

**INTERNAL FACTORS AND FINANCIAL PERFORMANCE OF NAIROBI
SECURITIES EXCHANGE-LISTED COMMERCIAL BANKS IN KENYA**

BY

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**A THESIS SUBMITTED TO THE SCHOOL OF BUSINESS AND ECONOMICS
IN PARTIAL FULFILMENT OF THE REQUIREMENT FOR THE AWARD OF
MASTER'S DEGREE IN BUSINESS ADMINISTRATION (FINANCE OPTION)
OF TURKANA UNIVERSITY COLLEGE, A CONSTITUENT OF MASINDE
MULIRO UNIVERSITY OF SCIENCE AND TECHNOLOGY**

OCTOBER, 2025

DECLARATION AND APPROVAL

This thesis is my original work and has never been presented to any institution or University for degree award or for any other award.

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DEDICATION

This study is dedicated to my husband Jonathan Lokwawi. He has been a tremendous source of encouragement and advice during my academic career.

ACKNOWLEDGMENT

A good number of people's input enabled me to accomplish this research. This ranges from writing a research proposal to the final research project. My special thanks first go to my supervisors FA, CPA, Dr. Jared Okello, and Dr. Evans Otieno for their tireless guidance. Special appreciation also goes to Turkana University Lecturers, who were always available for further consultation.

I also recognize the importance of the library staff, who provided materials that were of great help in writing the research. I appreciate the work of my research assistant, who helped me retrieve data from the financial statements of the ten listed commercial banks from 2018 to 2022. Indeed, it was not an easy task. Further, my classmates played a pivotal role in encouraging me not to give up and took the initiative of proofreading my work.

Lastly, I must remember to thank the Almighty for the energy and good health he granted me while doing my postgraduate studies, which included writing my research.

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ABBREVIATIONS AND ACRONYMS

CBK	Central Bank of Kenya
GDP	Gross Domestic Product
GMM	Generalized Method of Moments
KBA	Kenya Bankers Association
KES	Kenya Shillings
LAR	Loan to total assets ratio
LSM	Least Square Method
NACOSTI	National Council for Science and Technology
NIM	Net Interest Margin
NPL	Non Performing Loan
NSE	Nairobi Security Exchange
ROA	Return on Assets
ROE	Return on Asset
SACCOs	Saving and Credit Cooperative Organisations

ABSTRACT

The banking sector in Kenya plays a vital role in providing financial services, which contributes to the economy's growth. Despite these contributions, commercial banks in Kenya have faced extreme challenges in the last few years, which have been attributed to the banks' financial instability. Due to this poor financial performance, the current study sought to determine the effect of internal factors on the financial performance of listed commercial banks at the Nairobi Security Exchange, Kenya. The study was based on following research objectives: determining the effect of bank size, capital adequacy, and operational efficiency on the financial performance of listed commercial banks at the Nairobi Security Exchange, Kenya. The study is anchored on efficiency theory and signaling theory respectively. A descriptive research design was employed. This study targeted all the banks quoted on the Nairobi Security Exchange. It relied on secondary data obtained from financial statements found on the websites of the relevant banks and the Central Bank of Kenya. Thus, the target population comprised all 11 commercial banks listed at the Nairobi security exchange. Due to a small target population, the study employed a census sampling technique where the sample size was the 11 commercial banks listed in the Nairobi security exchange. Secondary data was sourced from commercial bank statements and annual reports published in NSE between 2018 and 2022. The study presumed that data obtained from published annual audited reports provided quality data, which addressed the study's validity issue. To enhance reliability, a pilot study was carried out on two commercial banks that were not listed at the Nairobi security exchange. The data was analyzed using descriptive analysis, regression analysis, and correlation analysis, where the significance level was tested at 5%. The findings revealed that firm size had posted a moderate positive statistically significant effect on return on asset where the p-value was slightly > 0.05 , capital adequacy had a strong and positive effect on return on asset, and its p-value was < 0.05 , indicating a statistical significance. And lastly, operational efficiency indicated a positive and insignificant effect on the return on asset. Operational efficiency had a p-value > 0.05 . In general, it was established that 86.84% of independent variables contributed to the financial performance of commercial banks listed at the NSE. The study recommends that banks should seek to increase their asset to boost their growth and maintain reasonable capital adequacy to absorb losses effectively. Lastly, banks should effectively manage and control operational costs and expenses, thus maximizing profits in the long run. The study recommends banks should seek to increase their assets, which will foster the bank's growth in size and thus enjoy economies of scale. The study also recommends that commercial banks and other financial institutions need to operate within their capital standards. Further it is recommended that commercial banks need to maintain reasonable capital adequacy to absorb losses effectively, which can emanate from economic shock. Lastly, the study recommends that financial institutions must manage and control the operation cost in order to be more efficient and maximize their profits.

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

A commercial bank has been defined by the Banking Act of Kenya Cap 488(ii)(i) as a company that carries on, or proposes to carry on, banking business in Kenya. According to the Act, a commercial bank raises funds by collecting deposits from public members, businesses, and consumers via checkable, saving, and time (or term) deposits (CBK, 2014). It employs the money by lending (making loans) to businesses and consumers at its own risk. It also buys corporate bonds and government bonds. Its primary liabilities are deposits, and its primary assets are loans and bonds. Commercial banking can also refer to a bank or a division of a bank that mostly deals with deposits and loans from corporations or large businesses (corporate banking), as opposed to normal individual members of the public (retail banking) (CBK, 2014). Commercial banks play a vital role in countries' economic resource allocation. They channel funds from depositors to investors continuously. They can do so if they generate the necessary income to cover the operational cost they incur in the due course. In other words, for sustainable intermediation function, banks need to be profitable. Beyond the intermediation function, the financial performance of banks has critical implications for countries' economic growth (Abera, 2012). Good financial performance rewards the shareholders for their investment. This, in turn, encourages additional investment and brings about economic growth. On the other hand, poor banking performance can lead to banking failure and crisis, negatively affecting economic growth (Abreu, 2012).

From the foregoing, financial performance analysis of commercial banks has greatly interested academic research since the Great Depression of the 1940s. The performance

of commercial banks can be affected by internal and external factors (Athanasoglou et al., 2011). These factors can be classified into bank-specific (internal) and macroeconomic variables. The internal factors are individual bank characteristics that affect the bank's performance. The internal decisions of management and the board influence these factors. The external factors are sector-wide or country-wide factors that are beyond the company's control and affect the profitability of banks (Azizi and Sarkani, 2014).

The financial success of any business is considered one of the core drivers that affect the value of an organization, where the organization generates adequate income in its current year compared to records. For instance, banks posting profits are considered better positioned to contribute positively to a country's gross domestic product (GDP) (Yisa, 2021). Profitable banks are an essential ingredient of banks' financial development. In 2008, a financial crisis was witnessed globally, highlighting the importance of addressing the internal and external factors determining banks' financial performance (Magoma, Mbwambo, Sallwa & Mwashu, 2022). According to Fidanoski, Choudhry, Davidović, and Sergi (2018), the main challenge that is experienced by developed and developing countries is to determine internal and external factors affecting the bank's financial performance.

Commercial banks across the globe play a pivotal role in promoting economic growth through financial intermediation, capital formation, and employment creation. However, their performance has increasingly come under scrutiny due to persistent financial instability and operational inefficiencies. Studies have shown that internal factors, including capital adequacy, management efficiency, and asset quality, remain central determinants of financial performance. For instance, Iskandar, Che-Yahya, and Wahid

(2019) observed that commercial banks in Malaysia exhibited differing profit margins despite similar loan growth rates. The authors attributed this to variations in internal efficiency, noting that microeconomic factors contributed to an increase in profitability from 6 to 7 percent in the 2018 financial year. These findings affirm that strong internal controls and operational efficiency enhance asset quality and overall bank performance.

Similarly, Berger (2020) established that in the United States and Europe, high capital adequacy ratios were associated with reduced financial risk, higher revenues, and lower costs of financial distress, thereby strengthening banks' lending capacity and resilience. However, the 2023 Deloitte report highlighted declining performance in North American banks, mainly attributed to operational inefficiencies that slowed business growth. Moreover, Grömping and Tonzer (2022) found that while European banks benefited from economies of scale up to a certain threshold, larger bank sizes eventually led to bureaucratic inefficiencies and diseconomies of scale. This suggests that efficiency gains are not automatic and may be reversed by poor internal management practices.

In developing regions, similar trends have been observed. In Nigeria, for instance, Ojeyinka and Akinlo (2021) reported that persistent poor performance among commercial banks had necessitated widespread mergers and acquisitions, reducing the number of operational banks from 89 to 25 by 2015. Weak internal management systems and inefficient credit risk controls were identified as key factors behind the declining profitability. A comparable scenario was reported in Tanzania, where the Bank of Tanzania revoked licenses for five commercial banks Covenant Bank for Women Limited, Efatha Bank Limited, Njombe Community Bank Limited, Meru Community Bank Limited, and Kagera Farmers' Cooperative Bank Limited on grounds of

undercapitalization and liquidity crises resulting from high non-performing loans (Magoma, Mbwambo, Sallwa & Mwasha, 2022).

In Kenya, the banking sector has similarly experienced fluctuating financial performance, largely associated with internal inefficiencies and poor governance practices. The collapse of Dubai Bank, Imperial Bank, and Chase Bank, as well as the statutory management of Charterhouse Bank Limited, have underscored the vulnerability of the sector to internal control weaknesses (Nalinya & Miroga, 2020). According to Mutai (2023), the average return on assets (ROA) for commercial banks in Kenya declined steadily from 4.7% in 2013 to 1.7% in 2020, a trend linked to weak internal management systems and inadequate efficiency mechanisms. These findings are consistent with Efficiency and Signaling Theories, which posit that internal efficiency and credible financial signals are crucial for sustaining performance and investor confidence.

Despite these insights, most existing studies have either focused on macroeconomic determinants of bank performance or examined individual internal factors in isolation. Few have systematically analyzed the combined influence of internal determinants such as capital adequacy, management efficiency, asset quality, and liquidity on the financial performance of listed commercial banks in Kenya. Furthermore, previous studies have largely relied on cross-sectional data, overlooking panel-based approaches that capture temporal variations in performance. Consequently, a clear empirical gap remains regarding how internal factors jointly and longitudinally affect the financial performance of listed commercial banks at the Nairobi Securities Exchange (NSE). This study, therefore, sought to bridge this gap by applying Efficiency and Signaling Theories to

examine the effect of internal factors on the financial performance of listed commercial banks in Kenya

1.2 Statement of the problem

The banking industry plays a crucial role in promoting economic growth through financial intermediation, employment creation, revenue generation, and infrastructure development. In Kenya, the sector has remained a cornerstone of the economy by mobilizing savings and extending credit to both private and public enterprises. However, despite its central role, commercial banks in Kenya have faced significant financial instability and performance challenges in recent years. For instance, Dubai Bank, Imperial Bank, and Chase Bank were placed under receivership, while Charterhouse Bank Limited was put under statutory management due to financial distress and poor governance practices. According to the Central Bank of Kenya (CBK) Report (2015), several listed commercial banks at the Nairobi Securities Exchange (NSE) experienced declining financial performance, reflected in reduced profitability, rising non-performing loans, and inefficiencies in operations. Although the report acknowledged these challenges, it did not conclusively identify the internal determinants responsible for the poor financial outcomes.

Empirical studies across different contexts have emphasized the influence of internal factors on banks' financial performance, but findings remain mixed and context-dependent. For example, Iskandar, Che-Yahya, and Wahid (2019) found that Malaysian banks with stronger internal control mechanisms and management efficiency posted higher profits despite sharing similar loan growth levels. Likewise, Berger (2020) reported that in the United States and Europe, higher capital adequacy ratios reduced

financial risk and distress costs, thereby improving profitability. However, a Deloitte (2023) report indicated that North American banks continued to face sluggish performance due to operational inefficiencies, while Grömping and Tonzer (2022) observed that larger European banks often suffered diseconomies of scale from bureaucratic rigidity.

In sub-Saharan Africa, the problem is equally pronounced. Ojeyinka and Akinlo (2021) noted that persistent inefficiencies in Nigerian commercial banks led to widespread mergers and acquisitions, reducing the number of banks from 89 to 25 by 2015. Similarly, the Bank of Tanzania revoked licenses for five commercial banks on grounds of undercapitalization and poor asset quality arising from high non-performing loans (Magoma, Mbwambo, Sallwa & Mwashu, 2022). These experiences reflect the critical role internal factors such as management efficiency, liquidity management, and asset quality—play in determining financial sustainability.

