

**EFFECT OF FIRM-LEVEL FACTORS AND REGULATORY
REQUIREMENTS ON THE FINANCIAL PERFORMANCE OF
MICROFINANCE BANKS IN KENYA**

BY

LEE NJONJO MUNYUA

D63/6358/2017

**A RESEARCH PROJECT SUBMITTED IN PARTIAL FULFILLMENT
OF THE REQUIREMENTS FOR THE AWARD OF THE DEGREE OF
MASTER OF SCIENCE IN FINANCE, FACULTY OF BUSINESS AND
MANAGEMENT SCIENCES, UNIVERSITY OF NAIROBI**

NOVEMBER 2022

DECLARATION

This research project is my original work and to the best of my knowledge, it has not been submitted for any academic award within any other institution.



Signature

30/11/2022

Date

LEE NJONJO MUNYUA

D63/6358/2017

This research project has been submitted for examination with my approval as the university supervisor

Signature *Mirie*

Date *30/11/2022*

PROF. MIRIE MWANGI

DEPARTMENT OF FINANCE AND ACCOUNTING

UNIVERSITY OF NAIROBI

ACKNOWLEDGEMENT

First and foremost, I wish to express my deep and sincere thanks to God for enabling me to complete my studies successfully.

I thank my parents for their unconditional love, support and prayers.

My sincere gratitude to my supervisor, Prof. Mirie Mwangi for sharing his wisdom and time with me throughout my research.

DEDICATION

This work is dedicated to my beloved parents, Mr John Munyua and Mrs Mercy Wairimu for their unwavering support to me throughout my studies and for their prayers, encouragement and motivation which were a driving force to my success.

TABLE OF CONTENTS

DECLARATION.....	ii
ACKNOWLEDGEMENT.....	iii
DEDICATION.....	iv
TABLE OF CONTENTS	v
LIST OF TABLES	viii
LIST OF FIGURES	ix
LIST OF ABBREVIATIONS	x
ABSTRACT.....	xi
CHAPTER ONE	1
INTRODUCTION.....	1
1.1 Background to the Study.....	1
1.2 Research Problem	8
1.3 Objective of the Study	9
1.4 Value of the Study	9
CHAPTER TWO	11
LITERATURE REVIEW	11
2.1 Introduction.....	11
2.2 Theoretical Review	11
2.3 Empirical Literature	14
2.4 Summary of Empirical Gaps.....	20
2.5 Conceptual Framework.....	21
Figure 2.1 Conceptual Framework	22
CHAPTER THREE	23
RESEARCH METHODOLOGY	23
3.1 Introduction.....	23

3.2 Research Philosophy.....	23
3.3 Research Design.....	23
3.4 Target Population.....	23
3.5 Data Collection Instrument.....	24
3.6 Data Analysis.....	24
3.7 Diagnostic Test.....	24
Table 3.1 Diagnostic Tests.....	25
CHAPTER FOUR.....	26
DATA ANALYSIS, RESULTS AND DISCUSSION.....	26
4.1 Introduction.....	26
4.2 Descriptive Analysis.....	26
Table 4.1 Summary of Descriptive Results.....	26
4.3 Diagnostic Analysis.....	27
Table 4.1 Wooldridge Test for Autocorrelation in Panel Data.....	28
Table 4.2 Heteroscedasticity Results.....	28
Table 4.3 Normality Results.....	29
Table 4.4 Multicollinearity Results.....	29
Table 4.5 Stationarity Result.....	30
4.4 Correlation Analysis.....	31
Table 4.6 Correlation Results.....	31
4.5 Hausmann Specification Test.....	32
Table 4.7 Hausmann Specification Results.....	32
4.6 Panel Regression Analysis.....	32
Table 4.8 Panel Regression Results.....	33
4.7 Discussion of Findings.....	34
CHAPTER FIVE.....	36

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS	36
5.1 Introduction.....	36
5.2 Summary of Research Findings	36
5.3 Conclusions.....	37
5.4 Recommendations.....	38
5.5 Limitations of the Research	40
5.6 Suggestions for Further Research	40
REFERENCES.....	42
APPENDICES	52
Appendix I: Secondary Data Collection Form.....	52
Appendix II: List of Registered Microfinances in Kenya.....	53

LIST OF TABLES

Table 3.1 Diagnostic Tests.....	25
Table 4.1 Summary of Descriptive Results	26
Table 4.1 Wooldridge Test for Autocorrelation in Panel Data.....	28
Table 4.2 Heteroscedasticity Results	28
Table 4.3 Normality Results	29
Table 4.4 Multicollinearity Results.....	29
Table 4.5 Stationarity Result.....	30
Table 4.6 Correlation Results	31
Table 4.7 Hausmann Specification Results	32
Table 4.8 Panel Regression Results	33

LIST OF FIGURES

Figure 2.1 Conceptual Framework22

LIST OF ABBREVIATIONS

AMFI	Association of Microfinance Institutions
CFROI	Cash Flow Return on Investment
CBK	Central Bank of Kenya
DTM	Deposit Taking Microfinance
EPS	Earnings Per Share
EVA	Economic Value Added
MFI	Microfinance Institutions
NPV	Net Present Value
ROA	Return on Assets

ABSTRACT

Regulatory reporting shows that microfinance banks are struggling to rebound after the COVID 19 pandemic, with the number of accounts declining by four percent and total assets declining by two percent to Ksh.74.9 billion from Ksh.76.4 billion for 2019. Further, the regulator reports that net advances declined by 5 percent. These inadequacies motivate this study which examined the effect of firm-level factors and regulatory capital on MFI's profits. The agency and efficiency structure theory were the study's basis. A positivist research philosophy was applied together with a quantitative descriptive research design. The study targeted three (3) large microfinance banks, five (5) medium microfinance and six (6) small MFB licenced by the Central Bank of Kenya and collected panel data published by the MFBs between 2010 and 2020. Descriptive and inferential techniques were used in analysis. The correlation tests established that liquidity, market share and regulatory requirements do not have a significant effect on Kenyan MFB's ROA. Further, it was established that firm age and size have a significant positive effect on MFB's ROA. The study findings support the conclusion that while firm-level factors and regulatory requirements have a positive and significant effect on Kenyan MFBs profits, liquidity levels do not have a significant influence and market share had a negative but insignificant effect. Further, firm age negatively impacted the MFB's profits. The research recommends that the microfinance banks should employ more robust liquidity management policies that will improve their capacity to meet their financial obligations. Further, the firms should routinely review their compliance to regulatory requirements to ensure they maintain a healthy capital adequacy position. The study recommends that firms review their current market outreach programmes to leverage on their market position and experience to drive financial outcomes. Lastly, the firms should maintain their asset management strategies which will be key to improving the firm value and their overall financial performance.

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Microfinance Institutions, commonly known as MFIs, are financial organizations tailored to provide financial services that can meet the needs of low-income earners (Marconatto, Cruz, & Pedrozo, 2016) without access to traditional banking products (Lenssen, et al., 2014). Microfinance activities date back to the 1970s, where government agencies and international donors provided credit facilities to poor farmers to enhance agricultural production (Chowdhury, 2009). However, the institutions fulfil their goals by providing credit and by the mid-1980s, many firms in the microfinance sector had begun to incur losses, and most were struggling to continue their lending operations. To improve sustainability, it became necessary for microfinance firms to become integrated into the formal financial sector (Ledgerwood, 2013).

Globally, microfinance attained a growth of 11.5% between 2009 and 2018, as the number of borrowers grew from 98 million in 2009 to 139 million in 2018, with an estimated loan asset of USD 124 billion in 2018 (Mix Market, 2019). MFIs in developing countries have been affected significantly and have been reporting unstable financial outcomes. In 2013, for instance, Pakistani MFIs made unusually low repayments as a result of nationwide floods (Wijesiri & Meoli, 2015). According to Babajide, Taiwo and Adetiloye (2017), Nigerian MFIs have been experiencing incessant failures since the 2008 financial crisis while Uganda's Semwanga (2022) reports that poor credit risk management and management inefficiencies have been contributing to the poor performances in the country's sector. Kivaya (2022) study provides evidence of low performance outcomes for Kenyan MFIs while according to Ngumo, Kioko and Shikumo (2017), Kenya's microfinance sector has evolved significantly, propelled by new technologies and regulatory developments.

However, its role in deepening financial access in Kenya - which currently stands at 82.9% as of 2019, up from 26.7% in 2006, can be termed as dismal (Financial Sector Deepening, 2019). Over the years, innovation in the sector has not been able to keep up with the other formal financial institutions such as banks and SACCOs, informal sources such as informal groups, and, more recently, digital lending institutions (Wijesiri & Meoli, 2015). The number of gross loans of Deposit Taking Microfinance - DTMs stood at Ksh. 40.8 billion in March 2015 while the gross loans' figure was Ksh 40 billion in December 2014. This change represented an increase of 2%, which translated to a good performance. Moreover, the long-term loans granted in 2014 were valued at Ksh 6.9 billion compared to Ksh 4.9 billion, translating to a decrease of 29% (Central Bank of Kenya, 2015; Financial Sector Deepening, 2019). This study sought to review if firm-level factors impact MFB's profits in Kenya.

The study bases its foundations on was grounded on Demsetz's (1973) efficient structure theory which aims to provide an explanation of the market structure-performance relationship. According to this theory, businesses that operate more efficiently than their competitors are more profitable and can operate with reduced operational costs. The effective structure hypothesis (ES) identifies two main approaches to efficiency: X-efficiency and Scale efficiency. The X-efficiency hypothesizes that profitable institutions become advantageous due to cost-efficiency, while the scale strategy advocates for financial prudence rather than non-uniformity in administration. According to the scale strategy, bigger firms can save on costs by leveraging economies of scale (Kolapo, 2012).

1.1.1 Firm-Level Factors

These are those internal organizational aspects that can be controlled by an organization's management (Arora, 2014). Researchers pay much attention to these factors given the management plays a significant role in an organization's orientation and its growth prospects (Athanasoglou, Brissimis, & Delis, 2008). According to Alkhazaleh and Almsafir (2014), firm-

level factors have a significant impact on any firm's competitive position and profit generation capability. Some of the main firm-level factors that researchers infer include the firm's size and asset quality factors (Doğan, 2013), age/ years of operation (Yazdanfar, 2013), liquidity levels, leverage, capital, ownership structure (Egbunike & Okerekeoti, 2018), earnings, and asset tangibility (Abubakar, Sulaiman, & Haruna, 2018) among others. This study studied whether aspects such as the firm's age, size, market share, regulatory capital, and liquidity influence Kenyan microfinance banks' profitability.

1.1.1.1 Firm Age

Firm age indicates the length of time that an organization has been in operation and is usually computed by calculating the number of years an organization has been operating in a particular industry (Egbunike & Okerekeoti, 2018). According to Liu, Wright and Filatotchev (2015) the more the firm ages, the more it gains experience and learning, and the less exposed it becomes to liabilities. Older firms also have the advantage of reputation which enables them to gain more profit by retaining and attracting new clients. However, older firms are prone to bureaucracy and mediocrity. They may develop systems and routines that are not consistent with market changes. This leads to a negative effect of age on performance (Rossi, 2016). The older firms would also have financial muscle that would give them the ability to take advantage of short-term profitable opportunities without the need to raise capital (Akben-Selçuk, 2016).

