 126-132.

Ali, A. E. E. S. (2015). The regulatory and supervision framework of Microfinance in Kenya. *Int'l J. Soc. Sci. Stud.*, *3*, 123.

Alkhazali, A., Al-Eitan, G., Al-serhan, H., Bani-Khalid, T., & Al-Naimi, A. (2021). The effect of internal risks on the performance of Jordanian commercial banks. *Accounting*, *7*(7), 1819-1824.

Allen, F., & Gale, D. (2018). How should bank liquidity be regulated?. In *Achieving Credit performance : challenges to prudential regulation* (pp. 135-157).

Alshatti, A. S. (2015). The effect of credit risk management on financial performance of the Jordanian commercial banks. *Investment management and financial innovations*, (12,№ 1 (contin. 2)), 338-345.

Amersdorffer, F., Buchenrieder, G., Bokusheva, R., & Wolz, A. (2015). Efficiency in microfinance: financial and social performance of agricultural credit cooperatives in Bulgaria. *Journal of the Operational Research Society*, *66*(1), 57-65.

Aspirantia, T., Hadi, A. R. A., Amaliah, I., & Mafruhat, A. Y. (2019). Non-performing financing and asset quality: Evidence from Indonesian Islamic Banks. *International Journal of Innovation, Creativity and Change*, *10*(6), 1-23.

Awuor, F. (2015). *Effects of selected bank specific factors on non-performing loans amongst commercial banks in Kenya* (Doctoral Dissertation, University of Nairobi)

Bala, M. A. K., Yadudu, M., & Abubakar, B. M. (2021). Moderating Effect of Operational Efficiency on the Relationship between Financial Risk and Performance of listed banks in Nigeria: A Proposed Conceptual Framework. *Fudma Journal of Management Sciences*, *1*(1), 1-18.

Barus, J. J., Muturi, W., Kibati, P., & Koima, J. (2017). Effect of management efficiency on financial performance of savings and credit societies in Kenya. *Journal of Strategic Management*, *2*(1), 92-104.

Barus, J. J., Muturi, W., Kibati, P., & Koima, J. (2017). Effect of asset quality on the financial performance of savings and credit societies in Kenya. *American Journal of Finance*, *1*(4), 13-25.

Beccalli, E., Casu, B., & Girardone, C. (2006). Efficiency and stock performance in European banking. *Journal of Business Finance & Accounting*, *33*(1- 2), 245-262.

Bera, A. K., & Jarque, C. M. (1981). Efficient tests for normality, homoscedasticity and serial independence of regression residuals: Monte Carlo evidence. *Economics letters*, *7*(4), 313-318.

Berger, A. N., & Bouwman, C. H. (2017). Bank liquidity creation, monetary policy, and financial crises. *Journal of Credit Performance, 30*, 139-155.

Bhatia, V., Basu, S., Mitra, S. K., & Dash, P. (2018). A review of bank efficiency and productivity. *Opsearch*, *55*(3), 557-600.

Bholat, D., Lastra, R. M., Markose, S. M., Miglionico, A., & Sen, K. (2018). Non-performing loans at the dawn of IFRS 9: regulatory and accounting treatment of asset quality. *Journal of banking regulation*, *19*, 33-54.

Bolarinwa, S. T., Akinyele, O., & Vo, X. V. (2021). Determinants of nonperforming loans after recapitalization in the Nigerian banking industry: Does efficiency matter?. *Managerial and Decision Economics*, *42*(6), 1509-1524.

Buyinza, F. (2018). *Performance and Survival of Ugandan Manufacturing firms in the context of the East African Community* (No. 677-2019-46633).

Chand, S. (2017). Registration and release of customary-land for private enterprise: Lessons from Papua New Guinea. *Land Use Policy*, *61*, 413-419.

Credit performance is a crucial aspect of financial institutions that reflects their ability to manage credit risk and ensure the timely repayment of loans. Several factors contribute to credit performance, including management efficiency, capital adequacy, liquidity, and asset quality (Akter, 2017).

Creswell, J. W., Shope, R., Plano Clark, V. L., & Green, D. O. (2006). How interpretive qualitative research extends mixed methods research. *Research in the Schools*, *13*(1), 1-11.

Edem, D. B. (2017). Liquidity management and performance of deposit money banks in Nigeria (1986–2011): An investigation. *International Journal of Economics, Finance and Management Sciences*, *5*(3), 146-161.

Gallati, R. R. (2022). *Risk management and capital adequacy*. McGraw-Hill.