In Kenya, the banking sector continues to grapple with declining profitability and operational inefficiencies. Mutai (2023) observed that the average return on assets (ROA) for commercial banks declined from 4.7% in 2013 to 1.7% in 2020, largely due to weak internal control systems, liquidity risks, and poor efficiency. Such instability raises questions about the effectiveness of internal management practices among listed commercial banks. While several studies (e.g., Nalinya & Miroga, 2020; Mutai, 2023) have examined factors influencing bank performance, most have focused on either macroeconomic or external determinants such as interest rates, inflation, and regulatory policy, leaving the effect of internal factors underexplored. Moreover, existing studies have often considered individual internal variables in isolation and used cross-sectional

designs that fail to capture variations over time.

From a theoretical standpoint, the Efficiency Theory suggests that banks' ability to optimize internal processes directly enhances profitability, while the Signaling Theory emphasizes that well-managed institutions send credible signals of stability and performance to investors. However, limited empirical evidence exists on how these theoretical perspectives jointly explain the financial performance of listed commercial banks in Kenya.

Therefore, this study sought to fill the identified empirical and theoretical gaps by determining the effect of internal factors specifically capital adequacy, management efficiency, asset quality, and liquidity on the financial performance of listed commercial banks at the Nairobi Securities Exchange, Kenya. The study provides a comprehensive understanding of how internal operational dynamics influence profitability and contributes to strengthening the efficiency and credibility of Kenya's banking sector.

1.3 Purpose of the study

The purpose of the study was to determine the effect of internal factors on financial performance of listed commercial banks at the Nairobi security exchange, Kenya.

1.4 Objective of the study

- i. To establish the effect of bank size on financial performance of listed commercial banks at the Nairobi security exchange, Kenya.
- ii. To establish the effect of capital adequacy on financial performance of listed commercial banks at the Nairobi security exchange, Kenya.

- iii. To establish the effect of operational efficiency on financial performance of listed commercial banks at the Nairobi security exchange, Kenya.

1.5 Research Hypothesis

The following hypotheses were tested in the study

H₀₁: There is no significant effect of size of bank on financial performance of listed commercial banks at the Nairobi security exchange, Kenya.

H_{a1}: There is significant effect of size of bank on financial performance of listed commercial banks at the Nairobi security exchange, Kenya

H₀₂: There is no significant effect of capital adequacy on financial performance of listed commercial banks at the Nairobi security exchange, Kenya

H_{a2}: There is significant effect of capital adequacy on financial performance of listed commercial banks at the Nairobi security exchange, Kenya

H₀₃: There is no significant effect of operational efficiency on financial performance of listed commercial banks at the Nairobi security exchange, Kenya

H_{a3}: There is significant effect of operational efficiency on financial performance of listed commercial banks at the Nairobi security exchange, Kenya

1.6 Significance of the study

The researcher hopes that this study will fill in the knowledge gap on some of the factors affecting the financial performance of commercial banks listed on the Nairobi Securities Exchange. These findings are expected to be beneficial to the banking industry as a whole, especially to bank managers, as they examine how these factors individually

influence bank performance. The banks can thus use this information to improve overall financial performance by focusing on and monitoring these factors. The study would also provide investors in Kenya with the variables that can help them forecast the profitability of financial institutions in the future by looking at the trends of the bank's managers. They will use study findings to identify various factors influencing Kenya's banking industry's profitability.

The findings would also be valuable to microfinance organizations, saving and cooperative societies, insurance firms, and pension fund firms that operate similarly to commercial banks to identify factors that may influence their profitability. Last but not least, the findings will be of great help as they will add to the existing literature on the profitability and financial performance of the banking industry, especially in the Kenyan scenario.

1.7 Scope of the study

This project sought to determine how internal factors, bank size, capital adequacy, and operational efficiency affect the financial performance of listed commercial banks at the Nairobi Security Exchange, Kenya. The listed firms were units of analysis where a data collection schedule was adopted to obtain secondary data. Data was obtained between the annual financial year 2018 and the annual financial year 2022.

1.8 Limitations of the study

According to Mugenda and Mugenda (2013), a study limitation comprises factors that can influence a study's outcome, and the researcher cannot mitigate them. The study was limited to listed commercial banks at the Nairobi Security Exchange, Kenya. Therefore,

the findings may not accurately represent the banks not listed in NSE in Kenya. To overcome this limitation, the study recommended further research using the same variables but focusing specifically on those banks not listed in NSE.

1.9 Delimitation of the study

To minimize the concerns raised in limitation, the data from financial statements were considered reliable since financial statements are prepared based on standardized accounting principles in every industry.

1.10 Assumption of the study

The researcher assumed that each bank's financial statements were prepared based on standardized accounting principles. It was also assumed that all the listed commercial banks had updated published annual financial reports from 2018 to 2022.

1.11 Definition of terms

- Bank Size:** This is the ratio representing the ownership of banks' assets. This will be measured as natural log of the values of total asset.
- Capital Adequacy:** This is an adequate amount of capital a commercial bank requires to hold as a percent of its risks weighted assets. This is computed as equity to total asset
- Commercial bank:** This is a financial institution that accepts deposits from individual or organization and gives loans for consumption and investments to generate profits
- Financial performance:** This refers to the banks position a specified point in time which is indicated in the published financial reports. In this study, financial performance will be determined through the Return on Assets of a listed commercial Bank.
- Internal factors:** This is banks' specified variables that affect the financial performance of banks internally and these variables are controllable. This study considers bank size, capital adequacy and operational efficiency as the internal factors

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter reviews existing literature related to the financial performance of commercial banks. The chapter is organized so that each research objective is addressed. Specifically, it will establish the effect of bank size on financial performance, examine the effect of capital adequacy on financial performance, and determine the effect of operational efficiency on the financial performance of listed commercial banks at the Nairobi security exchange, Kenya. The chapter also describes the theoretical literature review, which explores various theories on profitability.

2.2 Empirical Literature Review

An empirical literature review, or a systematic literature review, analyzes previous empirical studies to answer a specific research topic. Rather than drawing information from theories or beliefs, empirical research relies on observations and measurements to arrive at conclusions.

2.2.1 Financial performance of listed commercial banks at the NSE

To list a bank on the Nairobi Securities Exchange (NSE), the bank must be a public limited company with sufficient net assets (e.g., at least Kshs. 100 million for the Main Investment Segment), demonstrate strong financial performance and stability, maintain proper financial records compliant with IFRS, and have ethical directors and a qualified management team. The shares to be listed must be freely transferable, and the company needs a clear future dividend policy and adequate working capital. A minimum of 25% of

the shares must be held by at least 1,000 shareholders, excluding employees (CBK, 2014).

Financial performance is a grand ultimate objective of a commercial bank. The strategies developed and implemented are meant specifically to realize the grand objective. However, there are other goals the commercial banks are set to achieve, such as economic and social goals (Njoki & Nyamute, 2023). Different ratios can be used to measure financial performance, such as return on equity (RoE), net interest margin (NIM), and return on Asset (RoA), among others. Therefore, this study mainly focuses on the financial performance of the commercial banks listed at the Nairobi Security Exchange. For this study, the Return on Asset ratio was adopted to measure the financial performance of the commercial banks.

According to Safitri et al. (2020), bank performance affects public trust positively or negatively. Therefore, it is vital to maintain a good performance. The poor performance leads to bank failure, and the bank experiences financial crises. Anwar and Murwaningsari (2017) state that banks' financial performance may be examined using different indicators. The main indicator used by the bank to assess their performance is financial reports, and these reports can be used to determine the profitability ratios.

Return on Assets is a major ratio used to indicate the financial performance of an organization. ROA is computed as a ratio of income to total Assets. Return on Asset measures the bank's ability to generate high income by using the company's assets at its disposal. From another perspective, this indicates how the company efficiently uses its resources in order to raise income. Therefore, when ROA is high, the company's resources are efficiently utilized (Mardillasari, Sufyati & Muktiyanto, 2021).

The study by Alemayehu and Belete (2019) in Ethiopia focused on state-owned and private commercial banks' performance and used return on assets and equity to measure financial performance. Return on Asset is the financial ratio used to determine the relationship between profits and total assets. Therefore, the return on Assets measure is used to determine a firm's profitability, which can be referred to as financial performance. Thus, Return on Assets reflects the ability of the management to generate more profits for the organization.

According to Ndungu and Muturi (2019), RAO is a vital indicator for measuring banks' financial performance because the customers and shareholders value it as necessary for continued bank growth and existence. From common knowledge, bank health is, in most cases, directly proportional to the ROA of the bank. Therefore, the primary goal of bank management is to consistently maximize profits through financial performance, which ensures the bank's long-term viability. Thus, ROA will be used as a financial performance indicator because Didin, Mochklas & Mochklas (2018) assert that Return on Asset is the commonly and widely adopted indicator of measuring financial performance.

2.2.2 Effect of Size of Bank on financial performance

The size of a firm has been remarkably considered an important determinant of a firm's profitability. According to Kigen (2014), larger firms would be able to produce goods more cheaply as compared to small firms since the former have achieved more learning and greater cumulative experience, and they are able to spread their fixed costs over a greater amount of production. Several scholars, notably Mule, Mukras, and Nzioka (2015) and Niresh and Thirunavukkarasu (2014), considered the size of the banks as a fundamental variable that explains a firm's profitability.

Tharu and Shrestha (2019) conducted a study to determine the effect of size of the bank on commercial banks financial performance in Nepal. A panel research approach was adopted where the target population comprised 28 commercial banks. The study employed a random sampling technique to come up with a sample size of 8 commercial banks. Data was collected from commercial banks between 2013 and 2018, and time series data was analyzed descriptively and inferentially. From the result findings, it was revealed that bank size had no significant effect on financial performance. The study used eight commercial banks, while the current study used ten commercial banks listed in the Nairobi Security Exchange.

Parvin, Chowdhury, Siddiqua, and Ferdous (2019) evaluated the influence of bank size and liquidity on commercial banks profitability in Bangladesh: the study of financial records and annual reports between 2011 and 2015. The data was obtained from 7 commercial banks. Correlation analysis and descriptive statistics were used. The findings indicated that bank size positively and significantly influenced Return on assets while liquidity had an insignificant influence on Return on assets. The study focused on annual financial statements and annual reports between 2011 and 2015, while this study used data obtained between 2018 and 2022.

A study by Ojeyinka and Akinlo (2021) examined if the size of the bank impacts bank efficiency in Nigeria's commercial banks. The study used a cross-sectional research design and utilized 15 banks. Time series data was obtained between the years 2006-2018. The impact of the bank's size was determined by using robust standard error and dynamic generalized methods of the moment (GMM). The findings showed that bigger banks did not have an added benefit of cost advantage over the other small banks.

Further, the study indicated that bank size did not have any effect on banks' efficiency. The study used bank efficiency as a dependent variable; the current study used financial performance as the dependent variable.

Magoma, Mbwambo, Sallwa, and Mwashha (2022) carried out a study that sought to establish the influence of bank size on commercial banks' financial performance listed on the Dar es Salaam Stock Exchange. The study adopted an explanatory design where 7 commercial banks listed were used. Panel data was collected within five years (2016-2020). The study relied on secondary data from annual and financial statements published in the Dar es Salaam Stock Exchange. The study analyzed data using pre-regression, linear regression, and correlation tests. The study findings indicated that bank size positively and significantly influenced the financial performance of commercial banks in Tanzania. This study was conducted in Tanzania and used commercial banks listed in the Dar es Salaam Stock Exchange. In contrast, the current study was conducted in Kenya and used commercial banks listed in the Nairobi Security Exchange.

A study by Mule, Mukras, and Nzioka (2015) assessed the effects of firm size on listed firms' market value and profitability in Kenya. Data was collected from active firms in NSE from 2010-2014. For empirical estimations, multiple regressions and panel correlation were adopted. The findings showed that firm size is positively and significantly related to profitability (ROA).

Nyabaga and Wepukhulu (2020) explored the impact of bank characteristics on listed commercial banks' financial performance in Kenya. The study used a descriptive research design. Time series data was collected from annual financial reports between 2010 and 2018. STATA was used to code data and aid in descriptive, multi-linear, and correlation

analysis. The results revealed that there was a positive and significant relationship between the size of the bank and return on assets and return on equity. The study used both Return on asset and equity to measure performance, while the current research adopted Return on asset.