1.1.1.2 Liquidity

Liquidity is an organization's ability to convert assets into cash or to use a firm's assets to obtain cash and meet short-term obligations (Ngumo, Kioko, & Shikumo, 2017). It can also be defined as the capability of a firm to obtain cash from other sources easily to meet its short-term obligations (Banafa, 2016). Obeng (2017), measured the liquidity of the firms using the Current Ratio (CR) and concluded that firms having low liquidity had not been able to meet their financial obligations which were detrimental to their overall performance in the market.

Mahfoudh (2013) also revealed that a firm's size, leverage, and liquidity are useful indicators of its performance outcomes.

1.1.1.3 Firm Size

A firm's size is regarded as its overall market value or its total asset wealth (Doğan, 2013). Other definitions have indicated that the size of a firm is measured by considering various proxies such as the number of employees within an organization, the firm's total assets, total sales, or the market capitalization (Abubakar, Sulaiman, & Haruna, 2018). The larger the value of a firm's total assets, the larger its size is said to be. According to Banafa (2016), the natural log of a firm's total assets is a useful proxy for a firm's size.

1.1.1.4 Market Share

Market share is an indicator of the portion of a market that a particular product or industry controls. It shows the percent of total sales in an industry that one company generates is based on a weighted composite index comprising of assets, deposits, capital, number of active deposit accounts, and active loan accounts (Amfi, 2020). The Central Bank of Kenya (2021) classifies Microfinance banks with more than 5% share as large, between 1%-5% as a medium, and less than 1% smaller microfinance banks. Iqbal, Nawaz, and Ehsan (2019) noted that market share is one of the main considerations when investigating MFI's financial performance.

1.1.2 Regulatory Requirements

Microfinance banks are subject to the supervision of the Central Bank of Kenya (CBK) which issues licences, formulates and sets transparency requirements, deposit protection, dissolution mechanisms, governance, and accounting standards (Amfi, 2020). The main measure of the regulatory environment of microfinance institutions has been the capital adequacy requirement. According to Kaloki (2018), capital adequacy requirements could be in the form of a capital adequacy ratio or minimum amount of capital that all microfinance firms have to maintain. In Kenya, the minimum ratio for core capital to the total risk-weighted assets is 10% while the

total capital to total risk-weighted assets is 12% with microfinance institutions also expected to hold core capital of at least 60 million. Musyoka (2017) established that capital adequacy is vital to the financial performance of financial institutions.

1.1.3 Financial Performance

Organizational performance refers to an organization's ability to efficiently utilize resources in a productive manner and realize a predetermined set of objectives (Banafa, 2016). Liu, Wright and Filatotchev (2015) opine that performance can be expressed financially or non-financially. Financial performance (FP) expresses the firm's ability to meet its goals in financial terms (Pal-Narwal, Pathneja, & Kumar-Yadav, 2015). It shows a firm's ability to remain operational amid minimal wastages, maximum profits, growth and long-term existence (Yasnur & Kurniasih, 2017).

According to Kolapo (2012), measuring a firm's performance has a wide variety of benefits such as better development of strategic plans, better evaluation of firm effectiveness in meeting its main objectives, and improved monitoring of the overall growth and direction of the firm (Dargge, 2016). There are multiple measures of FP such as Return on Assets (ROA) and Return on Equity (ROE), earnings per share (EPS), Net Present Value (NPV) among others (Arabsalehi & Mahmoodi, 2012).

This study seeks to measure financial performance and according to the CBK, ROA is a suitable measure of FP as it indicates the degree of efficiency and effectiveness through which an organization transforms assets into income (Arabsalehi & Mahmoodi, 2012).

1.1.4 Firm Level Factors, Regulatory Requirements and Financial Performance

Kumari (2021) emphasized that the government is instrumental in creating a conducive macroeconomic environment for microfinance institutions and the society to flourish, noting that there needs to be political stability, fiscal discipline and low inflation. Additionally,

financial intervention capability of MFIs can be enhanced by an effective and efficient regulatory framework (Roslan, Zainal, & Mahyideen, 2021). Regulation within an industry is expected to affect different firms in different ways, with Siwale and Okoye (2017) reporting an insignificant impact on MFI sustainability in Nigeria and Zambia, and Nyanzu, Peprah and Ayayi (2019) reporting that regulations have improved the stability of Micro financial organizations in Sub-Saharan Africa. However, both studies report that the quality of regulations and their design is key to MFI performance. Further, Adams (2017) asserts that it is necessary for the government to improve the operating environment and allocate more budgetary support to pro-poor interventions to encourage sustainable and efficient development.

Adhikary and Papachristou (2014) report that firms have to pay close attention to the percentage of total assets used to pay for loans since this is a significant indicator of a microfinance institutions' volume of assets set aside to cater for loan obligations. A high level of commitment impacts the ability of the institution to invest in other functions and minimizes profit generation. Ngumo, Kioko and Shikumo (2017) argued that larger MFBs are more profitable and efficient while Vishwakarma (2017) asserts that it is necessary for microfinance banks to promote gender diversity as diverse boards are better at strategic decision making. On the other hand, Too and Simiyu (2018) determined that market share, capital structure, firm age and size have positive and significant effects on the FP of Kenyan general insurance firms.

1.1.5 Microfinance Banks in Kenya

Microfinance institutions are financial institutions that provide microfinance services such as savings and deposits, loans, domestic funds transfer and non-financial services to low-income groups and SMEs which would be otherwise excluded from traditional institutions (Amfi, 2020). The microfinance sector is instrumental in financial sector deepening and inclusion and microfinance services improve access to finances to a majority of Kenyans. In Kenya, they

provide lending services to 45 percent of the informal sector (Central Bank of Kenya, 2021). As of December 31, 2020, the regulator had registered three large MFBs, with an aggregate market share of 81%, five medium MFBs with a combined market share of 17.6%, and six small MFBs with an aggregate market share of 1.4% as of 2021. These will form the study population.

The primary function of MFBs is to provide small loans and savings services to small enterprises and poor clients who would otherwise be excluded from the financial system. By nature, they provide essential services and are liable to strict oversight to ensure they are run prudently and resistant to fraud or incompetence (Amin, Qin, Rauf, & Ahmad, 2018). The scholars identify prudential and non-prudential forms of regulation applied to firms in the microfinance sector. Prudential regulations are concerned with the institutions' ability to control risks and hold adequate capital and in Kenya, they require MFBs to maintain a 10 percent Core Capital to Total Risk Weighted Assets (TRWA) ratio and a 12 percent Total Capital to TRWA ratio (Mwenda, 2018). Elzahi (2022) adds that they are also required to maintain a 20 percent liquidity ratio to ensure that the firm is able to meet its financial objectives.

While prudential regulations improve the institutions' financial soundness, non-prudential guidelines aim to protect the firm from malicious entities/ actors by requiring transparent reporting and disclosure (Ngetich, 2018). According to Ochieng (2018), non-prudential regulations also compel microfinance institutions to meet non-financial goals such as implementing financial inclusion measures, innovation and corporate responsibility. Although regulation and supervision of the microfinance sector carried out with the aim of promoting healthy competition, innovation, sustained growth, quality products and investor assurance, Quartey and Kotey (2019) argue that some of the prudential guidelines can be costly to microfinance firms and limit their ability to execute their mandate.

1.2 Research Problem

Microfinance Banks provide unique services that promise to meet the needs of a minority section of the population and they are under increased pressure from non-regulated financial institutions, saccos, digital lenders and traditional commercial banks (Otieno, Nyagol, & Onditi, 2016). Thus, having adequate and sustainable regulation and the right set of firm-level factors is key to meeting performance requirements and remaining competitive in a highly competitive environment (Ngumo, Kioko, & Shikumo, 2017). Findings from Saraswathy, Kannan and Parthasarathy (2019) show the need for the formulation of supportive policies to correct market failures and upgrading the existing practices. Further, according to Muthama and Warrui (2021), the Central Bank's requirements may have a limiting effect on the MFBs growth prospects as it forces them to impose stringy lending terms to its customers.

This is confirmed Lelgo and Obwogi (2018), Cherono and Kavale (2021) and Njue (2020) whose findings assert that only two out of thirteen microfinance banks were profitable between 2010 and 2016. The CBK (2021) reports that in 2020, the value of total assets in the sector declined by 2 percent, while the number of new accounts declined by four percent. Meanwhile, net advances also fell by 5%. These negative results are an indication of a struggling sector that needs academic as well as institutional intervention. The Amfi (2021) affirms that the use of digital technologies has helped reduced operational costs but that tele-work regulations may also impede their capacity to engage in the practices.

Research on the regulations-performance nexus provides varying results. Kijkasiwat and Phuensane, (2020) sought after the effect of innovation and firm size on profitability among SMEs in Eastern Europe and Asia, reporting a moderating and mediating effect of firm size and capital on innovation performance. In India, Pal-Narwal, Pathneja and Kumar-Yadav (2015) established that size, total assets, and liquidity levels were key determinants of microfinance institutions. Regionally, for instance, Mwizarubi, Singh, and Mnzava (2015) in

their study noted that deposits level, shareholder equity, commercial borrowing, and capital affected the performance of the microfinance institutions (MFI). Tilahun and Dereje (2012) found out that loan portfolio, number of customers, and employee numbers influenced the financial performance of Ethiopian MFIs.

Dargge (2016) indicated that risk management, number of borrowers, asset portfolio, and leverage determined good performance in MFIs in Ethiopia. In Kenya, Bengi and Njenje (2016) found out that interest rates, financial literacy, and assets growth were key to the performance of MFI in Nakuru County. Njeru, Njeru, Memba, and Tirimba (2015) revealed that deposits level, loan repayment, and size influenced the performance of MFIs in the Mount Kenya region. Ngumo, Collins and David (2020) reported that performance of MFBs is related to capital adequacy, operational efficiency, and firm size, while liquidity risk and credit risk were reported to have an insignificant impact.

The above notable studies have not been able to conclusively examine the factors selected in this study. Further, the studies are not focused on the microfinance banks that are regulated by the CBK. Hence to fill the empirical gap this study examined the effect of firm-level factors and regulatory requirement on the financial performance of microfinance banks in Kenya.

1.3 Objective of the Study

The purpose of this research was to establish the effect of firm-level factors and regulatory requirements on the financial performance of microfinance banks in Kenya.

1.4 Value of the Study

This study sought to examine performance drivers in the financial sector and its findings will be key to policy development and formulation, guiding policy makers and the managements in the optimal firm-level factors and regulations that can drive performance in the country's microfinance sector. The policymakers will understand how to effectively incorporate the sector with the best interests in managing issues affecting performance in the microfinance

sector. The study conducted endeavours to provide information to the government and relevant bodies like CBK on factors affecting performance of the MFBs. This will enable the government to layout mechanism to ensure MFBs maintain the prescribed Capital adequacy as per the CBK Act.

This study will benefit managers continuously faced with changing circumstances within the firm-level factors. The management will provide an insight into the various approaches that can enhance effective management of the various firm factors and leverage them to enhance profitability in the microfinance sector. The research will also be key to future academicians and scholars in identifying various measures of firm-level factors and how they impact the financial outcome of the industry.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

The second chapter reviews the various theoretical foundations of the study and the empirical review of the study variables. The chapter concludes with the gaps identified by past researchers.

2.2 Theoretical Review

This section focused the theoretical underpinning for this study. This theory was grounded on the Agency theory which explores how different factors impact manager decisions thus impacting firm performance in terms of goal orientation and risk involvement. It also sought to explain the conflict arising from microfinance firms having to balance their operations to meet social goals and the firm's financial viability.