Guidara, A., Soumaré, I., & Tchana, F. T. (2013). Banks' capital buffer, risk and performance in the Canadian banking system: Impact of business cycles and regulatory changes. *Journal of Banking & Finance*, *37*(9), 3373-3387.

Innocent, I., Ademola, O. G., & Teryima, T. S. (2019). Effect of Capital Adequacy, Credit Risk and Operating Efficiency on the performance of Commercial Banks in Nigeria.

Iraya, C., & Ochieng, D. E. (2022). Residential Mortgage Portfolio, Firm Characteristics and Performance of Commercial Banks in Kenya. *African Development Finance Journal*, *2*(2), 90-119.

Isabella, K. (2019). *Macroeconomic Variables And Loan Delinquency Of Tea Manufacturing Microfinance Banks Managed By Kenya Tea Growers Association* (Doctoral Dissertation, Kenyatta University).

Jokipii, T., & Milne, A. (2018). Bank capital buffer and risk adjustment decisions. *Journal of Credit performance*, *7*(3), 165-178.

Kajola, S. O., Alao, A., Sanyaolu, W. A., & Ojurongbe, O. J. (2019). Effect of liquidity and leverage on financial performance of Nigerian listed consumer goods firms. *The journal Contemporary Economy*, *4*(3), 91-102.

Kamande, E. G. (2017). *The effect of bank specific factors on financial performance of commercial banks in Kenya* (Doctoral dissertation).

Kamukama, N., Kyomuhangi, D. S., Akisimire, R., & Orobia, L. A. (2017). Competitive advantage: Mediator of managerial competence and financial performance of commercial banks in Uganda. *African Journal of Economic and Management Studies*

Karanja, S. G., & Simiyu, E. M. (2022). Credit Management Practices and Loan Performance of Microfinance Banks in Kenya. *Journal of Finance and Accounting*, *6*(1).

Kargi, H. S. (2018). Credit risk and the performance of Nigerian banks. *Ahmadu Bello University, Zaria*.

Khalil, A., & Taktak, N. B. (2020). The impact of the Shariah Board's characteristics on the financial soundness of Islamic banks. *Journal of Islamic Accounting and Business Research.*

Kibet, K. D., Achesa, K., & Omwono, G. (2015). Effects of microfinance credit on the performance of small and medium enterprises in Uasin Gishu County, Kenya. *International Journal of Small Business and Entrepreneurship Research, 3*(7), 57-78.

Kiemo, Muturi, and Mwangi (2019) investigated the impact of capital sufficiency on commercial bank profitability in Kenya. *International Journal of Finance, 5(1),*

Kiemo, S. M., Olweny, T. O., Muturi, W. M., & Mwangi, L. W. (2019). Bank-specific determinants of commercial banks Credit performance in Kenya. *Journal of Applied finance and banking*, *9*(1), 119-145.

Kisala, P. M. (2014). *The effect of credit risk management practices on loan performance in microfinance institutions in Nairobi, Kenya* (Doctoral dissertation, University of Nairobi).

Kozak, S. (2021). The impact of COVID-19 on bank equity and performance: the case of Central Eastern South European Countries. *Sustainability, 13*(19), 11036.

Lwiki, T., Ojera, P. B., Mugenda, N. G., & Wachira, V. K. (2013). The impact of inventory management practices on financial performance of sugar manufacturing firms in Kenya. *International Journal of Business, Humanities and Technology*, *3*(5), 75-85.

Maaka, Z. A. (2013). *The relationship between liquidity risk and financial performance of commercial banks in Kenya* (Doctoral dissertation, University of Nairobi).

Maaka, Z. A. (2013). *The relationship between liquidity risk and financial performance of commercial banks in Kenya* (Doctoral dissertation, University of Nairobi).

Makori, D. M., Abdel-Rahman, E. M., Ndungu, N., Odindi, J., Mutanga, O., Landmann, T., ... & Kiatoko, N. (2022). The use of multisource spatial data for determining the proliferation of stingless bees in Kenya. *GIScience & Remote Sensing*, *59*(1), 648-669.

Malik, A., Parks, B., Russell, B., Lin, J., Walsh, K., Solomon, K., ... & Goodman, S. (2021). Banking on the Belt and Road: Insights from a new global dataset of 13,427 Chinese development projects. *Williamsburg, VA: AidData at William & Mary*, 23-36.

Matar, A., Al-Rdaydeh, M., Al-Shannag, F., & Odeh, M. (2018). Factors affecting the corporate performance: Panel data analysis for listed firms in Jordan. *Academy of Accounting and Financial Studies Journal*, *22*(6), 1-10.

Mekonnen, Y. (2015). Determinants of capital adequacy of Ethiopia commercial banks. *European Scientific Journal*, *11*(25).