2.2.3 Effect of Capital Adequacy on financial performance

Capital adequacy is the working capital ratio calculated by dividing total current assets by total current liabilities. For that reason, it can also be called the current ratio. It is a measure of liquidity, meaning the business can meet its payment obligations as they fall due. Capital adequacy approximation and its financial performance are measured by Return on Assets (ROA), Return on Equity (ROE), and the Net Interest Margin (NIM) (Boukhatem & Moussa, 2018).

Swandewi and Purnawati (2021) conducted a study to evaluate the influence of capital ratio on the financial performance of listed commercial banks in the Indonesia Stock Exchange. The study adopted a quantitative research design. The study used a purposive sampling technique to sample 24 banks. Annual and financial reports were used to collect secondary data between the periods 2016 to 2018. Path analysis was used to analyze the obtained data. The findings indicated that capital adequacy was positively and significantly related to financial performance. The current study used descriptive regression and correlation analysis, unlike this study, which used path analysis. The study will also be carried out in Kenya.

Iskandar, Che-Yahya, and Wahid (2019) examined the contribution of capital adequacy to the Return on assets of commercial banks in Malaysia. Quantitative methodology was

adopted where annual financial reports of 8 commercial banks were obtained between 2011 and 2017. Data regression analysis was employed where a panel datasheet of 8 commercial banks was used. The study findings indicated that capital adequacy had an insignificant effect on Return on assets. This study sought to conduct a study by adopting a descriptive research design and will focus on commercial banks listed in the NSE.

A study by Yisa (2021) sought to determine the influence of internal determinants affecting the profitability of selected deposit banks in Nigeria. The study used internal determinants of capital adequacy, bank size, and liquidity. Time series data was obtained between the 2015 and 2019 financial years. Multiple regressions were used to analyze data, and the findings revealed that capital adequacy, bank size, and liquidity had a positive and significant relationship with banks' profitability. The current study adopted capital adequacy, bank size, and operational efficiency as the internal determinants.

Mainya (2022) evaluated the determinants influencing commercial banks financial performance in Tanzania. The study used a descriptive research design where nine commercial banks were involved. The external and internal time series data was obtained between 2013 and 2019. Data was analyzed using the GMM technique, and the results indicated that capital adequacy, cost efficiency, asset quality, and loan composition had a statistically significant influence on commercial banks' performance. The study concluded that a bank's internal determinants influence financial performance than external determinants, which are uncontrollable. The current study focused on internal factors, unlike this study, which focused on both internal and external factors.

Musyoka (2017) sought to investigate the relationship between capital adequacy and commercial banks' financial performance in Kenya. A descriptive design was adopted

where the target population was comprised of all the 42 registered commercial banks. Due to the small target population, all the commercial banks were used for the study; therefore, a census survey was carried out. Financial statements were used to obtain secondary data, which was analyzed using descriptive statistics and linear regression. The findings indicated a a negative significant relationship between capital adequacy and financial performance. The current study focused on commercial banks listed in the NSE

Kachumbo (2020) assessed the determinants of the financial performance of Fintech commercial banks in Kenya. The study focused on capital adequacy, customer base, and loan size as independent variables. A panel data design was adopted, and a purposive sampling technique was utilized to come up with 33 banking Fintechs. Secondary data was obtained from published financial statements between 2014 to 2018. STATA was used to code the collected data and subjected to panel data analysis. The results indicated a negative and significant relationship between capital adequacy and commercial bank financial performance. This study collected panel data between 2018 to 2022, whereas the study used data from the period 2014 to 2018.

2.2.4 Effect of Operational Efficiency on financial performance

Management efficiency is the ability of the board of directors and management to identify measures, control the risks of a banking institution's operations, and guarantee safe and effective operation in fulfillment of pertinent laws and regulations. Ongore and Kusa (2013) posit that the management efficiency of a bank is measured using different financial ratios such as total asset growth, loan growth rate, and earnings growth rate. The performance of management is also often shown by subjective assessment of

management systems, organizational discipline, control systems, and quality of staff, among other factors.

More so, the ability of the management to utilize its resources effectively, maximize income, and minimize operation costs can be measured by financial ratios. The operating profit-to-income ratio is particularly useful in measuring management quality. The higher the operating profits to total income, the more efficient the management is in relation to operational efficiency and income generation. Management efficiency significantly determines the level of operating expenses and, in turn, has an impact on the bank's profitability (Ongore & Kusa, 2013).

A study by Khan (2022) sought to investigate the relationship between operational efficiency and Saudi bank performance in Saudi Arabia. The study used an explanatory research design, and the data was obtained from the published financial reports between 2010 and 2017. Panel data analysis and ordinary least squares were employed to find significant factors. The outcome indicated that operational efficiency influenced the performance of Saudi Banks. The study focused on Saudi Banks, while the current research focused on listed commercial banks in NSE.

A study conducted by Msomi and Olarewaju (2022) sought to assess the influence of operational efficiency on commercial banks in South Africa. The study considers four commercial banks: Absa, Standard Bank, First National Bank, and Nedbank. A mixed research design and system generalized methods of moment technique were adopted to analyze data. The findings indicated that there existed a negative correlation between operational efficiency and profitability of commercial banks. The current study used ten commercial banks listed at the NSE.

Alemayehu and Belete (2019) conducted a study examining the impact of operational efficiency on state owned and private commercial banks financial performance in Ethiopia. A descriptive research design and a purposive sampling technique were used to select all 18 registered banks. Annual financial reports for 2012-2017 were used to obtain secondary data. The descriptive statistics was used to analyze data. The results revealed that operational efficiency has a significant impact on commercial banks' financial performance. Therefore, the study recommended that commercial banks need to improve their operational efficiency, and this will enhance their competitive advantage. This current study was carried out in Kenya, which is not economically better than Ethiopia.

Ngakoka (2020) analyzed the impact of control activities on commercial banks' performance in Tanzania. The research was an empirical study where operational efficiency, capital adequacy, and required reserves were the main study objectives. Secondary data was generated from financial year reports published in Tanzania at the Dar es Salaam Stock Exchange between 2011 and 2018. The study selected 8 commercial banks from 37 through a random sampling technique. The study adopted the generalized least square method (LSM) to analyze the data. The findings showed that operating efficiency significantly impacted the performance of commercial banks in Tanzania, while capital adequacy and required reserve had an insignificant impact.

A study conducted in Kenya by Ngumo, Collins, and David (2020) sought to explore determinants influencing microfinance banks' financial performance. A descriptive design was used, and seven microfinance banks were used to provide secondary data for the period from 2011 to 2015. Regression and correlation analysis were used to analyze the data obtained. The study findings established that operation efficiency is positively

and significantly related to micro-finance banks' financial performance in Kenya. The study used micro-finance as a unit of analysis, while the current study used listed commercial banks.

2.3 Theoretical Framework

This part will review the market power theory, efficiency theory, agency cost theory, and signaling theory as the underlying theories that will bring out the profitability concept.

2.3.1 Efficiency Theory

The efficiency theory was formulated by Demsetz (1973) as an alternative to the market power theory. The efficiency theory presupposes that better management and scale efficiency result in higher concentration and, thus, greater and higher profits. Accordingly, the theory posits that management efficiency not only increases profits but also results in larger market share gains and improved market concentration (Athanasoglou, Brissimis & Delis, 2005). The efficiency theory also states that a positive concentration-profitability relation may be a sign of a positive connection relating to efficiency and size. The theory postulates that a positive association between concentration and profit arises from a lower cost, mainly achieved through efficient production practices and increased managerial processes (Birhanu, 2012).

The efficiency theory supports that the most favorable production can be attained through economies of scale. Thus, maximum operational efficiency in the short run is achieved at a level of output where all economies of scale available are employed efficiently (Odunga et al., 2013). Additionally, the efficiency theory explains that attaining higher profit margins arises from efficiency, which allows banks to obtain both good financial

performance and market shares (Mirzaei, 2012). According to Fisseha (2015), the efficiency theory presupposes that profitability and high concentration result from efficient cost-reduction practices and better organizational management strategies. Thus, efficient firms in the market lead to an increase in their market share and the size of their firm because of aggressive production and management techniques (Birhanu, 2012).

In the banking industry, the efficient theory advocates that large commercial banks with better and experienced management and up-to-date production technologies can reduce their operational costs and earn higher returns on investment compared to smaller banks (Soana, 2011). The theory is based on the premise that banks attain profits if they operate more efficiently and efficiently than their competitors, lowering operating costs and leading to good profits (Onuonga, 2014). The efficiency theory also assumes that internal efficiencies influence the profitability of commercial banks (Obumuyi, 2013). Further, the theory explains that banks that operate efficiently compared to their competitors increase their profits due to low operating costs.

Efficiency prevails when a positive significant correlation between profitability and market share is signaled (Mensi & Zouari, 2010). In conclusion, the Efficiency theory is highly relevant in analyzing the financial performance of listed commercial banks at the NSE. The theory suggests that better management and scale efficiency result in higher financial performance. Furthermore, studies have shown that there is a strong positive correlation between internal factors and financial performance in Kenya's banking industry.

2.3.2 Signaling Theory

The signaling theory emanated from Arrow (1972) and Spence (1973). Signaling theory presupposes that best-performing or profitable firms supply the market with positive and better information (Bini, Dainelli & Giunta, 2011). In addition, the signaling theory is one of the theories that which have that clarifies the association between profitability and capital structure (Alkhazaleh & Almsafir, 2014). This theory presupposes that a superior capital structure is an optimistic signal to the organization's market worth (Adeusi, Kolapo & Aluko, 2014). The signaling theory further postulates that the majority of most profitable firms signal their competitive power by communicating new and important information to the market. Thus, information is disclosed using specific indicators or ratios, which often measure particular conditions on which to enter into or renew the agency contract (Bini, Dainelli & Giunta, 2011).

According to the signaling theory, bank management signals good future expectations by raising capital, indicating that a lower debt ratio necessarily means those banks perform better than their identical (Alkhazaleh & Almsafir, 2014). In addition, the theory argues that managers who strongly believe their bank can outperform other banks in the industry will want to relay such information to various stakeholders to attract additional investments. Thus, the signaling theory affirms that when a bank's performance is excellent, directors will signal its performance to its stakeholders and market by making various disclosures that poor performance cannot make. By enhancing disclosure, most managers will wish to receive high benefits and a good reputation, which may increase the firm's value and profitability (Muzahem, 2011).

In a nutshell, the Signaling Theory is a highly relevant concept when analyzing the

profitability determinants of registered commercial banks in Kenya. The theory assumes that firms with superior performance will signal their competitive power to the market by providing new and important information unavailable to their competitors. This results in an increase in the value of the firm and profitability. Additionally, firms that can outperform their peers in the industry will want to communicate this to their stakeholders to attract more investments. Furthermore, the Signaling Theory can be applied to analyzing the internal factors affecting the financial performance of listed commercial banks in NSE, Kenya. These factors are bank size, capital adequacy, and operational efficiency.

2.4 Bank Sector in Kenya

The commercial banks in Kenya contribute to the development of the economy. The banks channel depositors' funds continuously to the investors. This becomes possible when they can generate substantial income that covers the operational costs they incur in their due course. This means that the banks ought to be sustainable in their intermediation functions, and this is possible only when they are enjoying financial stability. Banks with good and stable financial performance tend to reward the shareholders for their investments. In return, it encourages additional investments that lead to economic growth. The case of banks' poor financial performance may lead to banks' financial crisis and failure, which, on the other hand, have negative repercussions on economic growth (Muriithi & Waweru, 2017).

Kenya's banking sector has had numerous monetary and regulatory changes during the past decade. Kenya's commercial banks play a crucial role in the country's financial intermediation system because they control most of the country's banking assets. The

Central Bank of Kenya (CBK) is responsible for licensing and regulating Kenya's financial institutions under the Banking Act (Cap 488) and the policies and supervisory recommendations published by the CBK under Basel III (Asiligwa & Rennox, 2017). Both internal and external influences have an impact on these financial institutions. There is a statistically significant effect of bank-specific characteristics on profitability.