2.2.1 Agency Theory

Jensen and Meckling (1976) formulated this theory to explain the relationship between agent actions and how they affect the principal's actions since these two are bound by contractual terms. The principal is in charge of selecting and providing power to different individuals who provide services. It is expected that agents sought to follow the orders of the principal. However, a conflict or difference in views may impact the agents' decision making. Further, since the agent (manager) may have more operational information than the principal (owner) and subordinates (agents), they may decide to take advantage of the situation to achieve personal interests at the expense of the organization, thereby contributing to firm inefficiency, loss of assets and firm value (Peng & Yang, 2014).

This theory helped in developing a clearer understanding of the problems associated with an agent's actions and how these problems affect and can be addressed by the principal. It sought to explore how the steps, measures or processes adopted by an agent affect the principal who

is the business owner since their actions impact business outcomes (Mitnick, 2015). Perrow (1986) affirms that this theory attests to the influence of incentives and self-interest in management, highlighting the importance of information systems and risk implications. Laher and Proffitt (2020) attest that the agency theory can be used to explain microfinance managers' choices in balancing between prioritizing on the firm's social goals and the need to ensure the organization remains profitable to its investors.

This theory has significant contributions to this study positing different views of liquidity management. Jensen (1986) argues that the presence of leverage makes managers commit to meeting future debt and makes it necessary for top managers to find other sources of finances by diverting the remaining cash to activities with high returns. However, Myers (1977) argues that the risk of loan defaults may force managers to under-invest in possible profit-generating ability thus reducing the return on capital employed. Mundakkad (2018) asserts that maintaining low levels of liquidity is key to attaining sustainable growth, with Russell et al. (2017) finding the costs associated with high leverage such as monitoring costs, liquidity costs and default risk costs negatively impact firm profitability.

This theory informs on the relationship between firm age, size, profits and regulatory environment with the theory positing that agents, as well as managers have to meet regulatory requirements and stakeholder reporting expectations to avoid consequences and penalties; and to improve the firm's image. In regards to firm size and age, managers in older firms with larger stakeholders have more pressure to meet diverse stakeholder interests. Additionally, from this theory's perspective, boards of directors can be effective monitoring tools for representing stakeholder interests. Regarding risk implications, his theory asserts that the agents' willingness and ability to monitor, identify, accept, take risk influences performance outcomes, predicting that risk averse managers take higher risk than risk-neutral managers.

2.2.2 Efficient Structure Theory

This theory was proposed by Demsetz (1973) and it asserts that firm efficiency determines the level of performance. The hypothesis predicts that in any competitive market, firms that attain high levels of efficiency (measured by market share) will come larger, obtain a greater market share and increased profits. This theory assumes that achieving low-cost structures enables firms to expand their market share from the profits accrued. A large number of highly efficient firms increases market concentration. This hypothesis posits that market concentration is an indicator of firm's efficiency levels. The most efficient firms under this hypothesis then define the industry's structure. This theory also establishes a strong relationship between firm efficiency and profit generation capacity among the efficient firms (Khan, Kutan, Naz, & Qureshi, 2017).

This theory is in sharp contrast to the traditional structure-conduct-performance hypothesis which emphasizes that market concentration engenders an environment with low competition which leads to market inefficiency (monopolistic pricing resulting in too much profit going to one firm). Thus, it encourages implementation of anti-concentration measures. However, under the Efficient structure hypotheses institutional efficiency leads to increased market share and enhanced sustainability. This theory has been used in previous studies to examine the drivers of microfinance bank expansion (Mulwa, 2020; Abrar, Hasan, & Kabir (2021)).

Tan (2017) opines that this theory is useful in explaining the effect of increased competition on the strategies and operations that firms adopt to remain competitive. This shows that efficient institutions employed and retain their level of competitiveness. Kasman and Carvallo (2014) associate competition with greater financial stability and argues that stable banks have greater stability and higher market power and efficiency. This theory is important since it is informative of how the different study variables relate to lead to enhanced firm performance. This theory explains how banks with more effective managers and superior practices manage

to reduce costs and increase profits. It also asserts that achieving better scale of operations leads to a faster growth in terms of increased market presence, market share and profits generated.

2.3 Empirical Literature

This section carried out an extensive review of previous researcher's findings on the impact of firm-level characteristics on microfinance banks' performance. It studied studies on firm age, firm size, market share, liquidity level and regulatory requirements and their relationship with performance among microfinance institutions around the world. The research gaps identified was highlighted since they motivate this study.

2.3.1 Firm Size and Microfinance Firm Performance

Hannam (2019) postulates that good customer service improves customer repayment behavior. However, the study notes that bad regulation could have significant negative effects on customer quality, hence contribute to increased loan defaults. The study notes that an increase to the operational cost for the lender to acquire quality customer care and a cap on the cost of credit limits firms' ability to absorb the additional cost necessary. Yusif (2019) examined the critical determinants of MFI performance in Ghana and determined that large firms are less profitable in terms of ROA, affirming that MFIs should build loan portfolios with high value borrowers hence a smaller customer reach that did not include the poor. Further, capital adequacy ratio and operational cost negatively impact performance while interest rate and inflation improved bank performance. The study recommended that larger firms strive to increase returns by reducing their overall operational costs.

Eyigege (2018) carried out a pooled OLS regression analysis of Nigerian deposit taking banks to determine how firm size impacts their financial results. The researcher established having a lot of valuable assets does not necessarily translate to improved return on investment. The researcher recommended that the banks manage their expansion strategies to enjoy the

maximum benefits of their diseconomies of scale. Abeyrathna and Priyadarshana (2019) sought after the effect of firm size on profitability of listed manufacturers in Sri Lanka. Data was collected from financial results reported between 2014 and 2017 and analysis showed that the total assets have an insignificant effect on profitability.

In Tanzania, Kipesha (2013) sought after the relationship between firm size, age and profitability of 30 microfinance banks. The study collected secondary data reported to determine the correlation between increase in total assets, number of borrowers and number of staff and established increased profitability with an increase in all the above factors. Doğan (2013) affirmed that MFI's profitability is significantly impacted by firm size, capital adequacy and operational efficiency, noting that credit risk and liquidity risk did not have a strong effect on MFI bank returns. Mulwa (2020) associated firm size with increased competitive positioning and improved financial performance among Kenyan MFIs, reporting that while total assets have a significant effect, the volume of customers' deposit did not.

2.3.2 Firm Age and Microfinance Firm Performance

Saad (2019) sought after the determinants of sustainability among Pakistani MFBs. The study noted that ROE, ROA borrower per staff member and gross loan portfolio were the main determinants of MFI sustainability, with the age and size of the firms playing a moderating role between profitability and MFI sustainability. Ayayi and Wijesiri (2018) sought after the relationship between operational longevity and firm efficiency among non-profit microfinance firms operating between 2005 and 2014. Regression analyses showed that younger firms were reporting higher efficiency scores than older firms, hence more competitive and sustainable.

Singh and Padhi (2019) investigated the Indian microfinance sector to examine determinants of MFI outreach. The study found firm age, assets quality and operational efficiency as the three main factors that determine whether MFI explored expansion strategies. Rupa (2017) investigated MFB's from India and Bangladesh to determine whether a firm's age can

determine its sustainability scores. The analysis determined that older firms in the region had a bigger outreach (breadth) and showed improved performance in terms of higher profitability, loans afforded to staff, operational self-sufficiency, better return on capital employed, operating expense to loan portfolio and more prudential risk coverage, showing that they were more sustainable than younger MFBs.

Nwachukwu, Aziz, Tony-Okeke and Asongu (2018) determined that although MFIs that had been in operation for more than eight years had attained a larger scale of lending and adopted formal micro-banking practices, they also had higher interest rates, which had a significant impact on profitability.

2.3.3 Market Share and Microfinance Firm Performance

Quayes and Joseph (2021) investigated financial and non-financial MFIs to determine whether outreach strategies impact their profitability ratios. The study involved 1291 firms that had been operational for more than 20 years around the world. Analysis determined that social outreach was associated with increased financial outcomes, ascertaining that the adoption of a common legal system led to increases sustainable firm's social expansion in terms of breath of outreach and the capture of women investors. The study also noted that non-for-profit firms were only associated with increased social performance while unregulated MFIs achieved better social outreach. Assefa, Hermes and Meesters (2013) sought after the impact of market competition and MFIs performance in terms of breath of outreach and loan repayment performance. Involving 362 MFIs from more than 70 countries, the research determined that the increase in competition level in the industry had a negative impact on loan repayment behavior and market expansion, significantly reducing profit-generation ability of the MFIs.

In Ethiopia, Arrassen (2019) showed that asset holding and the returns on gross portfolio improve MFI firms' profitability and ability to meet social goals. The number of loan officers, the productivity of loan officers and personnel were determined to be among the key

determinants of MFI profitability. The study did not show any indication that the MFIs were shifting their focus from borrowers with little or no collateral or credit history.

Githaiga (2021) carried out a world-wide panel data analysis involving 440 microfinance firms from 108 countries and assessed secondary data reported between 2013 and 2018. The study reported that MFIs that had adopted effective diversification strategies reported increased capture of market options and exhibited higher financial scores which improved shareholder returns. The study recommends that MFI managers pursue diversification strategies as a means of increasing market presence and financial returns. Mombo (2013) sought after the effect of the ratio of non-performing loans (NPL) on profitability among deposit-taking MFIs in Kenya. The study involved seven out of the nine microfinance firms in Kenya and after application of multivariate analysis, it was concluded that the NPL ratio accounts for the most significant variation in MFI profitability. The rate of loan repayment and operational expenses were also associated with firms that reported reduced rates of return.

Monyi (2017) sought after the main determinants of microfinance bank performance in Kenya and assessed data for nine firms. Analysis concluded that effective management of the volume of loans afforded to customers and employees, the capital structure and level of awareness of firm services, and pricing of the services are key determinants of microfinance returns and customer repayment. Omare (2017) sought after the relationship between customer deposits, debt to equity ratio, total debt ratio, debt to assets ratio and deposit taking MFI's performance. The factors were all determined to have a positive influence on return on equity. Further, while MFI age was determined to have an insignificant impact, larger firms that had high portfolio risk ratios reported reduced returns to shareholders.

2.3.4 Liquidity Level and Microfinance Firm Performance

Adusei (2021) sought after the relationship between liquidity risk, credit risk and profitability of 532 microfinance organizations in 73 countries. Liquidity risk had a negative and significant

effect on firm returns. However, credit risk transmutes this negative impact into a positive one. Anggreni and Rahyuda (2021) investigated the relationship between loan to deposit ratio, NIM, CA ratio and profitability of Indonesian village credit institutions. The study determined that NIM and capital adequacy requirements significantly improve MFI performance, while loan to deposit ratio led to a significant loss in MFI profit-generation ability. NIM was reported to have the most significant impact on profits.

Ramadhanti, Marlina and Hidayati (2019) assessed liquidity, credit risk and capital adequacy and how they impact financial institutions' profitability in Indonesia. The study investigated 27 firms' reports across three years. Analysis showed liquidity and CA ratio improve financial returns, while credit risk reduced profit generation among the firms. Amanu and Gebissa (2021) carried out an assessment of eight microfinance firms' profitability indicators in Ethiopia. The analysis revealed that financial self-sufficiency ratio, operational self-sufficiency ratio and TA have a positive relationship with profitability, while OE ratio, debt-to-equity ratio and liquidity levels reduced profit generation among the firms. The loan loss ratio and portfolio at risk had insignificant effects. Recommendations were for better management of operating expense ratio, debt ratio and liquidity ratio to improve profit generation capability.