Mendoza, R. R., & Rivera, J. P. R. (2017). The effect of credit risk and capital adequacy on the profitability of rural banks in the Philippines. *Scientific Annals of Economics and Business*, *64*(1).

Mendoza, R., & Rivera, J. P. R. (2017). The effect of credit risk and capital adequacy on the profitability of rural banks in the Philippines. *Scientific Annals of Economics and Business*, *64*(1), 83-96.

Mensi, S., & Zouari, A. (2018). Efficient structure versus market power: Theories and empirical evidence. *International journal of Economics and Finance*, *2*(4), 151-166.

Miller, G., & Ward, L. T. (2018). *Monitoring for a Sustainable Tourism Transition. The Challenge of Developing & Using Indicators*. Cabi.

Mogga, J. P., Mwambia, F., & Kithinji, M. M. (2018). Effect of credit risk management on the financial performance of commercial banks in Juba city, South Sudan. *International Academic Journal of Economics and Finance*, *3*(2), 93-116.

Muiruri, J. N. (2017). *The effect of liquidity on profitability of commercial banks in Kenya* (Doctoral dissertation, University of Nairobi).

Munangi, E. (2020). *The impact of credit risk on financial performance of South African banks* (Doctoral dissertation).

Musembi, D. M. (2018). *Effect of liquidity risk determinants on financial performance of commercial banks listed at Nairobi Securities Exchange, Kenya* (Doctoral dissertation).

Musyoki, D., & Kadubo, A. S. (2017). The impact of credit risk management on the financial performance of banks in Kenya for the period. *International Journal of Business and Public Management*, *2*(2), 72-80.

Myers, R. H., & Myers, R. H. (1990). *Classical and modern regression with applications* (Vol. 2, p. 488). Belmont, CA: Duxbury press.

Ndegwa, S. M. (2017). *The Effect of Credit Risk on the Financial Performance of Commercial Banks Listed at the Nairobi Securities Exchange* (Doctoral dissertation, University of Nairobi).

Ngumo, K. O. S., Collins, K. W., & David, S. H. (2020). Determinants of financial performance of Microfinance Banks in Kenya. *arXiv preprint arXiv:2018.12569*.

Ngungu, W. N., & Abdul, F. (2020). Firm Characteristics and Non-Performing Loans of Commercial Banks in Kenya. *Journal of Finance and Accounting*, *4*(2), 31-47.

Njeru, M. D. (2016). *Effect of Liquidity Management on financial performance of Deposit Taking Saving and credit co-operative society in Kenya* (Doctoral dissertation, Business Administration (Finance), JKUAT).

Njue, A. (2020). *Liquidity Management and Financial Performance of Microfinance Institutions in Kenya* (Doctoral dissertation, University of Embu).

Nyabaga, R. M. I., & Wepukhulu, J. M. (2020). Effect of firm characteristics on financial performance of listed commercial banks in Kenya. *International Journal of Economics and Financial Issues*, *10*(3), 255

Nyumoo, A. K., Mwambia, F., & Rintari, N. (2020). Effect of Control Functions on the Financial Performance of Saccos in Meru County. *International Journal of Finance*, *5*(1), 32-43.

Nzoka, F. K. (2015). *The effect of assets quality on the financial performance of commercial banks in Kenya* (Doctoral dissertation, University of Nairobi).

Ochonogor, H. M. (2020). Microfinance institutions and economic development in Nigeria. *Nigeria Deposit Insurance Corporation. NDIC QUARTERLY*, *35*(1).

Olarewaju, O. M. (2020). Investigating the factors affecting nonperforming loans in commercial banks: The case of African lower middle- income countries. *African Development Review*, *32*(4), 744-757.

Onaolapo, A. R. (2012). Analysis of credit risk management efficiency in Nigeria commercial banking sector,(2004-2009). *Far East Journal of Marketing and Management*, *2*(4), 39-52.

Otieno, S., Nyagol, M., & Onditi, A. (2016). Relationship between Credit risk management and financial performance: empirical evidence from Microfinance Banks in Kenya. *Research journal of finance and accounting*, *7*(6), 2222-2847.

Pyka, I., & Nocoń, A. (2021). Banks' capital requirements in terms of implementation of the concept of sustainable finance. *Sustainability*, *13*(6), 3499.

Religiosa, M. W., & Surjandari, D. A. (2021). The Relation of Company Risk, Liquidity, Leverage, Capital Adequacy and Earning Management: Evidence from Indonesia Banking Microfinance Banks . *Mediterranean Journal of Social Sciences*, *12*(1), 1-1.