Any liquidation that could happen in the financial sector has a contagious effect that can trigger bank runs and crises and bring total financial catastrophe and economic turmoil, which has massive implications for economic growth in a country where the banking industry is dominant. Kenya had 43 Commercial Banks as of the end of 2022 (CBK Annual Supervisory Report, 2022). CBK has gradually increased bank capital levels by 2022 and monitored bank operations closely to ensure that Kenyan banks are efficient and profitable. The CBK annual report 2022 revealed improved performance in the banking sector for the year ending in December 2022. Pretax profits increased by 16.6% in the industry last year (Kingu et al. 2018), and the overall value of assets and deposits increased by 16.0% and 13.3%, respectively.

Competitive rivalry from MFIS, loan firms, and SACCOs, as well as competition over the past few years due to increasing advancements in the market, specifically the advent of M-Payments and E-Payments, allied with adherence to the CBK's stringent regulations, are all obstacles that Kenya's banking sector must overcome despite its recent expansion (Ndungu & Muturi, 2019). Commercial banks play a crucial role as mediators in an economy, as they constantly move money between savers and investors. Therefore, banks must be profitable for the intermediation function to continue in the long run. Profits are necessary for the survival of this industry. There needs to be more research into how

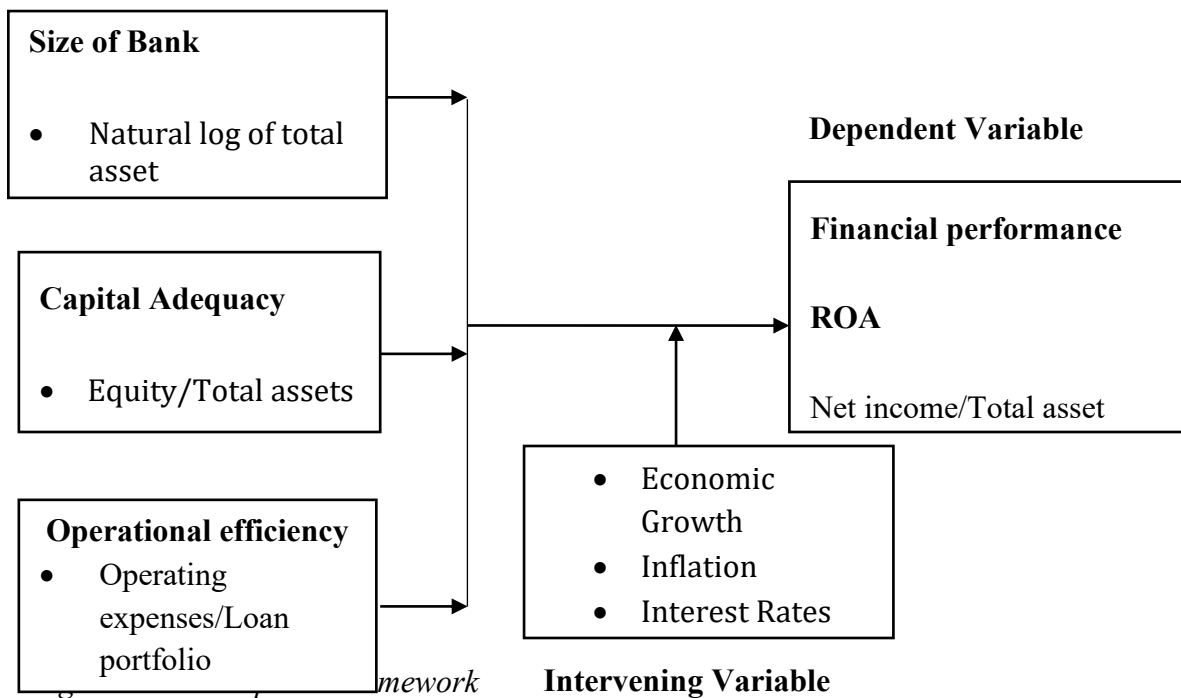
internal factors influence the profitability of Kenya's commercial banks. Asiligwa and Rennox (2017) looked into the impact of economic fundamentals on commercial banks' profitability in Kenya, while (Kamande, 2017) investigated the causes of commercial banks' financial success in Kenya.

Capital adequacy, Return on assets, liquidity, operational cost, efficiency, and revenue diversification were some of the variables considered in the (Ndungu & Muturi 2019) study of the effects of banking-specific factors on the performance of commercial banks in Kenya. As a result, this research aimed to identify the characteristics of commercial banks in Kenya that contribute to their success.

2.5 Conceptual framework

A conceptual framework depicts a relation that exists between study variables. The study seeks to identify determinants of banks profitability; hence, independent variables will include bank's size, capital adequacy, liquidity, credit risk, and operating costs. The dependent variable will be financial performance.

Independent Variables



2.6 Summary of the Literature Review

The reviewed literature reveals that studies examining the influence of internal factors on the financial performance of commercial banks present inconsistent and inconclusive findings across different contexts. Specifically, research on bank size has produced divergent results, with some scholars reporting no significant relationship with profitability, while others establish a positive and significant effect, suggesting that larger banks may benefit from economies of scale and market dominance.

Similarly, evidence on capital adequacy remains mixed. Some studies demonstrate that high capital ratios enhance profitability by reducing financial risk, while others find either a negative or insignificant association, indicating that excessive capitalization may constrain lending and income-generating capacity.

In addition, studies on operational efficiency present contradictory conclusions. While several investigations report a positive and significant link between management efficiency and financial performance, others suggest that inefficiencies, high operational costs, or bureaucratic constraints negatively influence profitability.

These inconsistencies highlight critical gaps in understanding how internal factors interact to influence bank performance, particularly within developing economies such as Kenya. Consequently, the current study sought to determine the effect of bank size, capital adequacy, and operational efficiency on the financial performance of commercial banks listed at the Nairobi Securities Exchange (NSE) for the period 2018–2022, employing a descriptive research design to generate evidence-based insights relevant to policy and managerial decision-making.

2.7 Research Gaps

A critical review of existing literature on the internal determinants of financial performance among commercial banks reveals notable empirical inconsistencies, conceptual ambiguities, contextual limitations, and theoretical gaps that this study sought to address.

First, empirical studies have produced inconsistent and sometimes contradictory findings regarding the influence of bank size on financial performance. For instance, Iskandar,

Che-Yahya, and Wahid (2019) found that larger banks in Malaysia benefitted from strong internal factors that improved profitability, while Grömping and Tonzer (2022) reported that European banks only enjoyed economies of scale up to a point, beyond which inefficiencies emerged. In the African context, mixed evidence persists, as some studies suggest that large asset bases enhance performance through diversification, while others report declining returns due to rising operational costs and bureaucratic constraints. These disparities underscore the need for further examination of whether bank size contributes positively or negatively to financial performance in Kenya's listed commercial banks.

Second, the literature on capital adequacy and financial performance remains empirically inconclusive. According to Berger (2020), higher capital ratios in U.S. and European banks reduced financial distress and supported long-term profitability. However, evidence from African studies such as Ojeyinka and Akinlo (2021) and Magoma et al. (2022) showed that excessive capitalization limited banks' lending ability and profitability, especially where non-performing loans were high. In Kenya, the Central Bank of Kenya (2015) and subsequent reports highlight persistent profitability challenges among well-capitalized banks, suggesting the possibility of diminishing returns from excessive capital buffers. This inconsistency points to a need to re-examine the capital–performance relationship within the Kenyan banking sector.

Third, research on operational efficiency presents mixed outcomes and limited contextual clarity. While global evidence associates improved efficiency with stronger returns, studies in developing economies highlight that cost-cutting alone does not always lead to sustainable profitability. For example, Deloitte (2023) noted that inefficiencies in North American banks slowed growth, while Mutai (2023) found that weak internal controls

and high operational costs reduced profitability among Kenyan commercial banks. This conflicting evidence signals a gap in understanding how efficiency—particularly in resource utilization and technology adoption—affects financial performance in Kenya’s listed banks.

Fourth, most prior studies have been contextually limited to general or unlisted banks, ignoring the unique operational environment of listed commercial banks at the Nairobi Securities Exchange (NSE). Listed banks face stricter disclosure requirements, governance expectations, and investor scrutiny, which may influence their internal decision-making and performance differently from non-listed banks. This contextual gap limits the transferability of previous findings to the Kenyan market.

Fifth, from a theoretical perspective, limited research has simultaneously applied the Efficiency Theory and Signaling Theory to explain financial performance in the banking sector. The Efficiency Theory emphasizes optimal resource utilization and cost management as drivers of profitability, while the Signaling Theory posits that internal indicators such as capital adequacy serve as market signals of financial soundness. Few studies have empirically tested how these theoretical propositions interact to explain variations in bank performance, creating a theoretical and analytical gap.

Finally, a methodological gap exists in the reliance on cross-sectional designs and outdated datasets in prior studies, which limits the robustness and generalizability of results. Few investigations have used recent panel data to capture both temporal and institutional variations in financial performance among listed banks in Kenya.

In light of these gaps, the current study examined the effect of internal factors—namely bank size, capital adequacy, and operational efficiency—on the financial performance of commercial banks listed at the Nairobi Securities Exchange (NSE) for the period 2018–2022. Guided by the Efficiency and Signaling Theories, the study contributes to filling the identified empirical, theoretical, and contextual gaps by providing contemporary, evidence-based insights into how internal dynamics influence profitability in Kenya’s listed banking sector.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This part discusses various sub-topics that are covered in this chapter. The section will look at the research design adopted in detail, the target population adopted by the researcher, sample size and sampling procedures employed to arrive at the sample size, data collection instruments, and data collection procedure that the researcher used to obtain the right data for the study, data analysis, diagnostic tests and lastly ethical considerations that the researcher will observe.

3.2 Research Design

This study adopted a descriptive research design with a quantitative approach to generate in-depth information from secondary data obtained from the Central Bank of Kenya. The advantage or the purpose of using descriptive research design in this study is to ensure a description of the state of affairs as it currently exists. According to Mugenda and Mugenda (2013), descriptive research is a process of collecting data to test hypotheses or answer questions concerning the current status of the subject matter that will be used in this study.

3.3 Target Population of the study

The target population refers to the entire group of objects, individuals, or events that a researcher intends to study. The findings from the research are ultimately generalized to this population (Jansen, Gould, Li, Brumby & Cox, 2015). For this study, the target population is defined as all commercial banks listed on the Nairobi Securities Exchange (NSE) as of 31st December 2022. According to the official NSE records (2023), there are

11 listed commercial banks that constitute this population. This include Barclays bank Ltd, CFC Stanbic Holdings Ltd, Diamond Trust Bank Kenya Ltd, Equity Group Holdings, HF Group Ltd, I & M Holdings Ltd, KCB Group Ltd, National Bank of Kenya Ltd, NIC Bank Ltd, Standard Chartered Bank Ltd, and The Co-operative Bank Ltd. The complete list is also provided in Appendix II.

3.4 Sampling Procedure and Techniques

3.4.1 Sample Frame

Cooper and Schindler Blumberg, Cooper, and Schindler (2014) define a sample frame as a list of elements from which the sample is drawn and is closely related to the population. It is a complete and correct list of population members only. There is agreement on this definition by Saunders, Lewis, and Thornhill (2007), who define a sample frame as the complete list of all the cases in the population from which the sample is drawn. Since this study was a survey of all listed commercial banks in NSE, the sampling frame was all 11 commercial banks operating as of 31st December 2022, as included in Appendix I. This is the entire population of the study.

3.4.2 Sampling Technique

A sampling plan is a process of describing a sampling unit, sampling procedure, and sample size of the study. The sampling is adopted to describe the list of all target populations from which the sample will be collected. The target population comprised all 11 listed commercial banks at the Nairobi Security Exchange. Therefore, this study employed a census sampling technique because the number was small and was managed effectively. According to Pandey and Pandey (2021), the census sampling technique is

useful when the target population is small, and thus, it provides accurate, reliable information and minimizes personal biases.

3.4.3 Sample Size

A sample is the appropriate number of individuals or items that the researcher selects from the population and is subject to data collection through the appropriate sampling methods and designs. This study is a survey of commercial banks listed at the NSE in Kenya. This, therefore, implies that all listed commercial banks are at the NSE. This was because the study sought to determine the effect of internal factors on the financial performance of listed commercial banks at the Nairobi security exchange, Kenya. The sample size of this study was the 11 commercial banks listed at the Nairobi Security Exchange since all of these commercial banks will be surveyed.