Wahyuni (2020) investigated Islamic MFI banks to determine the relationship between cost to revenue ratio, ROA, CA ratio, ROA and firm size among Indonesian MFIs. Data was collected between 2012 and 2017. Multiple regression analyses showed that cost to revenue ratio and ROA had no significant impact on the volume of profits shared among Islamic MFBs while capital adequacy ratio and firm size improved profits. The study noted that larger firms were less likely to share profits than smaller firms. Vaita (2019) sought after the effect of liquidity and capital adequacy regulation on performance of Kenyan deposit-taking microfinance banks and analyzed data reported between 2013 and 2017. Findings showed that liquidity and capital

adequacy were significant positive influencers of profitability growth, recommending for regulation enforcement to encourage the MFBs to hold high quality of liquid assets.

Njue (2020) reports that liquidity management has a positive and significant effect on profits while loan maturity gap and asset quality had negative but insignificant effects on profitability, proposing for adequate management of the loan portfolio to reduce delinquent loans. Further recommendations were for advances to customers to be managed such that they do not exceed customer deposits as this would improve liquidity management.

2.3.5 Regulatory Requirements and Microfinance Firm Performance

Mia (2017) found a positive relationship between regulation and MFI governance, outreach and MFI's financial sustainability, noting that registered MFIs in Bangladesh reported reduced non-performing loan ratio. Their customers were also determined to have higher education attainment, better financial status and financial knowledge. Akbar (2017) sought after the relationship between CA ratio and solvency among financial firms and reported that an increase in CR resulted in a decrease in non-performing assets.

In an inter-country study on the impact of regulation on MFI sustainability, Adams and Tewari (2020) established that regulation significantly improves sustainability and depth of outreach, albeit more effects on sustainability than depth of outreach. The researchers recognize that MFIs promote economic development and advocates for the regulatory authorities (central bank) to regulate through proper budgeting and step-up monitoring and supervision to improve compliance levels. Hadizatou (2021) investigated MFI performance in the West African Monetary Union after the introduction of minimum capital and liquidity ratios. The study noted that minimum capital requirements led to the accumulation of funds that freed money for investment into other business ventures.

Tadele, Roberts and Whiting (2018) analyzed the impact of regulatory environment and ownership structure on transparency among microfinance firms in Sub-Saharan Africa, noting that larger institutions and NGOs were more adherent to regulatory requirements and reported greater transparency. Adhering to regulatory requirements was noted to improve shareholders' investment, which increased the institutions' financial capability. The study noted that country-level resources and macroeconomic factors also influence MFI performance. Ayaji and Peprah (2018) reported that in Ghana, high interest rates charged by microfinance banks are a result of increased regulation requirements, noting that regulations increase the MFI's administrative costs. These costs, in turn, are shifted to the clients, negatively impacting MFB outreach, but having a moderate positive impact on financial returns. Omar (2015), in his study determined that asset quality and customer deposits have no significant impact on MFI bank returns but recorded a significant impact on operational efficiency. The study also noted that log of total assets and operational efficiency impact Kenyan MFB's financial results, highlighting the importance of efficient management in promoting MFI banks' operational efficiency.

2.4 Summary of Empirical Gaps

The above studies establish a relationship between several of the variables and microfinance performance. However, there were some gaps that were identified. The study by Hannam (2019) investigated the effect of customer service employees and loan repayment performance, while Yusif (2019) explored the relationship between firm size and operational costs. The current study investigates financial returns. Abeyrathna and Priyadarshana's (2019) study investigated the firm size – profitability nexus among manufacturing firms, while this study investigated microfinance firms. Saad's (2019) investigated drivers of microfinance firms' sustainability and not on profit generation. Ayayi and Wijesiri (2018) based their study on non-profit microfinance firms while Singh and Padhi (2019) assessed drivers of microfinance outreach. The three studies by Quayes and Joseph (2021) Assefa, Hermes and Meesters (2013),

Githaiga (2021) and Adusei (2021) were all investigating microfinance firms' performance from multiple countries around the world and used secondary data only, the current is based in Kenya.

Mombo (2013) and Omare (2017) sought after performance drivers of deposit-taking microfinance banks while the current study involved non-deposit taking firms. Anggreni and Rahyuda (2021) based their study on Indonesian small-scale village credit institutions while Amanu and Gebissa (2021) did not look at the impact of age and market share on MFI performance. The study by Wahyuni (2020) investigated Islamic MFI banks and Njue (2020) and Vaita (2019) only considered the impact of liquidity on profitability, this study examined at multiple variables such as age and size. Kumar and Anjumir (2017) focused on the effect of CA ratio. This study studied these gaps by investigating the effect of firm age, firm size, market share, liquidity level and regulatory requirements on microfinance firms' performance.

2.5 Conceptual Framework

The conceptual framework highlights the relationship between the independent variable, control variable and the dependent variable which was financial performance of Kenyan MFBs.

Independent Variables

Dependent Variable

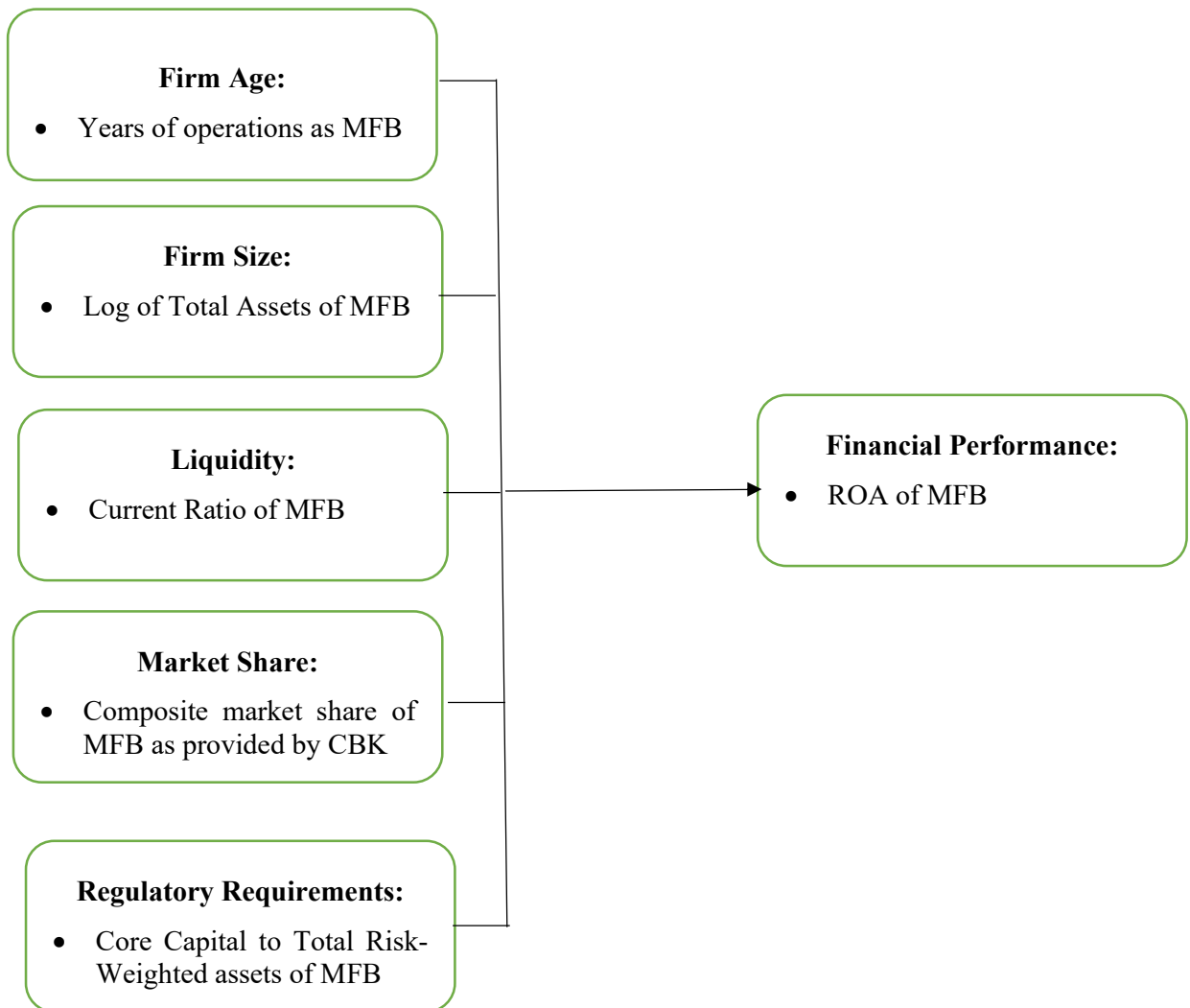


Figure 2.1 Conceptual Framework

Source: Researcher (2022)

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

The third chapter focuses on the research methodology. The chapter entails the philosophy that anchored the examination, the guiding research design, the population, the data collection, data analysis and various diagnostic tests that was applied.

3.2 Research Philosophy

A research philosophy shows the general thinking behind a research's approach- indicating how the researcher hopes to collect, analyze and utilize research data (Cazeaux, 2017). This study used the pragmatic research philosophy which makes use of the objectives under investigation to govern the appropriate research method. This philosophy can utilize either the positivist (quantitative research approach) or the interpretive (qualitative research method) approaches depending on the objectives (Edson, Henning, & Sankaran, 2016). As such, this study employed a quantitative approach to determine the effect of firm-level factors and regulatory requirements on MFBs profitability in Kenya. This philosophy supported the testing of the objective and solving the research problem.

3.3 Research Design

Research design shows the blueprint utilized in data collection, measurement and analysis and can assist researchers in obtaining answers to research questions (Rovai, Baker, & Ponton, 2013). A descriptive research design was employed.

3.4 Target Population

The target population refers to the entire set of individuals that a researcher seeks to investigate (Bryman, 2013). This study used a population of all registered MFBs in Kenya. The CBK identifies 13 microfinance institutions in operation and these formed the study population (Central Bank of Kenya, 2021).

3.5 Data Collection Instrument

The research utilized on secondary data that was panel in nature and reported by the CBK between 2010 and 2020. The financial statements supported the examination of the firm-level factors and regulatory requirements on firm's profitability.

3.6 Data Analysis

Prior to analysis, the data collected was checked for completeness, edited, coded and cleaned. Inferential and descriptive methods were used in analysis with the assistance of Stata 16 and Microsoft Excel. The descriptive statistics that were applied include mean, standard deviation, maximum, minimum, sum, kurtosis and skewness. Pearson correlation and panel regression analysis were used. The study selection of the appropriate model was guided by the Hausmann specification test. The test uses a null hypothesis that the preferred model is the random effect model. A Chi-square statistic p-value of the Hausman test above than *0.05* would imply that the preferred model is the random effect model (Torres-Reyna, 2007). The study applied the following empirical model;

$$ROA_{it} = \alpha + \beta_1 FS_{it} + \beta_2 FA_{it} + \beta_3 MS_{it} + \beta_4 LQ_{it} + \beta_5 RR_{it} + \varepsilon \dots (3.1)$$

Where; ROA = return on assets, $\beta_1 - \beta_5$ are the coefficients for the independent variable, FS= firm size (measured by log of total assets), FA = firm age (measured by age of firm in years), MS = market share (measured by the market share served in percentage), LQ = liquidity (measured by the current assets to current liabilities ratio) and RR = regulatory requirement (measured by the regulatory ratio as provided by CBK) and ε is the error term.