Restrepo, F., Cardona- Sosa, L., & Strahan, P. E. (2019). Funding liquidity without banks: evidence from a shock to the cost of very short- term debt. *The Journal of Finance*, *74*(6), 2875-2914.

Rono, E. K. (2020). Macroeconomic Factors and Non-performing Loans among Deposit Taking Micro-finance Institutions in Kenya (Doctoral dissertation, university of Nairobi).

Ryu, D., Yang, H., & Yu, J. (2022). Insider trading and information asymmetry: Evidence from the Korea Exchange. *Emerging Markets Review*, *51*, 100847.

Safitri, J., & Primadhita, Y. (2022). The Role of Credit Risk as Mediating the Effect of Liquidity on Sharia Banking Performance. *Perisai: Islamic Banking and Finance Journal*, *6*(1), 40-50.

Saleh, I., & Abu Afifa, M. (2020). The effect of credit risk, liquidity risk and bank capital on bank profitability: Evidence from an emerging market. *Cogent Economics & Finance*, *8*(1), 1814509.

Sandada, M., & Kanhukamwe, A. (2019). An analysis of the factors leading to rising credit risk in the Zimbabwe banking sector.

Schermerhorn Jr, J. R., & Bachrach, D. G. (2023). *Management*. John Wiley & Sons.

Shkodra, J., Ymeri, P., & Ibishi, L. (2021). Role of microfinance institutions for developing women entrepreneurship-the case study of Kosovo. *Economics & Sociology*, *14*(1), 120-129.

Stulz, R. M. (2019). Fintech, bigtech, and the future of banks. *Journal of Applied Corporate Finance*, *31*(4), 86-97.

Subanidja, S., Rajasa, A., Suharto, E., & Atmanto, J. D. (2019). The determinants of credit performance: The role of earnings management and good corporate governance. *Corporate Ownership and Control*, *13*(4), 609-615.

Thisaranga, K. D. I. U., & Ariyasena, D. L. M. N. K. (2021). Effect of camel model on bank performance: with special reference to listed commercial banks in Sri Lanka.

Toroitich, K. K., Jelaga, J. M., & Omwono, G. A. (2019). Factors Affecting Individuals to Adopt Mobile Banking In Kenya: A Case of Kenya Commercial Bank (KCB), Eldoret. *International Journal of Research*, *3*(4), 29-48.

Wafula, N. W. (2020). Firm Characteristics and Credit performance Of Commercial Banks In Kenya (Doctoral Dissertation, Kenyatta University).

Wamalwa, N., & Makori, J. M. P. D. (2020). Effect of Camel Variables on Credit performance : A Dynamic Panel Analysis of Commercial Banks in Kenya.

Wanjiru and Muturi (2019) investigated the factors that influence the effectiveness of SACCOs in Kiambu County, *International Journal of Finance*, *6*(1),

Wanjiru, C. (2019). Effect Of Regulation On The Financial Performance Of Microfinance Banks In Kenya: A Survey of Microfinance Banks in Nairobi (Doctoral dissertation, KCA University).

Ward, A. M., & Forker, J. (2017). Financial management effectiveness and board gender diversity in member-governed, community financial institutions. *Journal of business ethics*, *141*, 351-366.

Williams, C. (2017). Research methods. *Journal of Business & Economics Research (JBER)*, *5*(3).

Yulianti, E., Aliamin, A., & Ibrahim, R. (2018). The effect of capital adequacy and management efficiency on non-performing loans in Indonesian public banks. *Journal of Accounting Research, Organization and Economics*, *1*(2), 205-214

Turner, S. F., Cardinal, L. B., & Burton, R. M. (2017). Research design for mixed methods: A triangulation-based framework and roadmap. *Organizational Research Methods*, *20*(2), 243-267.

Schoonenboom, J., Johnson, R. B., & Froehlich, D. E. (2018). Combining multiple purposes of mixing within a mixed methods research design. *International journal of multiple research approaches*, *10*(1), 271-282.

Etikan, I., & Bala, K. (2017). Sampling and sampling methods. *Biometrics & Biostatistics International Journal*, *5*(6), 00149.

Kyngäs, H. (2020). Qualitative research and content analysis. *The application of content analysis in nursing science research*, 3-11.

Gogtay, N. J., & Thatte, U. M. (2017). Principles of correlation analysis. *Journal of the Association of Physicians of India*, *65*(3), 78-81.

Seeram, E. (2019). An overview of correlational research. *Radiologic technology*, *91*(2), 176-179.