Table 3.1 Sample Size Distribution Table

Population	Sample	% Sampled
11 banks	11	100

3.5 Research Instruments

Research instruments are tools the researcher employs to collect data for analysis, which can be primary, secondary, or both (Mugenda & Mugenda, 2012). Due to the nature of this study, the researcher utilized secondary data sources. Researchers define secondary data as data that is not original in terms of whether another individual or researcher has already collected it for use in another study or for any purpose other than the one for which the current researcher intends to use it (Greener, 2008). According to Johnston

(2014), secondary data is information easily accessed from different related studies conducted, sites, and publications.

3.6 Data Collection Procedure

Research procedures entail the procedures that the researcher will use to collect the type of data identified as crucial for the study. According to Saunders *et al.* (2012), the data collection procedure is a step a researcher follows while conducting a research study. Therefore, the researcher first obtained a letter of authorization from the Turkana University College and a permit from the National Commission for Science and Technology and Innovation (NACOSTI). Panel data from five years between 2018 and 2022 was used for the analysis.

The generated data was keyed into data collection sheets that produced quantitative data for the study variables: Return on Asset, bank size, capital adequacy, and operational efficiency. Then, the data was imported to STATA and ready for analysis.

3.7 Validity and Reliability of research instrument

3.7.1 Validity of Research Instrument

Validity is a distinct representation of items considered for measurement (Mugenda and Mugenda 2003). Since the data was obtained from published annual audited reports of 11 commercial banks listed at the NSE between the periods 2018-2022, it was presumed that the source provided very high-quality data, which addressed the issue of validity for the study.

3.7.2 Reliability of Research Instrument

This is the data collection instrument's stability, internal consistency, or repeatability (Cooper & Schindler, 2011). For the purpose of ensuring the reliability of the instrument, a pilot study was conducted. The Cronbach's alpha coefficient was used to determine the instrument's reliability. This was determined after conducting a pilot study where two commercial banks that were not listed at the NSE were picked randomly. The threshold of Cronbach's alpha coefficient exceeded 0.7, and then the instrument was deemed reliable for the study.

3.8 Data Analysis

The generated data from the field was first keyed into a Microsoft Excel for thorough cleaning and easy calculation of variable ratios for Return on Asset, bank size, capital adequacy, and operational efficiency from the listed commercial bank's statements and annual reports published at the NSE between the 2018 to 2022 period. Immediately after the data was ready, it was imported to STATA and transformed into a panel data series. The obtained data was further processed with the help of STATA version 21.0 software. Data was analyzed descriptively and inferentially. Descriptive measures such as mean, standard deviation, and the inferential technique are also used. Data was also analyzed and expressed in figures and frequency distribution tables for quick reference. In relation to inferential statistics, the linear regression model was utilized to further give inferences to the data obtained.

3.8.1 Model Specification

The linear regression model adopted to ascertain the effects of internal factors on financial performance of listed commercial banks at the NSE was of a given form;

$$Y_{it} = \beta_0 + \beta_1 x_{1it} + \beta_2 x_{2it} + \beta_3 x_{3it} + \varepsilon_{it}$$

Where;

Y_{it} represents the Financial performance *at* the time t

X_{1it} represents the size of bank i at time t

X_{2it} represents the capital adequacy i at time t

X_{3it} represents the operational efficiency i at time t

β_0 represents the intercept

$\beta_1, \beta_2, \beta_3$ and β_4 represent the beta coefficient

ε represents the error term

3.8.2 Hypothesis Testing

Hypothesis testing explained whether the selected independent variable explain the financial performance of listed commercial banks at the Nairobi security exchange. The conclusions on the hypothesis are determined from the significance of the regression coefficient of each variable while the significance of the coefficients of each variable indicate the relationship between the independent and the dependent variables choice, whether there was a positive or negative relationship between them. If the p-value computed from the regression analysis is larger than the 5% significance level, then the

hypothesis was rejected while when the p-value was smaller than the 5% significance level value the hypothesis was not rejected.

3.9 Diagnostic Tests

To ensure the validity and reliability of the regression results, a series of diagnostic tests were conducted. These tests were critical in verifying that the assumptions of the Classical Linear Regression Model (CLRM) were not violated, thereby enhancing the credibility of the findings and supporting robust interpretations. Each test performed was tailored to address potential data issues and ensure that the inferences made from the model are statistically sound and defensible.

3.9.1 Multicollinearity Test

Multicollinearity (also collinearity) is a phenomenon in which two or more predictor variables in a multiple regression model are highly correlated. By examining the correlation matrix greater or equal to 0.7 indicates the existence of multi-collinearity between variables else doesn't exist.

3.9.2 Normality Test

To test the Classical Linear Regression Model (CLRM) assumption of the error term is normally distributed with the mean of error being zero as positive error will offset the negative error. In null hypothesis, the assumption was the error term is normally distributed tested using joint test of skewness and kurtosis which is Jarue-Bera test.

3.9.3 Heteroscedasticity Test

Heteroscedasticity refers to a condition in regression analysis where the variance of the errors (or residuals) is not constant across all levels of the independent variable(s). This violates one of the key assumptions of linear regression, which assumes homoscedasticity (constant variance of errors). When heteroscedasticity is present, it can lead to inefficient estimates and affect the statistical tests' reliability. Panel data was used in this study and likelihood-ratio test for heteroscedasticity was tested. Null hypothesis was no heteroscedasticity in data if the probability was greater than 5%. The presence of heteroscedasticity leads to the bias of the standard errors of the model.

3.9.4 Autocorrelation Test

Autocorrelation problem will occur when error term at the period t is correlated with the error term at period before t . Autocorrelation is most likely to happen in the time series data due to the importance of the sequence of the time period. To test the existence of autocorrelation or serial correlation in fixed effect model Deribn Watson (DW) test was used and if DW value is close to two it indicates there is no autocorrelation else there is an autocorrelation.

3.9.5 Hausman Test

The Hausman test is a statistical test used to determine whether a random effects model or a fixed effects model is more appropriate for a particular panel data regression analysis. If the p-value of the Hausman test is small (typically less than 0.05), reject the null hypothesis, suggesting that the fixed effects model is more appropriate. If the p-value

is large (typically greater than 0.05), you fail to reject the null hypothesis, suggesting that the random effects model is appropriate

3.10 Ethical Issues in Research

This study was conducted in strict adherence to the ethical standards and research policies of Turkana University College, a constituent college of Masinde Muliro University of Science and Technology (MMUST), and in compliance with the guidelines of the National Commission for Science, Technology and Innovation (NACOSTI).

Prior to data collection, the researcher obtained a research license and authorization letter from NACOSTI, as well as formal approval from Turkana University College to access relevant institutional and secondary data sources. The permit and a letter of transmittal were appended to the research instruments to confirm the legitimacy and official authorization of the study.

Given that the study employed content analysis of existing institutional documents, reports, and financial statements rather than direct human participation, no personal identifiers or sensitive respondent information were collected. Nevertheless, the researcher maintained a high standard of confidentiality, data integrity, and responsible handling of institutional information. All secondary data were sourced ethically from publicly available records or with appropriate authorization from relevant institutions.

To ensure academic honesty and transparency, all data sources were duly acknowledged through proper citation and referencing. The researcher also ensured that findings were presented objectively, without distortion or bias, and that institutional data were not disclosed in a manner that could compromise confidentiality or organizational integrity.

Overall, the study complied with the ethical principles of academic integrity, confidentiality, transparency, and respect for institutional data, as stipulated in the Turkana University College and MMUST research ethics guidelines, and consistent with NACOSTI's national research standards.

CHAPTER FOUR: RESEARCH FINDINGS, ANALYSIS AND PRESENTATION

4.1 Introduction

This section presents the study findings according to the research objectives. The objectives sought to determine bank size, capital adequacy and operational efficiency influenced the financial performance of listed commercial banks in Nairobi Security Exchange. Financial performance was measured using Return on Asset.

The findings were derived from the descriptive and inferential statistics that were carried out with the aid of STATA Version 14. These findings formed the basis for further discussion, conclusion, and recommendations. The sub-sections in this chapter include a discussion on the response rate, descriptive statistics regarding the relationship between internal factors on the financial performance of listed commercial banks at the Nairobi Security Exchange, and inferential statistics explaining the causal relationship between the study variables.

4.2 Descriptive Statistics

This section presents the descriptive analysis of internal factors influencing the financial performance of commercial banks listed on the Nairobi Securities Exchange (NSE). The purpose of the analysis is to provide an overview of the general characteristics and distribution patterns of the selected variables namely: bank size, capital adequacy, and operational efficiency in relation to financial performance measured by Return on Assets (ROA). Key descriptive measures including the mean, standard deviation, minimum, maximum, skewness, and kurtosis were computed to assess the central tendency,

dispersion, and distributional properties of the data. These statistics provide preliminary insights into the variability and general trends of the study variables before proceeding to inferential analysis. The results are presented in Tables 4.1 to 4.3

4.2.1 Bank Size on Financial Performance of Listed Commercial Banks at the NSE

Bank size is a critical internal determinant of financial performance because larger banks typically enjoy economies of scale, greater market power, and diversified portfolios, which can enhance profitability. Conversely, smaller banks may face higher operational costs relative to revenues, limiting their ability to compete effectively. The researcher sought to determine whether size disparities among listed banks could explain variations in financial outcomes. The results are summarized in Table 4.1

Table 4.1 Bank Size and Financial Performance of Listed Commercial Banks at the NSE

Variable	Observations	Mean	Std. Dev.	Min	Max
Firm performance	55	0.0232	0.0658	-0.0092	0.1268
Firm Size	55	5.5459	0.3537	4.7256	6.1915

The results in Table 4.2.1 indicate that the average financial performance (ROA) of listed commercial banks was 0.0232, with a standard deviation of 0.0658, reflecting moderate variation in profitability. The minimum recorded ROA was -0.0092, while the maximum was 0.1268.

The mean bank size was 5.5459, with a relatively low standard deviation of 0.3537, indicating that most banks operate within a comparable asset range. The smallest bank

had a size of 4.7256, while the largest recorded 6.1915. The modest variation implies that listed banks are relatively homogenous in asset base, though larger institutions may still enjoy advantages in efficiency, risk diversification, and competitiveness. These observations support the study's first objective of examining how differences in bank size may contribute to variations in financial performance among NSE-listed commercial banks.

4.2.2 Capital Adequacy on Financial Performance of listed commercial banks at the NSE

Capital adequacy represents the financial strength and stability of a bank, reflecting its ability to absorb potential losses and safeguard depositors' funds. Data on capital adequacy were collected to assess whether banks with stronger capital bases demonstrate superior financial performance compared to those with lower capitalization. The results are shown in Table 4.2

Table 4.2 Capital Adequacy and Financial Performance of Listed Commercial Banks at the Nairobi Securities Exchange

Variable	Observations	Mean	Std. Dev.	Min	Max
Firm performance	55	0.0232	0.0658	-0.0092	0.1268
Capital Adequacy	55	0.1713	0.1302	0.0602	0.8288

The results in Table 4.2. show that the mean capital adequacy ratio for listed commercial banks was 0.1713, with a standard deviation of 0.1302. The minimum ratio recorded was 0.0602, while the maximum reached 0.8288. This wide range implies that while some

banks maintain strong capital buffers, others operate close to the minimum regulatory threshold, exposing them to higher financial risk.

The mean financial performance (ROA) remained 0.0232, with moderate variation across institutions. The observed disparities in capital adequacy suggest that different banks adopt diverse capital management and risk mitigation strategies, which may in turn influence their financial outcomes. High capital adequacy is typically associated with enhanced stability and investor confidence; though excessively high levels could limit profitability by constraining lending capacity

4.2.3 Operational Efficiency and Financial Performance of Listed Commercial Banks at the NSE

Operational efficiency reflects how effectively a bank utilizes its resources to generate income while minimizing costs. Efficient operations indicate sound management practices, optimal resource allocation, and effective cost control mechanisms all of which contribute to profitability. Data on operational efficiency were collected to determine whether banks that manage their operating costs better and maximize output exhibit superior financial performance and the results were summarized in Table 4.3

Table 4.3 Operational Efficiency and Financial Performance of Listed Commercial Banks at the Nairobi Securities Exchange

Variable	Observations	Mean	Std. Dev.	Min	Max
Firm performance	55	0.0232	0.0658	-0.0092	0.1268
Operational efficiency	55	0.5466	0.5312	-2.7297	1.9007

The descriptive statistics in Table 4.3 show that the mean operational efficiency for the sampled commercial banks was 0.5466, with a standard deviation of 0.5312. The efficiency values ranged from -2.7297 to 1.9007, signifying notable disparities in cost management and resource utilization among the banks. Negative efficiency values indicate instances of operational inefficiency possibly arising from high operating costs or low income levels while positive values reflect stronger cost control and performance efficiency.