Data presentation was in the form of charts and tables where applicable.

3.7 Diagnostic Test

Diagnostic tests were employed to establish whether the observations being applied meet the basic linear regression assumptions. The study employed normality tests, collinearity tests, stationarity tests, heteroscedasticity and autocorrelation test.

Table 3.1 Diagnostic Tests

Test	Method and Interpretation
Autocorrelation tests	The study implemented the Durbin Watson test to check for autocorrelation (Debarsy & Ertur, 2010). The accepted values of Woodridge test should be between $1.5 < d < 2.5$ which is an indicator of the absence of auto-correlation.
Heteroscedasticity test	The study adopted the Breusch-Pagan Lagrange multiplier (LM) tests (Klein, Gerhard, Büchner, Diestel, & Schermelleh-Engel, 2016). The tests indicate that if P-value < 0.05, presence of non-uniform variance.
Normality tests	Shapiro Wilk test helped deduce if the variables distribution is normal (Ghasemi & Zahediasl, 2012). The null hypothesis of this test is that the population is normally distributed (Ghasemi & Zahediasl, 2012). A p-value above 0.5 signifies normal distribution.
Multicollinearity	To test for multicollinearity the study employed the variance inflation factor (VIF) (Daoud, 2017). Any values below 10 are an indication of no presence of collinearity.
Stationarity tests	To check for the presence of a unit root in the variables, the study adopted the Levin, Lin and Chu test (Debarsy & Ertur, 2010). If P-value < 0.05, there is no unit root, implying stationarity.

CHAPTER FOUR

DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

This chapter presented the findings elucidating from data analysis presented as per the objectives. Charts and tables were adopted in findings' presentation. The study concludes by discussing the empirical evidence.

4.2 Descriptive Analysis

The study utilized various measures of central tendency to present the descriptive statistics. The research data was sourced from the (3) large microfinance banks, five (5) medium microfinance and six (6) small. The study used thirteen microfinance institutions. The scope of the research panel data reported between 2010 and 2020 by the MFBs in Kenya. Table 4.1 shows the findings.

Table 4.1 Summary of Descriptive Results

Variable	Obs.	Mean	Std. Dev	Min	Max
Return on Assets	108	-.2524	1.5940	-14.875	3.555
Liquidity Ratio	108	42.7592	41.0681	1	298
Regulatory Requirement	108	32.7509	57.4731	-259	310
Market Share	108	9.2600	15.9253	1	29
Age of the Firm	108	7.3796	6.3315	1	11
Firm Size	108	9.0048	.8347	7.7324	10.5072

Source: Research Findings (2021)

On average, the firm's posted ROA was (.2524%) indicating a negative average performance among the firms. Further analysis revealed a minimum ROA of -14.875% and a high of 3.555% which was an indication of the dire financial performance challenge within the microfinance banks. The standard deviation stood at 1.594 showing the performance within the industry was

highly volatile within the period. The firm's average liquidity of 42.75% which showed the MFBS have the capacity to meet the financial obligations. Average liquidity ratio was consistent with the regulatory requirement by CBK that the institutions maintain liquidity ratios of 20% at all times.

The analysis revealed that on average the MFBS held a regulatory capital of 32% which was above the required Core Capital to Total Risk Weighted Assets (TRWA) of 10% by the CBK. This was an indication that the firm held sufficient core capital which could be utilized in cushioning the firms against volatilities in the industry. Findings also showed that the highest market share within the period was 67% indicating that Tier 1 MFB had a large reach within the market as compared to medium tier and smaller MFBs. The average market share across the sample was 9.26%. The average age of the firms was 7.379 years with one MFB having been recently registered as established by the minimum age value of 1. The results demonstrated that the firm size for the MFBS was on average at 9.0048 with moderate deviation at .8347.

4.3 Diagnostic Analysis

The research conducted various tests to determine whether the study observations met the standard requirements for inferential analysis. The results of the diagnostic tests are presented in this section.

4.3.1 Autocorrelation Results

The Wooldridge test significance has to be below Sig = .05 to denote there is no presence of serial autocorrelation. The research applied the Wooldridge test for serial correlation to test for the presence of autocorrelation in the linear panel data.

Table 4.1 Wooldridge Test for Autocorrelation in Panel Data

Model	Model 1
F	F (5, 102)
Prob > F	.003

H0: no first order autocorrelation

Source: Research Findings (2021)

The Wooldridge tests indicated a test significance value are all less than 0.05, rejecting the null hypothesis confirming autocorrelation between variables in the model.

4.3.2 Heteroscedasticity Test

The study used the heteroscedasticity tests to indicate whether the random error term from a multiple linear regression must have constant variances.

Table 4.2 Heteroscedasticity Results

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity

Ho: Constant variance

Variables: fitted values of ROA

chi2(1) = 37.04

Prob > chibar2 = 0.000

Source: Research Findings (2021)

Heteroscedasticity tests results revealed that in the fitted model (ROA) results indicated and Prob > chi2 = 0.000 which was significant at five percent level (less than 0.05), indicating constant variance and no heteroscedasticity problems.

4.3.3 Normality Test

Shapiro Wilk tests were applied to deduce if the variables distribution is normal (Ghasemi & Zahediasl, 2012).

Table 4.3 Normality Results

Variable	Obs.	Prob>z
ROA	108	0.8549
Liquidity ratio	108	0.8549
Regulatory requirements	108	0.9241
Market share	108	0.9201
Age of the firm	108	0.8680
Firm size	108	0.3949

Source: Research Findings (2021)

The null hypothesis of this test is that the population is normally distributed (Ghasemi & Zahediasl, 2012). A p-value above 0.5 signifies normal distribution. The results above showed that the **Prob>z** was greater than 0.5 thus showing the variables did not violate the normality assumption.

4.3.4 Multicollinearity Test

Multicollinearity is a result of correlation between predictor variables. The variance inflation factor (VIF) is used in multicollinearity testing (Daoud, 2017).

Table 4.4 Multicollinearity Results

Variable	VIF	1/VIF
Liquidity ratio	1.35	0.7385
Regulatory requirements	1.32	0.7568
Market share	3.09	0.3235
Age of the firm	1.70	0.5898
Firm size	3.62	0.2763

Source: Research Findings (2021)

The collinearity tests indicates that any values below 10 are an indication of no presence of collinearity. The outcomes show that the independent variables adopted in the study did not

have any collinearity problems since all the VIF values were less than 10 and the values of 1/VIF were above 0.1.

4.3.5 Stationarity Test

The research conducted stationarity tests to check for the presence of a unit root in the variables.

The study adopted the Levin, Lin and Chu test (Debarsy & Ertur, 2010).

Table 4.5 Stationarity Result

Variable	LLC Test	Statistics	P-Value
ROA	Unadjusted t	-7.380	0.000
	Adjusted t*	-6.236	
Liquidity ratio	Unadjusted t	-13.5746	0.000
	Adjusted t*	-8.0001	
Regulatory requirement	Unadjusted t	-11.0002	0.000
	Adjusted t*	-5.2057	
Market share	Unadjusted t	-6.582	0.000
	Adjusted t*	-3.333	
Age of the firm	Unadjusted t	-9.9225	0.000
	Adjusted t*	-3.0206	
Firm size	Unadjusted t	-9.582	0.0013
	Adjusted t*	-4.333	

Source: Research Findings (2021)

The Levin, Lin and Chu test is based on the premise that if $P\text{-value} < 0.05$, there is no unit root, implying stationarity within the variable. The study results above established the variables are stationary since there was no unit root problem as shown by p-value less than .05.

4.4 Correlation Analysis

The research conducted correlation tests to determine whether there is association between the independent variables and the response variable. The study tested the significance of the correlation test at .05 with the result shown below.

Table 4.6 Correlation Results

	ROA	Liquidity	Regulatory	Market share	Age of Firm	Firm Size
ROA	1.0000					
Liquidity	-0.0626	1.0000				
	0.5198					
Regulatory requirement	0.0677	0.6206*	1.0000			
	0.4861	0.0000				
Market share	0.6268*	-0.0434	-0.2152*	1.0000		
	0.0000	0.6557	0.0253			
Age of Firm	0.3068*	-0.2377*	-0.4195*	0.5067*	1.0000	
	0.0012	0.0133	0.0000	0.0000		
Firm Size	0.5743*	-0.1614	-0.3885*	0.9449*	0.5946*	1.0000
	0.0000	0.0952	0.0000	0.0000	0.0000	

Source: Research Findings (2021)

According to the correlation tests, liquidity had a weak negative and insignificant relation with MFBs ROA ($r = -0.0626$, $p = .5198 > .05$). Regulatory requirement had a weak positive association with the MFBs ROA ($r = .0677$, $p = .4861 > .05$), while market share was established to have a strong positive and significant association with the MFBs ROA in Kenya ($r = .6268$, $p = .0000 < .05$). The test also confirmed the presence of a weak positive association between firm age and ROA ($r = .3068$, $p = .0000 < .05$). Further, firm size was determined to have a moderate positive and significant association with the MFBs ROA ($r = .5743$, $p = .0000 < .05$).

4.5 Hausmann Specification Test

The study selection of the appropriate model was guided by the Hausmann specification test.

The null hypothesis was that the preferred model is a random effect model.

Table 4.7 Hausmann Specification Results

<i>Model 1. Fitted for Return on Assets</i>				
Variable	(b) fe	(B) re	(b-B) Difference	sqrt(diag(V_b-V B)) S.E.
Liquidity ratio	.00013	.00015	-.00002	-
Regulatory requirement	-.00014	.00011	-.00025	-
Market share	-.00147	-.00189	.00043	.00094
Age of the firm	-.01420	-.00654	-.00766	.00197
Firm size	.21275	.16517	.04758	.01983
Chi Sq. Statistics = 0.98				
Prob>chi2 = 0.9639				

Source: Research Findings (2021)

A Chi-square statistic p-value of the Hausman test above than 0.05 would imply that the preferred model is the random effect model (Torres-Reyna, 2007). The above Hausmann test resulted in a $\text{Prob}>\text{chi}2 = 0.9639$ which is greater than $.05$ which justified the adoption of the random effects model in the panel data regression.

4.6 Panel Regression Analysis

Panel regression analysis was used to establish the effect of firm-level factors and regulatory requirements on MFBs profits. In line with the results of the Hausman specification test the study adopted the random effects model in analysis. Results were that;

Table 4.8 Panel Regression Results

ROA	Coefficient	Std. Error	Z	P> z
Liquidity	.00015	.00019	0.78	0.434
Regulatory requirements	.00011	.00014	0.77	0.442
Market share	-.00189	.00122	-1.55	0.120
Age of the Firm	-.00654	.00264	-2.48	0.013
Firm size	.16517	.02715	6.08	0.000
_cons	-1.5112	.22837	-6.62	0.000

<i>Weighted Statistics</i>	
R-sq:	Number of obs = 108
within = 0.2704	Number of groups = 14
between = 0.4614	Wald chi2(3) = 49.25
overall = 0.3736	Prob > chi2 = 0.0000

Source: Research Findings (2021)

The regression output resulted in Wald chi2(3) = 49.25 with a Prob > chi2 = 0.0000 which was less than .05 thus we can reject the null hypothesis and establish of firm-level factors and regulatory requirements have a significant effect on MFBs profits in Kenya. The overall R-sq = .3736 is an indication that 37.36% of the changes in profit generations of the MFBs are explained by the firm-level factors (liquidity ratio, market share, age of the firm, firm size) and the regulatory requirements.