Ahmad, A. U., Balakrishnan, U. V., & Jha, P. S. (2019). Detection of collinearity effects on Explanatory Variables and Error Term in Multiple Regression. *International Journal of Innovative Technology and Exploring Engineering (TM), IJITEE*.

Pek, J., Wong, O., & Wong, A. C. (2017). Data transformations for inference with linear regression: Clarifications and recommendations. *Practical assessment, research, and evaluation*, *22*(1), 9.

Wiedermann, W., Artner, R., & von Eye, A. (2017). Heteroscedasticity as a basis of direction dependence in reversible linear regression models. *Multivariate Behavioral Research*, *52*(2), 222-241

Beenstock, M., & Felsenstein, D. (2019). *The econometric analysis of non-stationary spatial panel data*. Springer International Publishing.

Zulfikar, R., & STp, M. M. (2018). Estimation model and selection method of panel data regression: an overview of common effect, fixed effect, and random effect model. *INA-Rxiv. doi: https://doi. org/10.31227/osf. io/9qe2b*.

Asenahabi, B. M. (2019). Basics of research design: A guide to selecting appropriate research design. *International Journal of Contemporary Applied Researches*, *6*(5), 76-89.

APPENDICES

APPENDIX I APPROVAL FOR RESEARCH PROPOSAL

KENYATTA UNIVERSITY
GRADUATE SCHOOL

E-mail: dean-graduate@ku.ac.ke
Website: www.ku.ac.ke

P.O. Box 43844, 00100
NAIROBI, KENYA
Tel. 810901 Ext. 4150

Internal Memo

FROM: Dean, Graduate School

DATE: 27th September, 2022

TO: George Heho Kimotho
C/o Accounting and Finance Dept.

REF: D53/OL/CTY/26080/2019

SUBJECT: APPROVAL OF RESEARCH PROJECT PROPOSAL

This is to inform you that Graduate School Board at its meeting of 14th September, 2022 approved your Research Project Proposal for the M.B.A Degree Entitled, **"Firm Characteristics and Credit Performance of Microfinance Banks in Kenya"**.

You may now proceed with your Data Collection, Subject to Clearance with Director General, National Commission for Science, Technology and Innovation.

As you embark on your data collection, please note that you will be required to submit to Graduate School completed Supervision Tracking and progress report Forms per semester. The Forms are available at the University's Website under Graduate School webpage downloads.

Also, please ensure that you publish article(s) from your project before submitting it to Graduate School for examination as per the Commission for University Education and Kenyatta University guidelines.

Thank you.

ANNBELL MWANIKI
FOR: DEAN, GRADUATE SCHOOL

c.c. Chairman, Accounting and Finance.

Supervisors:

1. Dr. Moses Odhiambo Aluoch
   C/o Department of Accounting and Finance
   Kenyatta University

AM/lm

APPENDIX II: RESEARCH PERMIT NACOSTI

NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION

Ref No: 271819
Date of Issue: 07/October/2022

RESEARCH LICENSE

This is to Certify that Mr. GEORGE HEHO KIMOTHO of Kenyatta University, has been licensed to conduct research as per the provision of the Science, Technology and Innovation Act, 2013 (Rev.2014) in Nairobi on the topic: FIRM CHARACTERISTICS AND CREDIT PERFORMAMNCE OF MICROFINANCE BANKS IN KENYA for the period ending : 07/October/2023.

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27181 **Applicant Identification Number**

Director General

Director General
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APPENDIX III: SECONDARY DATA COLLECTION SCHEDULE

Time	Credit performance =Payment History	Management Efficiency =Cost Income Ratio	Capital Adequacy =Capital adequacy ratio	Liquidity = Cash flow volatility ratio	Asset quality =Non-performing loan Ratio
2018					
2019					
2020					
2021					

APPENDIX IV: MICROFINANCE BANKS

	Microfinance Bank name	**Date Licensed**
1	Kenya Women Microfinance Bank Limited	31st March 2018
2	Faulu Microfinance Bank Limited	21st May 2018
3	Choice Microfinance Bank Limited	13th May 2015
4	Uwezo Microfinance Bank Limited	8th November 2018
5	Caritas Microfinance Bank Limited	2nd June 2015
6	Rafiki Microfinance Bank Limited	14th June 2018
7	Century Microfinance Bank Limited	17th September 2017
8	Daraja Microfinance Bank Limited	12th January 2015
9	Remu Microfinance Bank Limited	31st December 2018
10	SMEP Microfinance Bank Limited	14th December 2018
11	Sumac Microfinance Bank Limited	29th October 2017
12	U & I Microfinance Bank Limited	8th April 2013
13	Maisha Microfinance Bank Limited	21st May 2019

Source (CBK website)