The high variability observed suggests that while some banks have optimized their operational structures, others continue to struggle with managing operational expenses effectively. Consequently, operational efficiency emerges as a critical determinant of financial performance, influencing a bank's capacity to maintain profitability and competitiveness in the market.

Overall, these findings alongside those for bank size and capital adequacy—suggest that internal factors vary considerably among listed commercial banks in Kenya. This variation likely affects their financial outcomes differently, underscoring the need for further regression analysis to determine the magnitude and direction of each internal factor's impact on financial performance

4.3 Inferential Statistics

This section presents the inferential analysis used to examine the relationship between the study variables. Specifically, correlation and regression analyses were conducted to test the hypothesized relationships between internal factors bank size, capital adequacy, and operational efficiency and the financial performance of listed commercial banks at the

Nairobi Securities Exchange (NSE). The inferential analysis builds on the descriptive statistics presented earlier and aligns with the study’s specific objectives.

4.3.1 Correlation Analysis

The study employed Pearson’s correlation coefficient to assess the strength and direction of association between the independent variables (bank size, capital adequacy, and operational efficiency) and the dependent variable (financial performance measured by Return on Assets ROA). Correlation analysis also helped to identify potential multicollinearity among the independent variables as illustrated in Table 4.4.

Table 4.4: Correlation Coefficients between Internal Factors and Financial Performance of Listed Commercial Banks at the NSE

	ROA	Firm Size	Capital adequacy	Operational efficiency
ROA	1.0000			
Firm size	0.5899*	1.0000		
Capital Adequacy	-0.6324*	-0.3902*	1.0000	
Operational efficiency	0.3171*	0.0138	-0.7413*	1.0000

Table 4.4 illustrates the correlation coefficients among the study variables. The results show that firm size ($r = 0.5899$) has a moderate and positive relationship with financial performance, implying that larger banks tend to achieve better profitability, possibly due to economies of scale and broader market coverage.

Capital adequacy ($r = -0.6324$) shows a strong negative relationship with ROA, suggesting that higher capital buffers are associated with lower profitability. This could imply that overcapitalized banks may be holding excess idle capital that does not generate proportional returns

Operational efficiency ($r = 0.3171$) exhibits a moderate positive relationship with ROA, indicating that efficient management of operating costs enhances profitability.

4.3.2 Regression Analysis

Regression analysis was conducted to determine the causal effect of internal factors (bank size, capital adequacy, and operational efficiency) on the financial performance of listed commercial banks at the NSE. Panel data covering five years (2018–2022) were used, allowing for both cross-sectional and time-series dimensions to be captured. The regression model applied was the Fixed Effects Model (FEM), appropriate for controlling unobserved firm-level heterogeneity. The results are summarized in Table 4.5

Table 4.5: Regression Results for the Effect of Internal Factors on Financial Performance of Listed Commercial Banks at the NSE

Variable	Coefficient	Std. Error	t-Statistic	p-Value	[95% Confidence Interval]
Firm Size	0.0102	0.0083	1.24	0.223	-0.0065 – 0.0270
Capital Adequacy	4.1056	0.3790	10.83	0.000***	3.3401 – 4.8711
Operational Efficiency	0.0912	0.0951	0.96	0.343	-0.1008 – 0.2832
Constant	-0.0311	0.0471	-0.66	0.513	-0.1262 – 0.0640

R² (within) = 0.8717 R² (overall) = 0.8684 F(3,41) = 92.86, p = 0.0000

The results indicate that firm size has a positive but statistically insignificant effect on financial performance ($p = 0.223$), suggesting that variations in bank size alone do not significantly explain differences in profitability. Capital adequacy, on the other hand, has a strong and statistically significant positive effect ($\beta = 4.1056$, $p = 0.000$), implying that well-capitalized banks tend to perform better financially, possibly due to increased investor confidence and lending capacity.

Operational efficiency shows a positive but insignificant effect ($p = 0.343$), indicating that although efficiency enhances performance, its effect is not strong enough to be statistically significant in this model.

The ANOVA results ($F(3,41) = 92.86$, $p = 0.0000$) confirm that the overall model is statistically significant, meaning that at least one independent variable meaningfully

explains variations in financial performance. Furthermore, the fixed-effects test ($F(10,41) = 6.24, p = 0.0000$) indicates significant unobserved heterogeneity across banks, justifying the use of the fixed-effects model.

Estimated Regression Model:

$$Y_{it} = -0.0311 + 0.0102(\text{Firm Size}_{it}) + 4.1056(\text{Capital Adequacy}_{it}) + 0.0912(\text{Operational Efficiency}_{it}) + \varepsilon_{it}$$

Where:

Y_{it} = Financial Performance (ROA) of bank i at time t

Firm Size $_{it}$, Capital Adequacy $_{it}$, (Operational Efficiency $_{it}$) = Internal factors for bank i at time t

ε_{it} = Error term

These results imply that while firm size and operational efficiency positively contribute to profitability, capital adequacy exerts the strongest and most significant influence on financial performance among listed commercial banks in Kenya.

4.4 Trend Analysis for internal factors and financial performance of commercial banks listed at the NSE

Trend analysis was conducted to explore how internal factors and financial performance evolved over the study period (2018–2022). Using panel data allowed the study to capture both temporal patterns and institution-specific variations among listed commercial banks.

4.4.1 Trend in Financial Performance

Understanding the trend in financial performance among listed commercial banks is essential in evaluating their stability, resilience, and adaptability over time. This approach enabled the researcher to capture temporal changes and assess how internal factors interact with external shocks to influence performance. The analysis provides deeper insight into how managerial strategies, capital structures, and operational policies have evolved in response to market and regulatory dynamics between 2018 and 2022 as shown in Figure 4.1

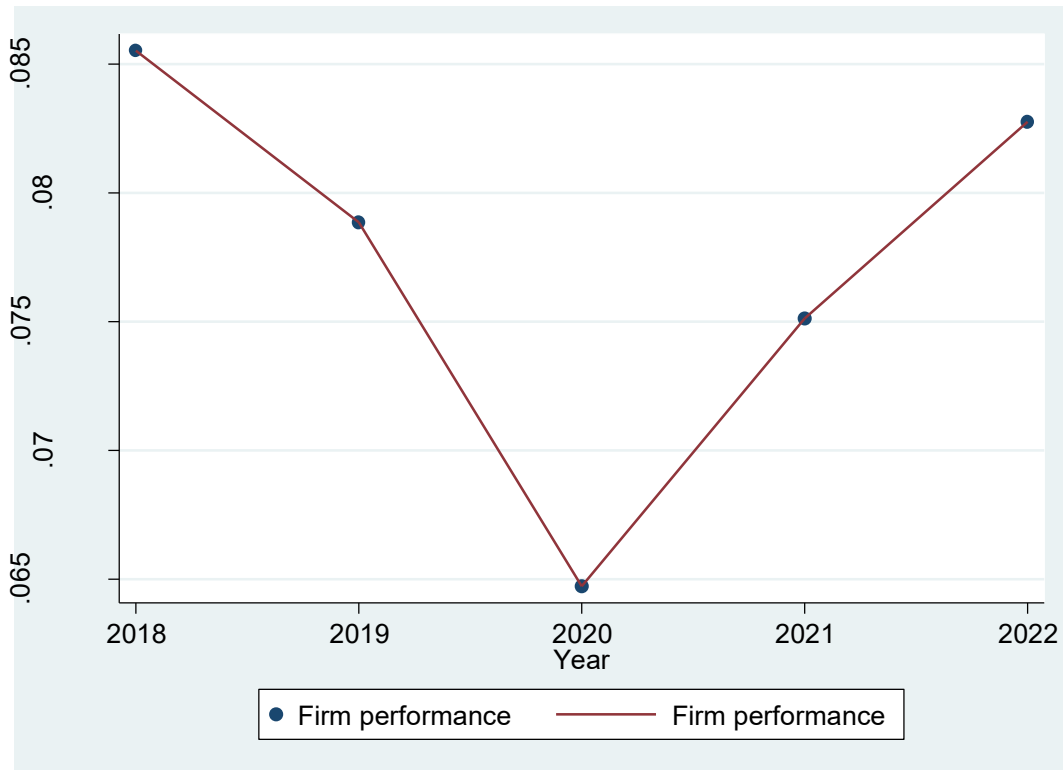


Figure 4.1: Trend of Financial Performance (ROA) among Listed Commercial Banks (2018–2022)

The trend reveals a U-shaped pattern, where financial performance declined from 2018 to 2020 before recovering between 2021 and 2022. The sharp drop in 2020 corresponds with the COVID-19 pandemic's economic disruptions, which negatively affected bank profitability. The recovery period indicates resilience and adaptation through improved financial strategies and digital transformations.

4.4.2 Trend in Firm Size

Analyzing the trend in firm size is important for understanding the growth dynamics and structural changes of listed commercial banks over time. Firm size, often measured by the logarithm of total assets, reflects a bank's capacity to leverage economies of scale, diversify risk, and strengthen market presence. The researcher examined the trend over the 2018–2022 period to provide insight into how banks expanded or contracted in response to economic conditions, policy shifts, and strategic growth initiatives. This analysis is illustrated in Figure 4.2

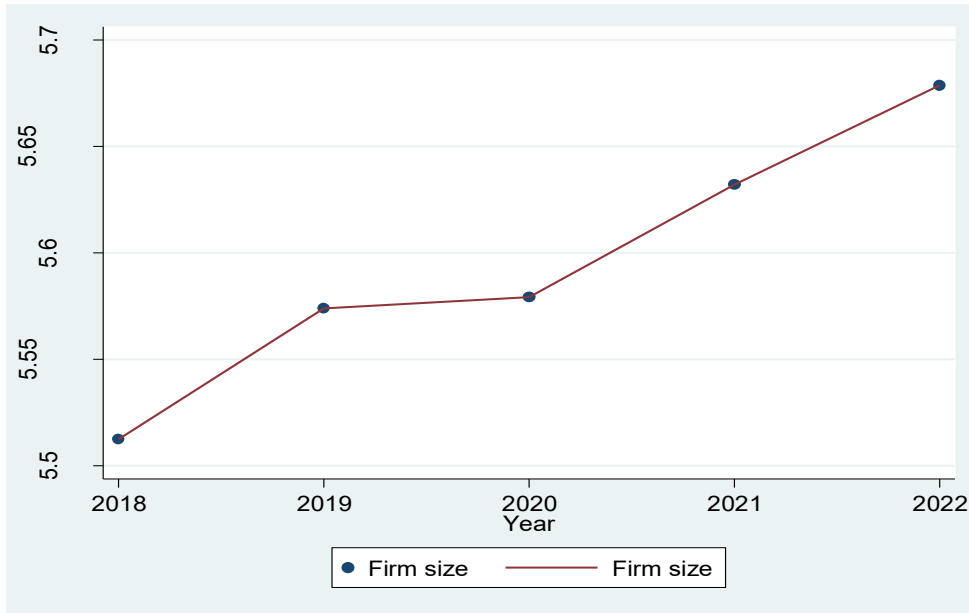


Figure 4.2: Trend of Firm Size among Listed Commercial Banks (2018–2022)

The trend analysis presented in the figure 4.2 illustrates the changes in firm size over the period from 2018 to 2022. The firm size exhibits a consistent upward trend, indicating steady growth over the years.

In 2018, firm size starts at its lowest level, around 5.5. From 2018 to 2019, there is a noticeable increase, followed by a slight upward movement between 2019 and 2020. This suggests that firms experienced moderate expansion during this period. However, the growth rate appears to accelerate from 2020 onwards, with firm size increasing more significantly between 2020 and 2021, and further rising to its highest level in 2022, reaching approximately 5.7.

The continuous growth in firm size may be attributed to factors such as business expansion, asset accumulation, mergers, acquisitions, or improved financial stability among the listed firms. The slight stagnation observed around 2020 could be linked to

economic uncertainties or external shocks that temporarily slowed firm growth. However, the subsequent rapid increase from 2021 to 2022 suggests that firms adapted and resumed their growth trajectory.