The resultant model for the analysis was;

$$ROA_{it} = -1.5112 + .16517 FS_{it} + -.00654FA_{it} + \\ -.00189MS_{it} + .00015 LQ_{it} + .00011 RR_{it} + .22837 \dots (4.1)$$

4.7 Discussion of Findings

The research objective analysed the effect of liquidity on and the profitability of the microfinance banks. The test results showed a $\beta_1 = .00015$, $P > |z| = 0.434 > .05$, affirming that liquidity ratio does not significantly affect firm profitability. The findings contest Adusei (2021) whose study showed that liquidity risk has a negative and significant impact on firm returns. Amanu and Gebissa (2021) also revealed that high liquidity reduces profits. Ramadhanti, Marlina and Hidayati (2019) research also showed that liquidity did significantly lead to improvement of the profit margins of Indonesian financial institutions. Vaita (2019) found out that liquidity significantly led to positive influence on profitability growth in firms. Njue (2020) made similar observations in commercial banks.

The research objective analysed the effect of regulatory requirements on and the profitability of the microfinance banks. The test results showed a $\beta_2 = .00011$, $P > |z| = 0.442 > .05$, affirming that regulatory requirements do not significantly impact profitability. Mia (2017) research showed that regulation was key to the sustainability of MFIs. Similar observations were made by Adams and Tewari (2020) who determined a positive and significant relationship. Tadele, Roberts and Whiting (2018) study affirmed that compliance to regulatory requirements strengthened institutions and led to improvement in their financial capability.

The research objective analysed the effect of market share on and the profitability of the microfinance banks. The test results showed a $\beta_3 = -.00189$, $P > |z| = 0.120 > .05$ thus accepting confirming that market share does not significantly affect profitability. These findings concur with Assefa, Hermes and Meesters (2013) who established that increased competition led to poor market expansion gains which resulted in decrease in the profit generation capacity of MFI. Omare (2017) study found out that larger firms that had high portfolio risk ratios reported reduced returns to shareholders. The study findings do not resonate with Quayes and Joseph (2021) who indicated that increased outreach of the MFI was associated with significant

changes in the profitability of the institutions. Githaiga (2021) observed that increased market expansion was accompanied with improved financial scores of the MFI in Kenya.

The research objective analysed the effect of age of the firm on and the profitability of the microfinance banks. The test results showed a $\beta_4 = -.00654$, $P > |z| = .013 < .05$, establishing that the age of the firm has a negative significant effect on profitability. Saad (2019) also acknowledged that MFI age has a significant impact on its ability to compete, remain profitable and sustainable. Ayayi and Wijesiri (2018) study also showed that as microfinance firms grow older, efficiency and competitiveness reduce significantly. These results are not in tandem with Rupa (2017) who showed that firm age led to higher profitability and operational sufficiency in operational banks. Nwachukwu, et al, (2018) found out that older firms were associated with higher financial returns as compared to smaller firms.

The research objective analysed the effect of firm size on and the profitability of the microfinance banks. The test results showed a $\beta_5 = .16517$, $P > |z| = 0.00 < .05$, showing that firm size has an insignificant effect on profitability. The findings showed that firm size improves the firms' ROA. The results are consistent with Kipesha (2013) conclusions that increase in the total assets of the firm are followed by improvement in the profitability of firms. Doğan (2013) avers that firm size increases the profitability of microfinance institutions. Similar results were confirmed in the study by Mulwa (2020) that indicated larger MFIs are more profitable in Kenya. Yusif (2019) disagrees having established a negative effect of firm size on the ROA of microfinance banks in Ghana. Similar observations were made by Eyigege (2018) in Nigeria who showed that larger firms do not have better profits than smaller firms. Abeyrathna and Priyadarshana (2019) study conclude that total assets have negative and insignificant effects on profitability of listed firms.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

The fifth chapter provided the summary of the research and the conclusions that were drawn from the results. The chapter also highlights the recommendations, limitations and suggestions for more studies.

5.2 Summary of Research Findings

The microfinance industry is a major player in improving the financial deepening and contributing to economic development within the country. However, despite consistent years of showing vibrant performance in the last decade the performance of microfinance banks has been volatile. The institutions have been faced by increasing competition from mobile lending apps, FinTechs, commercial banks and Saccos. This has resulted in the institutions grappling for solutions to the financial performance woes. This study focussed on investigating if any the effect of firm-level factors and regulatory capital on the financial performance of the MFBS.

The survey utilized a positivist research philosophy that was complemented by descriptive research in undertaking the quantitative study. The study investigated the 14 licenced Microfinance banks regulated by CBK. The research utilized panel data that was collected from the financial statements reported between 2010 and 2020. Panel regressions and descriptive analysis were employed. Overall, the results demonstrated that the institutions posted a return on assets (.2524%) with a minimum ROA of -14.875%. The results showed that the firms had an average liquidity of 42.75% which showed the MFBS have the capacity to meet the financial obligations. Findings noted that the firms held a regulatory capital of 32% and market share high of 67% within the period.

The correlation tests established that liquidity and market share had a weak negative and insignificant relation with the ROA, while regulatory requirements had weak but positive effects on the MFBS ROA. Firm age was also determined to have a weak and positive

association with ROA among Kenyan MFBs. Further, firm size was determined to have a moderate positive and significant association with MFBs ROA.

The regression results established that 37.36% of changes in the MFB profitability can be explained by firm-level factors (liquidity ratio, market share, age of the firm, firm size) and the regulatory requirements. Regarding the liquidity ratio requirements, the study reports that liquidity ratio does not significantly affect firm profitability. The same observations were made regarding regulatory requirements and market share variables, all which were determined to influence the microfinance banks' performance, but not to a significant level. Regarding the effect of the firm's age on profitability, the study's findings showed that the age of the firm has a negative significant effect on profitability.

These findings resonate with the efficient structure theory that argued a more operationally efficient firm will be able to attain considerable changes in their performance. The results concur the agency theory which posited that is also institutional managers will leverage on the available information to ensure the firm leverage on its' age, size, regulatory requirements, liquidity capacity, market share as drivers to better financial performance and satisfying the stakeholder expectations.

5.3 Conclusions

The study findings support the conclusion that firm-level factors and regulatory requirements have a positive and significant effect on MFB's profitability in Kenya. Liquidity levels, on the other hand, were determined to have an insignificant influence on MFB profitability. Further the current capacity of the firms in managing liquidity levels affects their capacity to meet financial obligations but did not contribute to financial performance. The study also concludes that regulatory requirements do not significantly affect the MFB's profitability signifying that the set CBK requirements have not been instrumental to the MFB financial performance.

The research concluded that market share had a negative and insignificant effect on profitability showing that the intense competition in the market has had negative impacts on the firm's profits. Further, the study concludes that the firm's age has negative and significant impacts on its ability to generate profits. These findings revealed that as firms grow older, they may lose operational efficiency and competitive edge which may lead to poor financial performance. The results led to the conclusion that larger firms are more profitable which indicated that better management of the firm's assets has been critical to spurring the financial performance of the MFBs.

5.4 Recommendations

In many countries in the developing world, especially in Kenya, microfinance bank performance is impacted by various factors including firm-level factors such as firm age, liquidity, firm size, and market share. From the analysis, the researcher was able to come up with several recommendations. To properly manage liquidity, the study recommends that microfinance banks formulate and enforce strategies that would enhance monitoring, reporting, and reviewing the levels of liquidity to improve the firms' ability to meet unexpected liabilities. The firms are also recommended to adopt measures that would enhance the firm's ability to meet government-mandated liquidity levels such as the adoption of policies that would ensure the firm maintains a stock of liquid assets that can be conveniently converted to cash without damaging the firms' asset quality. The firms were also recommended to invest surplus funds in short-term instruments in the money markets and to schedule the maturity periods of their secondary reserve assets to correspond to the period when the funds will be required. These measures would ensure that the firms can meet their financial obligations.

Regarding firm size, microfinance banks are recommended to employ geographic diversification while larger MFBs are recommended to diversify their asset management strategies. The researcher recommends that as the firms grow in size, they institute policies to

ensure effective asset management to maintain the value of their accumulated assets. MFBs are also recommended to adopt effective credit policies and diversify their investment portfolio by increasing investment in money markets and derivatives. Additionally, policies should be developed to ensure effective management of the loan portfolio and establish a robust credit risk management framework to reduce loan defaults.

On the firms' market share, the study recommends that the organizations strive to improve their marketing capacity through the adoption of divergent marketing methods and incorporating emerging tools in marketing to ensure that they establish a strong market presence. The management can also do this by identifying untapped markets with high potential and increasing the range of products and services offered to customers. Microfinance banks are also recommended to increase investment in resources to ensure that they can expand their coverage through increasing the number of branches in strategic locations and adoption of new microfinance banking strategies such as agency banking which would increase their economies of scale. In these branches, the MFBs are also recommended to embrace innovative customer relationship management programs that would increase customer complaints management.

Managements of microfinance banks are recommended to employ ethical management practices that would improve the firms' overall corporate performance and ensure that the firms can adhere to regulatory requirements. The firm policies should be ethical and geared towards meeting the requirements of specific stakeholders in the microfinance industry, especially government agencies and associated beneficiaries. Ethical practices and policies are recommended for their positive influence on the surrounding communities which would, in turn, increase their market share. The researcher also recommends that the firms adopt continuous improvement strategies/practices as they grow older since this allows them to acquire, maintain and retain their competitive position.

5.5 Limitations of the Research

The study examined licensed microfinance banks which may impact use of the study findings to be applied in unregistered firms or firms that operate in the same sector but do not offer microfinance services. Further, the study considered the financial results of the year 2020 when firms were largely affected by the Covid-19 pandemic. This may have affected the quality of the data collected due to the natural disturbances to the financial outcome of the firms.

The research also limited itself to one measure of financial performance which limits its contribution to research. Hence this may end up affecting the generalizability of the research findings using other financial measures. The study was also limited only to the microfinance banks in operation in Kenya and did not consider other banking industry institutions. The study further limited itself to four firm-level factors; this can be resolved by future work considering other internal and external factors that may impact the financial outcome of the firms.

Lastly, the study examined annual data from the microfinance banks which was limited between 2010-2020. This is a ten-year period with limited observations. Further, analysis included data from MFB's younger than ten years which led to extreme values in some of the firm-level factors since the MFBs were just recently licenced by the CBK. Further, research work can be conducted focusing on the large MFBs that have been in operation for more than 7 years in the country.

5.6 Suggestions for Further Research

The study focussed on a few firm-level factors hence further studies can be conducted considering other metrics such as loan quality, deposit level, and the number of customers and how they impact firm profitability. The research only considered a profitability measure in the dependent variables, further studies can be carried out inducting other indicators of financial performance.

The study was focused on the entire MFB industry, a more concise study can be conducted focusing on the three (3) large microfinance banks which control more than 50% of the industry to get a better understanding of how firm-level factors contribute to profitability in the industry. Further research work should be conducted exploring how other regulatory requirements by the Central Bank do influence the financial results of the MFBs in Kenya. This will help in providing more knowledge on the role the regulator can play in fostering the growth of the MFBs.