Overall, the trend analysis indicates that listed commercial banks at the Nairobi Securities Exchange experienced consistent growth in size over the years. This expansion may have positive implications for financial performance, as larger firms often benefit from economies of scale, enhanced market power, and increased operational efficiency.

4.4.3 Trend in Capital Adequacy

Capital adequacy is a key indicator of a bank's financial strength and its capacity to absorb losses arising from credit, market, or operational risks. Analyzing its trend provides insights into how listed commercial banks at the Nairobi Securities Exchange (NSE) have managed their capital buffers in response to regulatory requirements, economic conditions, and strategic capital management decisions. This analysis aligns with the study's objective of examining the effect of capital adequacy on financial performance as illustrated in Figure 4.3.

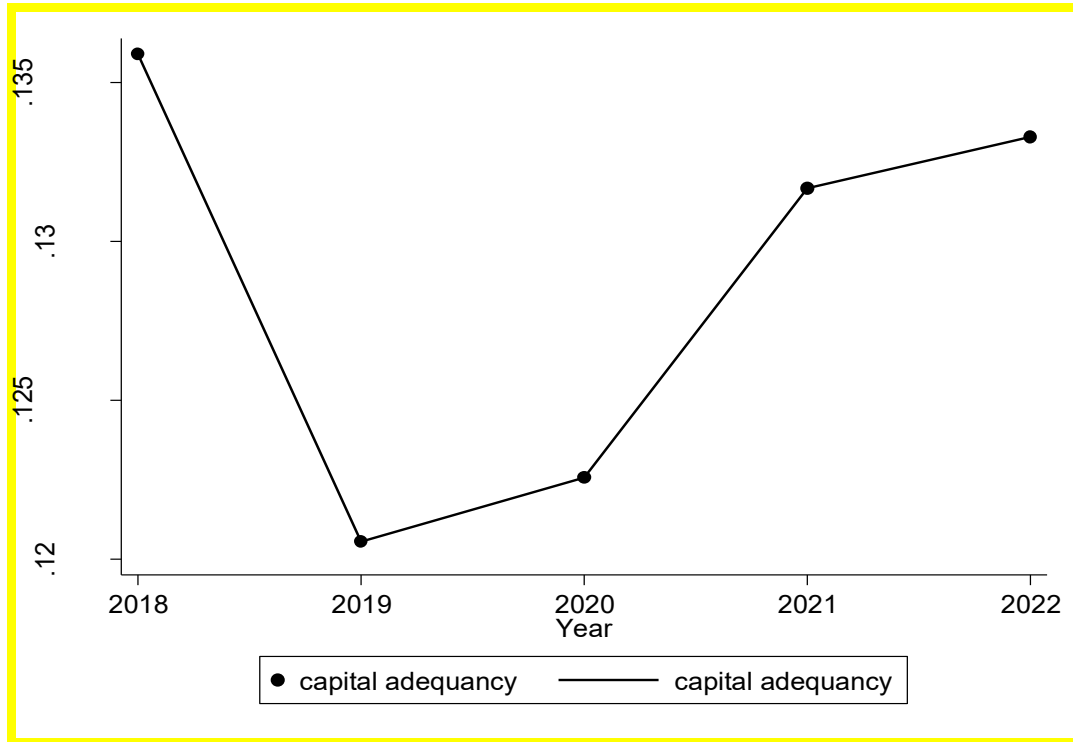


Figure 4.3: Trend of Capital Adequacy among Listed Commercial Banks (2018–2022)

The trend analysis presented in the Figure 4.3 illustrates the changes in capital adequacy from 2018 to 2022. The trend shows significant fluctuations over the period, indicating variations in the financial strength of the firms.

In 2018, capital adequacy starts at its highest level, approximately 1.35. However, there is a sharp decline in 2019, where capital adequacy reaches its lowest point, around 1.2. This significant drop may suggest that firms faced financial pressures, such as increased risk exposure, lower retained earnings, or regulatory challenges that led to reduced capital reserves.

Between 2019 and 2020, capital adequacy remains relatively low, with only a slight increase, indicating a period of slow recovery. However, a sharp rebound is observed from 2020 to 2021, where capital adequacy increases significantly, reaching

approximately 1.33. This suggests that firms may have taken strategic measures to improve their capital reserves, such as raising additional equity, improving retained earnings, or adjusting their risk management strategies.

From 2021 to 2022, capital adequacy continues to rise, albeit at a slower rate, stabilizing at a level slightly below its 2018 peak. This steady increase indicates improved financial stability among firms, potentially driven by favorable economic conditions, regulatory adjustments, or enhanced profitability.

Overall, the trend suggests that while capital adequacy experienced a sharp decline in the early years, firms demonstrated resilience and recovery, eventually restoring their capital strength. Maintaining adequate capital is crucial for financial institutions, as it enhances their ability to absorb risks, meet regulatory requirements, and support sustainable growth.

4.4.4: Trend in Operational Efficiency

Operational efficiency reflects how effectively a bank utilizes its resources to generate income while minimizing operational costs. Analyzing its trend provides valuable insights into the productivity, cost management, and overall managerial effectiveness of listed commercial banks at the Nairobi Securities Exchange (NSE). This assessment directly relates to the study's objective of determining the effect of operational efficiency on financial performance as illustrated in Figure 4.4

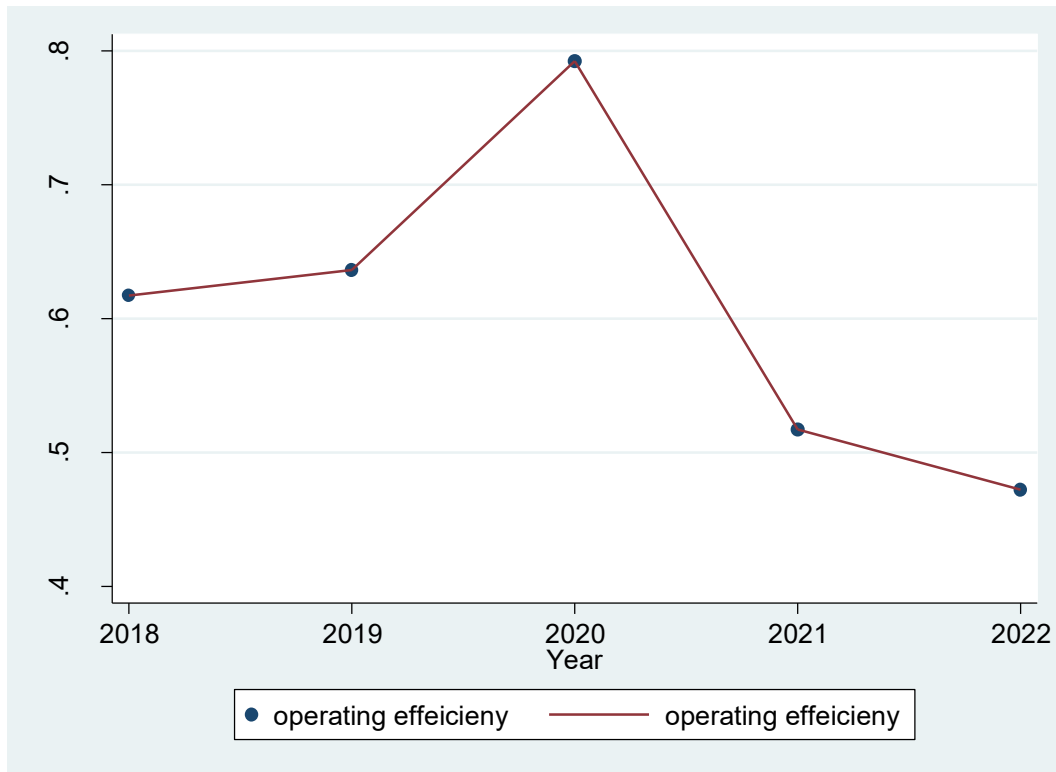


Figure 4.4: Trend of Operational Efficiency among Listed Commercial Banks (2018–2022)

The trend analysis in the Figure 4.4 illustrates the changes in operating efficiency from 2018 to 2022. The trend shows an initial increase in efficiency followed by a sharp decline, indicating variability in firms' operational performance over the years.

Between 2018 and 2019, operating efficiency experiences a slight increase, suggesting marginal improvements in cost management and resource utilization. However, from 2019 to 2020, there is a significant spike, reaching its peak at around 8. This sharp rise may indicate that firms enhanced their operational processes, reduced costs, or achieved higher productivity during this period.

The trend then takes a dramatic turn between 2020 and 2021, with operating efficiency declining sharply. This drop could be attributed to various factors, such as increased operational costs, declining revenues, economic disruptions (potentially linked to the COVID-19 pandemic), or inefficiencies in resource allocation. The downward trend continues into 2022, with efficiency reaching its lowest level over the period.

Overall, the trend suggests that while firms initially experienced improvements in operating efficiency, these gains were not sustained. The sharp decline after 2020 indicates potential challenges that affected firms' ability to maintain cost-effective operations. Addressing these inefficiencies through strategic cost management, process optimization, and investment in technology could be crucial for enhancing long-term operational performance.

4.5 Diagnostic Tests

Before conducting regression analysis, several diagnostic tests were performed to ensure the validity and reliability of the panel data model. These included tests for multicollinearity, normality, heteroscedasticity, autocorrelation, and the Hausman specification test. The results of these tests are presented and interpreted in this section.

4.5.1 Multicollinearity Test

Multicollinearity occurs when independent variables are highly correlated, which can distort the estimates of coefficients and make it difficult to determine the individual effect of each variable. According to Kothari (2017), when multicollinearity is present, the coefficients of the predictor variables can become unstable and exhibit large standard

errors, leading to unreliable statistical inferences. In this study, multicollinearity was tested using the Variance Inflation Factor (VIF).

Table 4.6 Multicollinearity Test Results

Variable	VIF	1/VIF
Firm size	2.39	0.419212
Capital adequacy	1.94	0.515424
Operational Efficiency	1.63	0.614765
Mean VIF	1.98	

Table 4.6 indicates that all the VIF values of variables are < 5 ; this indicates that multicollinearity poses no major concern. The firm size has the highest VIF of 2.39, below 5. On the other hand, a mean VIF, which is < 2 , indicates that, on average, a minimal collinearity exists. In this case, the mean VIF is 1.98, which is below 2; therefore, this enhances the low multicollinearity of the study variables. In conclusion, the Mean VIF and the VIF values are within the acceptance range. Thus, multicollinearity is not a concern for the study variables in the regression model.

4.5.2 Normality Test

The Shapiro-Wilk test was conducted to examine whether the residuals were normally distributed, a key assumption of regression analysis. The results are summarized in Table 4.7

Table 4.7 Normality Test Results

Variable	Observations	W	V	Z	Prob>z
Residual	55	0.96511	1.770	1.224	0.11048

When using the Shapiro-Wilk test to check for normality, if the p-values are greater than 0.05 at a 95% confidence level, it is concluded that both variables have a normal distribution and could fit into the linear model. Therefore, as indicated in Table 4.5, the study revealed a p-value of 0.11048, greater than 0.05, and thus concluded that the data was normally distributed.

4.5.3 Heteroscedasticity

Heteroscedasticity refers to regression disturbances with inconsistent variables across different observations. The null hypothesis is that error terms are equal variances and homoscedastic, while the alternative hypothesis is that the error terms have unequal variances. The study used Cameron & Trivedi's decomposition of IM-test to test the presence of Heteroscedasticity in the data set. The results are shown in Table 4.8.

Table 4.8 Cameron & Trivedi's decomposition of IM-test

Source	chi2	Df	P
Heteroscedasticity	19.02	9	0.0527
Skewness	9.05	3	0.0229
Kurtosis	0.33	1	0.3795
Total	28.40	13	0.0080

4.5.4 Test for Autocorrelation,

The autocorrelation test is used to detect a correlation between residuals over time. In panel data, which involves repeated observations of the same entities over time, autocorrelation implies that the error terms or residuals in the regression model are correlated across periods (Kothari,2017). The study used the Durbin-Watson test for autocorrelation.