Further recommendations are for further research exploring the financial stability of the Microfinance institutions. This can be conducted using the stipulated Basel III measures. More so, research work can be focussed on the contribution of macroeconomic factors and how they influence the growth of the MFB industry which will help the institutions in making operational decisions during volatile economic times in the country.

REFERENCES

- Abeyrathna, S. P., & Priyadarshana, A. J. (2019). Impact of Firm size on Profitability. . *International Journal of Scientific and Research Publications*, 9(6), 561-564.
- Abrar, A., Hasan, I., & Kabir, R. (2021). Finance-growth nexusa and banking efficiency: The impact of microfinance institutions. *Journal of Economics and Business*, 114, 105975.
- Abubakar, A., Sulaiman, I., & Haruna, U. (2018). Effect of firms characteristics on financial performance of listed insurance companies in Nigeria. *African Journal of History and Archaeology*, 3(1), 1-9.
- Adams, A. (2017). Performance of microfinance institutions in Sub-Saharan Africa: a cross country analysis of outreach, sustainability, efficiency and regulation. *Doctoral dissertation, University of Zululand*.
- Adams, A., & Tewari, D. D. (2020). Impact of regulation on microfinance institutions sustainability and outreach in sub-Saharan Africa. *African Journal of Business and Economic Research*, 15(3), 11-34.
- Adhikary, S., & Papachristou, G. (2014). Is there a trade-off between financial performance and outreach in South Asian microfinance institutions? *The Journal of Developing Areas*, 381-402.
- Adhikary, S., & Papachristou, G. (2017). Determinants of profitability in south Asian microfinance institutions. *Journal of Global Economics, Management & Business Research*, 8, 76-87.
- Adusei, M. (2021). The liquidity risk–financial performance nexus: Evidence from hybrid financial institutions. *Managerial and Decision Economics*, 43, (1), 31-47.
- Akbar, T. (2021). The Effect of Capital Adequacy Ratio, Non-Performing Financing, and Financing to Deposit Ratio on Financial Performance: Study at The Islamic Microfinance Banks in Indonesia. *IAR Journal of Business Management*, 2(1), 99-110.
- Akben-Selçuk, E. (2016). Does firm age affect profitability? Evidence from Turkey. *Turkish Economics Journal*, 12, 34-45.
- Alkhazaleh, A. M., & Almsafir, M. (2014). Bank Specific Determinants of Profitability in Jordan. *Journal of Advanced Social Research*, 4(10), 01-20.

- Amanu, A., & Gebissa, B. (2021). Analyzing the determinants of financial performance of micro financial companies: a case study. *International Journal of Finance, Insurance and Risk Management*, 11 (1), 15-23.
- Amin, W., Qin, F., Rauf, A., & Ahmad, F. (2018). Effect of regulations on financial performance and outreach of MFIs. *Public Finance Quarterly*, 63(3), 345.
- Anggreni, N. K., & Rahyuda, H. (2021). Capital Adequacy Ratio, Net Interest Margin, and Loan to Deposit Ratio on Profitability of Microfinance Institution. *American Journal of Humanities and Social Sciences Research*, 5(4), 567-571.
- Arabsalehi, M., & Mahmoodi, I. (2012). The quest for the superior financial performance measures. *International Journal of Economics and Finance*, 4(2), 116-126.
- Arrassen, W. (2017). The determinants of MFIs' social and financial performances in sub-Saharan Africa: has mission drift occurred? *Annals of Finance*, 13(2), 205-235.
- Ashenafi, D. S., & Kingawa, C. D. (2018). Factors Affecting Profitability of Microfinance Institutions (A Study of MFIs in Southern Nation Nationalities Peoples Regional State). *Journal of Economics and Sustainable Development*, 9(5), 34-45.
- Assefa, E., Hermes, N., & Meesters, A. (2018). Competition and the performance of microfinance institutions. *Applied Financial Economics*, 23(9), 767-782.
- Association of Microfinance Institutions. (2020). *Microfinance Institutions in Kenya*. AMFI.
- Ayayi, A. G., & Wijesiri, M. (2018). Better with age? The relationship between longevity and efficiency dynamics of nonprofit microfinance institutions. *Quality & Quantity*, 52(5), 2331-2343.
- Babajide, A. A., Taiwo, J. N., & Adetiloye, K. A. (2017). A comparative analysis of the practice and performance of microfinance institutions in Nigeria. *International Journal of Social Economics*, 44 (11), 1522-1538.
- Banafa, A. S. (2016). The effect of leverage, liquidity, and firm size on financial Performance of listed non-financial firms in Kenya. *Doctoral dissertation, Business administration, JKUAT*.
- Bengi, R. M., & Njenje, D. (2016). Assessment of the Influence of Financial Factors on the Growth of Microfinance Institutions in Bahati Sub-County, Kenya. *International Journal of Economics, Commerce and Management*, 4(3), 415-437.

- Cazeaux, C. (2017). *Art, research, philosophy (p. 202)*. . Taylor & Francis.
- Central Bank of Kenya. (2015). *Banking Sector Report: Developments in the Banking Sector for the quarter ended June 2015*. Nairobi, Kenya: Central Bank of Kenya.
- Central Bank of Kenya. (2021). *Annual Banking Report*. Central Bank of Kenya.
- Chepngetich, I. T., & Simiyu, E. (2018). Firms characteristics and Financial Performance of general insurance firms in Kenya. *International Journal of Business Management & Finance*, 1 (39): 672, 89.
- Cherono, H., & Kavale, S. (2021). Effect of firm size on financial performance of microfinance institutions in Kenya; A case of Mombasa County. *The Strategic Journal of Business & Change Management*, 8(1), 405-420.
- Chowdhury, A. (2009). *Microfinance as a poverty reduction tool-a critical assessment*. . United Nations, Department of Economic and Social Affairs (DESA).
- Daoud, J. I. (2017). Multicollinearity and regression analysis. *Journal of Physics: Conference Series*, 949 (1), 1-6.
- Darayseh, M., & Chazi, A. (2018). Bank specifics, economics environment, and agency theory: Determinants of banking performance in GCC. *The Journal of Developing Areas*, 52(4), 199-212.
- Darge, B. (2016). Financial Performance analysis of Ethiopian Micro Financing Institutions. *Doctoral dissertation, St. Mary's University*.
- Debarys, N., & Ertur, C. (2010). Testing for spatial autocorrelation in a fixed effects panel data model. *Regional Science and Urban Economics*, 40(6), 453-470.
- Demsetz, H. (1973). Industry, structure, market rivalry and public policy. *Journal of Law and Politics*, 16, 1-9.
- Doğan, M. (2013). Does firm size affect the firm profitability? Evidence from Turkey. *Research Journal of Finance and Accounting*, 4(4), 53-59.
- Edson, M. C., Henning, P. B., & Sankaran, S. (2016). *A guide to systems research: Philosophy, processes and practice*. Springer.
- Egbunike, C. F., & Okerekeoti, C. U. (2018). Macroeconomic factors, firm characteristics and financial performance: A study of selected quoted manufacturing firms in Nigeria. *Asian Journal of Accounting Research*, 12, 16-34.

- Elzahi, S. A. (2022). *The Regulatory and Supervisory Frameworks of Conventional Microfinance in Kenya. In Empowering the Poor through Financial and Social Inclusion in Africa*. Palgrave Macmillan, Cham.
- Eyigege, A. I. (2018). Influence of firm size on financial performance of deposit money banks quoted on the Nigeria Stock Exchange. *International Journal of Economics and Financial Research*, 4(9), 297-302.
- Fagan, M., Kilmon, C., & Pandey, V. (2013). Exploring the adoption of a virtual reality simulation: The role of perceived ease of use, perceived usefulness and personal innovativeness. *Campus-Wide Information Systems*, 29(2), 117 – 127.
- Financial Sector Deepening. (2019). *Finaccess Household Survey*. FSD Kenya . .
- Ghasemi, A., & Zahediasl, S. (2012). Normality tests for statistical analysis: a guide for non-statisticians. *International journal of endocrinology and metabolism*, 10(2), 486-489.
- Githaiga, P. N. (2021). Revenue diversification and financial sustainability of microfinance institution. *Asian Journal of Accounting Research*, 7 (1), 31-43.
- Hadizatou, A. (2021). *Regulatory Framework and Microfinance Institutions' Performance within the West African Monetary Union*. Nairobi: African Economic Research Consortium.
- Hannam, M. (2019). Good Customer Service Versus Bad Regulation. *Emerging Challenges and Innovations in Microfinance and Financial Inclusion*, 149-161.
- Hermes, N., Lensink, R., & Meesters, A. (2018). *Financial development and the efficiency of microfinance institutions. In Research Handbook on Small Business Social Responsibility*. Edward Elgar Publishing.
- Ibhagui, O. W., & Olokoyo, F. O. (2018). Leverage and firm performance: New evidence on the role of firm size. *The North American Journal of Economics and Finance*, 45, 57-82.
- Iqbal, S., Nawaz, A., & Ehsan, S. (2019). Financial performance and corporate governance in microfinance: Evidence from Asia. *Journal of Asian Economics*, 60, 1-13.
- Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*, 3(4), 305–360.

- Kaloki, J. D. (2018). Effect of Central Bank of Kenya Regulations on the Financial Performance of Microfinance Banks. *Strategic Journal of Business and Change Management*, 5, 584-623.
- Kasman, A., & Carvallo, O. (2014). Financial Stability, Competition and Efficiency in Latin American and Caribbean banking. *Journal of Applied Economics*, 17, 301-324.
- Khan, H. H., Kutan, A. M., Naz, I., & Qureshi, F. (2017). Efficiency, growth and market power in the banking industry, A new approach to efficient structure hypothesis. *The North American Journal of Economics and Finance*, 42, 531-545.
- Kijkasiwat, P., & Phuensane, P. (2020). Innovation and firm performance: The moderating and mediating roles of firm size and small and medium enterprise finance. *Journal of Risk and Financial Management*, 13(5), 97.
- Kinyua, I. M. (2020). Influence of Microfinance Services on Financial Sustainability of Tea Farmers. *Mba, University of Nairobi*.
- Kipsha, E. F. (2013). Impact of size and age on firm performance: evidences from microfinance institutions in Tanzania. *Research Journal of Finance and Accounting*, 4, 105-116.
- Kisenge, F. F. (2013). The Impact of privatizing Banking Industry In Tanzania A Case Study Of National Bank Of Commerce. *MSC, Mzumbe University*.
- Kivaya, B. M. (2022). Firm size, corporate governance and financial performance of microfinance institutions in Nairobi City County, Kenya. *Mba, Moi University*.
- Klein, A. G., Gerhard, C., Büchner, R. D., Diestel, S., & Schermelleh-Engel, K. (2016). The detection of heteroscedasticity in regression models for psychological data. *Psychological Test and Assessment Modeling*, 58(4), 567-592.
- Kolapo, T. A. (2012). Credit Risk and Commercial Banks' Performance in Nigeria: A Panel Model Approach. *Australian Journal of Business Management Research*, 2 (2), 31-38.
- Kumari, J. P. (2021). Development of the Microfinance Industry: Sri Lankan Perspectives. *Himalayan Journal of Economics and Business Management*, 2(3), 21-28.
- Laher, D., & Proffitt, D. (2020). Conflicting goals in the management of microfinance institutions: an agency theory approach. *Enterprise Development & Microfinance*, 31(2), 113-125.

- Ledgerwood, J. (2013). *The New Microfinance Handbook: A Financial Market System Perspective*. University of Connecticut, Department of Economics.
- Lelgo, K. J., & Obwogi, J. (2018). Effect of financial risk on financial performance of micro finance institutions in Kenya. *International Academic Journal of Economics and Finance*, 3(2), 357-369.
- Lenssen, G., Nijhof, A., Roger, L., Kievit, H., Bakker, A., & Schaveling, J. (2014). *Governance and microfinance institutions*. Corporate Governance.
- Liu, X., Wright, M., & Filatotchev, I. (2015). Learning, firm age and performance: An investigation of returnee entrepreneurs in Chinese high-tech industries. *International Small Business Journal*, 33(5), 467-487.
- Mahfoudh, I. O. (2013). Effect of Selected firm characteristics on financial performance of firms listed in the agricultural sector at the Nairobi Securities Exchange. *Unpublished Independent Study*. University of Nairobi.
- Marconatto, D., Cruz, L. B., & Pedrozo, E. A. (2016). Going beyond microfinance fuzziness. *Journal of cleaner production*, 115, 5-22.
- Mia, M. A. (2017). Determinants of total factor productivity in microfinance institutions: Evidence from Bangladesh. In *Microfinance for Entrepreneurial Development*. Palgrave Macmillan, Cham., 197-222.
- Mitnick, B. M. (2015). Agency theory. *Wiley encyclopedia of management*, 1-6.
- Mix Market. (2019). *Global Outreach and Financial Performance Benchmark Report 2017-2018*. Mix Market.
- Mombo, C. A. (2013). The Effect of Non-performing Loans on the Financial Performance of Deposit Taking Microfinance Institutions In Kenya. *Mba, University of Nairobi*.
- Monyi, J. N. (2017). Determinants of financial performance of deposit taking microfinance institutions in Kenya. *Mba, JKUAT*.
- Mulwa, J. M. (2020). Firm size and performance: an econometric analysis of the financial performance of deposit taking microfinance institutions in Kenya. *Mba, Rongo University*.
- Mundakkad, P. (2018). Firms' leverage and labour productivity: A quantile regression approach. *Economics Bulletin*, 38(4), 2331-2344.

- Musyoka, B. K. (2017). The Effect of Capital Adequacy on the Financial Performance of Commercial Banks in Kenya. *Mba, University of Nairobi*.
- Muthama, K. M., & Warui, F. (2021). Influence of lending terms on loan performance of microfinance institutions in Kisii County (Case Study; Kenya Women Microfinance Bank. *International Academic Journal of Economics and Finance* , 3 (7), 21-44.
- Mwenda, L. (2018). Effect of Prudential Regulations on Financial Performance of Microfinance Banks in Kenya. *Mba, University of Nairobi*.
- Mwizarubi, M., Singh, H., & Mnzava, B. (2016). Emerging Paradigms of Financing Tanzanian Microfinance Institutions and their Impact on Financial Sustainability. *International Business and Social Science Research Conference*, 6. 32-44.
- Myers, S. C. (1977). Determinants of corporate borrowing. *Journal of Financial Economics*, 5(2), 147–175.
- Ngetich, K. K. (2018). Influence of Cost Structure on Interest Rate Level of Microfinance Banks in Nakuru County, Kenya. *Mba, JKUAT*.
- Ngumo, K. S., Kioko, C. W., & Shikumo, H. D. (2017). Determinants of Financial Performance of Microfinance Banks in Kenya. *Research Journal of Finance and Accounting*, 8, 26-43.
- Njeru, M. D., Njeru, A., Memba, F., & Tirimba, O. I. (2015). Effect of Loan Repayment on Financial Performance of Deposit Taking SACCOs in Mount Kenya Region. *International Journal of Innovation and Applied Studies*, 10(4), 1238-1244.
- Njue, A. (2020). Liquidity Management and Financial Performance of Microfinance Institutions in Kenya. *Mba, University of Embu*.
- Nwachukwu, J. C., Aziz, A., Tony-Okeke, U., & Asongu, S. A. (2018). The determinants of interest rates in microfinance: Age, scale and organizational charter. *Review of Development Economics*, 22(3), 135-159.
- Nyanzu, F., Peprah, J. A., & Ayayi, A. G. (2019). Regulation, Outreach, and Sustainability of Microfinance Institutions in Sub-Saharan Africa: A Multilevel Analysis. *Journal of Small Business Management*, 57, 200-217.
- Obeng, I. (2017). Delaying Payments after the Financial Crisis: Evidence from EU Companies. *Acta Universitatis Agriculturae et Silviculturae Mendelianae Brunensis*, 65(2), 447-463.

- Ochieng, O. O. (2018). Factors Affecting Profitability of Deposit Taking Microfinance Institutions in Nairobi: A Case Study of Faulu Kenya. *Mba, United States International University-Africa*.
- Omare, O. S. (2017). Effect of capital structure on performance of microfinance institutions: a case of deposit taking microfinance institutions. *International Journal of Business Management and Finance*, 1(7), 105-120.
- 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), 115-138.
- Pal-Narwal, K., Pathneja, S., & Kumar-Yadav, M. (2015). Performance analysis of banks and microfinance institutions in India. *International Journal of Management and Business Research*, 5(1), 9-18.
- Peng, C., & Yang, M. (2014). The Effect of Corporate Social Performance on Financial Performance: The Moderating Effect of Ownership Concentration. *Journal of Business Ethics*, 123(1), 171-182.
- Perrow, C. (1986). Economic Theories of Organization. *Theory and Society*, 15(1-2), 11-45.
- Poletti-Hughes, J., & Briano-Turrent, G. C. (2019). Gender diversity on the board of directors and corporate risk: A behavioural agency theory perspective. *International Review of Financial Analysis*, 62, 80-90.
- Quartey, J. A., & Kotey, B. (2019). The effect of regulations on ability of MFIs to provide sustained financial services to small business. *Small Enterprise Research*, 26(3), 235-252.
- Quayes, S., & Joseph, G. (2021). Determinants of social outreach of microfinance institutions. *International Review of Applied Economics*, 35 (3-4), 540-550.
- Ramadhanti, C., Marlina, M., & Hidayati, S. (2019). The effect capital adequacy, liquidity and credit risk to profitability of commercial banks. *Journal of Economics, Business, and Government Challenges*, 2 (1), 71-78.
- Roslan, S., Zainal, N., & Mahyideen, J. M. (2021). Impact of Macroeconomic Conditions on Financial Efficiency of Microfinance Institutions: Evidence from Pre and Post-Financial Crisis. *Baltic Journal of Law & Politics*, 15 (1), 787-806.

- Rossi, M. (2016). The impact of age on firm performance: a literature review. *Corporate Ownership & Control*, 13(2), 217-223.
- Rovai, A. P., Baker, J. D., & Ponton, M. K. (2013). *Social science research design and statistics: A practitioner's guide to research methods and IBM SPSS*. Watertree Press LLC.
- Rupa, R. (2017). Is age a criterion for sustenance of microfinance institutions? A comparative study of India and Bangladesh. *MUDRA: Journal of Finance and Accounting*, 4(1), 86-105.
- Russell, L. A., Briggeman, B. C., & Featherstone, A. M. (2017). Financial leverage and agency costs in agricultural cooperatives. *Agricultural Finance Review*, 77 (2), 312-323.
- Saad, M. (2019). Developing sustainability index of microfinance institutions in Pakistan. *Mba, Universiti Utara Malaysia*.
- Saraswathy, A. K., Kannan, G., & Parthasarathy, L. (2019). Do regulations and governance quality impact performance of MFIs in India? *Decision*, 46(1), 3-14.
- Semwanga, M. (2022). Factors affecting the financial performance of microfinance institutions in Uganda. *Doctoral dissertation, Makerere University*.
- Singh, V., & Padhi, P. (2019). Factors influencing outreach performance of microfinance sector in India. *Asia-Pacific Journal of Management Research and Innovation*, 15(4), 162-176.
- Tadele, H., Roberts, H., & Whiting, R. H. (2018). Microfinance institutions' transparency in sub-saharan Africa. *Applied Economics*, 50(14), 1601-1616.
- Tilahun, A., & Dereje, M. (2012). The Financial Performance and Sustainability of Microfinance Institutions during the Current Financial Crisis: The Case of Amhara Credit and Saving Institution (ACSI) In Ethiopia. *International Journal of Business and Public Management*, 2(2), 81-87.
- Too, I. C., & Simiyu, E. (2018). Firms characteristics and Financial Performance of general insurance firms in Kenya. *International Journal of Business Management & Finance*, 1(39), 672-689.
- Torres-Reyna, O. (2007). *Panel data analysis fixed and random effects using Stata (v. 4.2)*. Data & Statistical Services, Priceton: Priceton University.

- Vaita, B. N. (2019). Liquidity Regulation and Profitability Growth Of Microfinance Banks in Kenya. *Mba, Moi University*.
- Vishwakarma, R. (2017). Women on board and its impact on performance: Evidence from microfinance sector. *Indian Journal of Corporate Governance*, 10(1), 58-73.
- Wahyuni, P. D. (2020). Analysis of Financial Performance and Firm Size on Level of Profit Sharing for Mudharabah Deposits. *ACEBISS 2019: Proceedings of the First Annual Conference of Economics, Business, and Social Science* (p. 284). Jakarta, Indonesia: European Alliance for Innovation.
- Wijesiri, M., & Meoli, M. (2015). Productivity change of Microfinance Institutions in Kenya: A bootstrap Malmquist approach. *Journal of Retailing and Consumer Services*, 25, 115-121.
- Yasnur, M., & Kurniasih, A. (2017). Factors Affecting Bank Lending Growth: Cases In Indonesia. *International Journal of Scientific and Research Publications*, 7(11), 69-76.
- Yazdanfar, D. (2013). Profitability determinants among micro firms: Evidence from Swedish data. *International Journal of Managerial Finance*, 9 (2), 150-160.
- Yusif, R. A. (2019). Assessing the Critical Determinants of Performance of Microfinance Institutions in Ghana. *Mba, University of Ghana*.

APPENDICES

Appendix I: Secondary Data Collection Form

	2010	2011	2012	2013	2014	2015	2015	2016	2017	2018	2019	2020
FS												
FA												
MS												
LQ												
RR												
ROA												

Appendix II: List of Registered Microfinances in Kenya

	Microfinance			Date Licensed
1	Caritas Limited	Microfinance	Bank	02.06.2015
2	Century Limited	Microfinance	Bank	17.09.2012
3	Choice Limited	Microfinance	Bank	13.05.2015
4	Daraja Limited	Microfinance	Bank	12.01.2015
5	Faulu Microfinance Bank Limited			21.05.2009
6	Kenya Women Bank Limited	Microfinance		31.03.2010
7	Rafiki Limited	Microfinance	Bank	14.06.2011
8	Key Microfinance Bank Limited			31.12.2010
9	SMEP Limited	Microfinance	Bank	14.12.2010
10	Sumac Limited	Microfinance	Bank	29.10.2012
11	U & I Microfinance Bank Limited			08.04.2013
12	Uwezo Limited	Microfinance	Bank	08.11.2010
13	Maisha Microfinance Bank Ltd			21.05.2016