Table 4.9 Autocorrelation test results

Durbin-Watson d-statistic (1, 9) =
H₀: no first order autocorrelation

Prob> F = 0.2610

The results in Table 4.7 showed that Prob> chi2 = 0.2610. Since the p-value was greater than 0.05, the null hypothesis was not rejected, and the conclusion was made that there was no presence of heteroscedasticity in the data, satisfying the assumption of the regression.

4.5.5 Hausman Test

The Hausman test was conducted to determine the appropriate panel data model fixed effects or random effects.

Table 4.10 Hausman Test Result

Variable	(b) Fixed	(B) Random	(b-B) Difference	sqrt(diag(V_b-V_B)) Std. Error
Firm size	0.0102374	0.0102374	0	0
Capital Adequacy	4.105599	4.105599	0	0
Operational efficiency	0.0911722	0.0911722	0	0

b = consistent under Ho and Ha; obtained from xtreg

B = inconsistent under Ha, efficient under Ho; obtained from xtreg

Test: Ho: difference in coefficients not systematic

$\chi^2(0) = (b-B)'[(V_b-V_B)^{-1}](b-B) = 0.00$

Prob>chi2 = (V_b-V_B is not positive definite)

From the output in Table 4.8, the chi-square value was 0.00 with a probability figure 0.000. The null hypothesis was rejected since the P value was less than the critical value of 0.05 ($p = 0.0000 < 0.05$). The fixed effects model was, therefore, appropriate for this study.

4.6 Testing of hypotheses

The hypotheses were tested based on the regression analysis results presented earlier. Significance was evaluated at the 5% level ($\alpha = 0.05$).

Table 10.11: Summary of Hypothesis Testing Results on the Effect of Firm Characteristics on Financial Performance of Listed Commercial Banks at the NSE

Hypothesis	Statement	p-value	Decision	Interpretation
H₀₁	There is no significant effect of firm size on financial performance of listed commercial banks at the NSE.	0.223	Fail to reject H ₀₁	Firm size has a positive but insignificant effect on financial performance.
H₀₂	There is no significant effect of capital adequacy on financial performance of listed commercial banks at the NSE.	0.000	Reject H ₀₂	Capital adequacy has a positive and significant effect on financial performance.
H₀₃	There is no significant effect of operational efficiency on financial performance of listed commercial banks at the NSE.	0.343	Fail to reject H ₀₃	Operational efficiency has a positive but insignificant effect on financial performance.

4.7 Discussion of findings

The study sought to determine the effect of internal factors on the financial performance of listed commercial banks at the Nairobi Security Exchange, Kenya. There were 11 commercial banks listed at the Nairobi Security Exchange. The data utilized in this study was obtained from commercial bank statements and annual reports published in NSE between 2018 and 2022. Return On Asset was a key indicator used to measure

financial performance, while internal factors such as firm size, capital adequacy, operation efficiency were found to be very important control factors in the study.

The findings in relation to the correlation between firm size and ROA suggest that there were positive and moderate relationship where the coefficient was found to be 0.5899. the implication of this is that as the bank increases in size, the ROA also tend to improve. The significance of the correlation affirms that large firms perform better in regards to ROA. This can be associated with the economic theory that assert that big firms in most cases they enjoy economies of scale, have efficient operations, easy access to capital and thus resulting to increased profitability. The findings supported the conclusion which was drawn by Magoma et al. (2022), which revealed a positive relationship between the banks size and the financial performance of banks listed on the Dar es Salaam Stock Exchange. However, the study used an exploratory research design, while the current study adopted a descriptive research design. Contrary to these findings, Ojeyinka and Akinlo (2021) found that bigger banks needed an added cost advantage over the other small banks

The study findings on the relationship between capital adequacy and ROA, indicated a negative and moderate correlation of -0.6324. This suggested that when capital adequacy increases, Return on Asset decreases. This concur with the theory that indicate that firms which have high capital adequacy tend to adopt to conservative strategies. The banks will have a focus of maintaining a strong capital adequacy for the purpose of having financial stability at the cost of higher returns. The banks might be prioritizing on mitigating risks over a more aggressive revenue generation, and this could clearly explain why there is a negative relationship between capital adequacy and return on asset. The study findings of Musyoka (2017) supported this by indicating that there was a negative significant

relationship between capital adequacy and commercial banks financial performance. The bank's higher capital reserves seek aggressive profit maximization strategies which is seen as a tradeoff between banks stability and profit generation. Further, the study findings also agreed with the findings of Kachumbo (2020), who indicated a negative and significant relationship between capital adequacy and commercial bank financial performance. In general, capital adequacy may help a firm in ensuring financial stability, it also limits the firm ability to generate higher returns.

Further the findings indicated that operational efficiency indicated positive but weak correlation with return on asset (0.3171). this correlation can be explained by banks being operationally efficiently in order to have a higher return on asset while the effect is not specifically strong. In another perspective, it can be explained that operational efficiency tends to contribute to asset utilization thus leading to some more profitable operations. However, operational efficiency is not the only sole factor that can influence increase in profitability. The findings of Khan (2022) and Ngumo, Collins, and David (2020) contradicted these findings where their studies revealed a positive and significant relationship between return on asset and operational efficiency. However, the findings were contrary to the findings of Msomi and Olarewaju (2022), who sought to assess the influence of operational efficiency on commercial banks in South Africa. According to the findings of the study, a negative correlation existed between operational efficiency and profitability of commercial banks. In this findings, it can be concluded that banks with a high operational efficiency yielded more return on asset.

CHAPTER FIVE: SUMMARY OF THE FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

The chapter summarizes the research findings and conclusion for the variables under study. The researcher also provides recommendations on the effect of internal factors on the financial performance of listed commercial banks at the Nairobi Security Exchange, Kenya. To advance the research study area, the study will suggest areas requiring further study.

5.2 Summary of the Findings

The purpose of the study was to ascertain the effect of internal factors on the financial performance of listed commercial banks at the Nairobi Security Exchange, Kenya. This study was grounded on three objectives: determining the effect of bank size on the financial performance of listed commercial banks at the Nairobi Security Exchange, Kenya, examining the effect of capital adequacy on the financial performance of listed commercial banks at the Nairobi Security Exchange, Kenya, and determining on the effect of operational efficiency on the financial performance of listed commercial banks at the Nairobi security exchange, Kenya. The main focus of this study was commercial banks listed at the NSE in Kenya.

This research employed a descriptive design with a target population of eleven commercial banks listed in NSE. Due to the small number of banks, the census was convenient. Annual individual income and financial statements were used to retrieve secondary data. This was further analyzed using inferential and descriptive statistics with

the aid of STATA version 21.00. Data presentation is in the form of tables, graphs, and figures.

The targeted population was 11 commercial banks listed in NSE; however, data was obtained from 10 commercial banks listed, and this translated to a response rate of 90.90%. This was a representative of all listed commercial banks in NSE, Kenya.

5.2.1 Bank size and financial performance of Listed commercial banks at the NSE

The first objective sought to examine the effect of bank size on the financial performance of listed commercial banks at the Nairobi Security Exchange, Kenya. The analyzed data on firm size indicated that the majority of the banks are moderate in size, and their variability is moderate across all selected banks for this study. The findings also illustrate a moderate and positive significant relationship between the firm size (0.5899) and return on assets. It clearly shows that large banks listed at the Nairobi Security Exchange tend to have a high ROA; however, there is no perfect correlation. Further, the findings reveal a moderate negative correlation between capital adequacy and firm size. Therefore, large banks have a small capital adequacy ratio. The study found out that average banks size which was listed at the NSE is 5.55 with a standard deviation of 0.35, suggesting variability in bank size. It was also revealed that banks size range spans between 4.73 for the smallest bank to 6.19 for the largest. This indicates a moderate variation in bank size.

5.2.2 Capital adequacy and financial performance of Listed commercial banks at the NSE

The second objective sought to examine the effect of capital adequacy on the financial performance of listed commercial banks at the Nairobi security exchange, Kenya. Capital

adequacy is a measure of how a bank's capital can be used to cover the bank's risks. Therefore, the findings illustrate moderate and average capital adequacy (-0.6324) with a moderate and average variability of capital adequacy across the banks. The study on capital adequacy further indicated a strong and negative relationship between capital adequacy and Return on Assets. This, therefore, suggests that a bank with a high capital adequacy will tend to have a low ROA. Further findings demonstrated that there was considerable variation. The capital ratio was found to be 0.1713 with a standard deviation of 0.1302. This highlighted disparity across the banks listed in NSE. The capital adequacy range spans from 0.00602 to 0.8288 and this reflected the differences in risk tolerance and financial health. This means that highly capitalized bank are less effective in generating revenue.

5.2.3 Operational efficiency and financial performance of Listed commercial banks at the NSE

The third objective sought to examine the effect of operational efficiency on the financial performance of listed commercial banks at the Nairobi Security Exchange, Kenya. Operational efficiency is determined when the values are high, indicating better efficiency. The study demonstrated good operational efficiency from the findings, with excellent variability cutting across all the banks. Operation efficiency (0.5466) indicated that most the banks managed their operations effectively and efficiently. Despite this, there was considerable variation with a large standard deviation of (0.5312). this showed that banks most commercial banks were efficient than other banks. Operational efficiency ranged between -2.7297 to 1.9007 meaning there is significant disparities across the banks. The results also revealed that their existed a moderate positive correlation of

(0.3171) between operational efficiency and ROA. indicating that more banks see to enjoy higher ROA.

5.3 Conclusions

This section presents the conclusions drawn from the study findings, based on the objectives that guided the research. The study sought to examine the effect of firm size, capital adequacy, and operational efficiency on the financial performance of commercial banks listed at the Nairobi Securities Exchange (NSE). The conclusions are derived from empirical analyses and statistical evidence obtained from the data collected, and they provide insights into how these institutional factors influence the banks' return on assets (ROA). Each conclusion is discussed in line with the respective study objective to enhance clarity and practical understanding.

5.3.1 Bank Size and Financial Performance of Commercial Banks Listed at the NSE

The study established that bank size had a positive but statistically insignificant effect on the financial performance of commercial banks listed at the NSE. This suggests that although larger banks may benefit from economies of scale and greater asset bases, the effect on profitability is not automatically guaranteed.

These findings are consistent with those of Tharu and Shrestha (2019) and Ojeyinka and Akinlo (2021), who found that bank size had no significant effect on financial performance and efficiency in Nepal and Nigeria, respectively. However, they contrast with Parvin et al. (2019), Magoma et al. (2022), and Mule, Mukras, and Nzioka (2015), who reported a positive and significant relationship between bank size and profitability in Bangladesh, Tanzania, and Kenya.

From a theoretical standpoint, the Efficiency Theory (Demsetz, 1973; Athanasoglou et al., 2005) suggests that larger institutions with efficient management structures and better technology can reduce operating costs and enhance performance. However, the current findings imply that large size alone does not guarantee efficiency unless accompanied by effective managerial practices and strategic asset utilization. Thus, bank management should focus on optimizing the use of resources rather than merely increasing the size of assets.

5.3.2 Capital adequacy and financial performance of commercial banks listed at the NSE

The results indicated a strong negative and statistically significant effect of capital adequacy on return on assets (ROA). This finding implies that higher levels of capital adequacy tend to reduce the profitability of listed commercial banks in Kenya. The outcome suggests that excessive capital holdings may restrict lending activities and revenue generation, thereby limiting returns to shareholders.

This conclusion is consistent with studies by Musyoka (2017) and Kachumbo (2020), which reported a negative significant relationship between capital adequacy and financial performance of Kenyan banks and FinTech commercial institutions. However, it contrasts with findings by Swandewi and Purnawati (2021) and Yisa (2021), who observed a positive and significant association in Indonesia and Nigeria, respectively.

The observed negative relationship aligns with the Signaling Theory (Spence, 1973), which posits that financial institutions with strong performance signal their competitiveness through capital adjustments. However, when capital levels are

excessively high, they may signal risk aversion and underutilization of available capital, reducing profitability. Therefore, the study concludes that listed commercial banks should maintain optimal, not excessive, capital adequacy ratios to enhance profitability while meeting regulatory requirements. Maintaining very high capital levels may reduce the banks' ability to leverage lending opportunities and improve financial performance.

5.3.3 Operational efficiency and financial performance of commercial banks listed at the NSE

The findings revealed a moderate and significant positive relationship between operational efficiency and return on assets. This implies that improvements in operational efficiency through cost control, effective resource utilization, and adoption of modern banking technologies translate into enhanced profitability among listed commercial banks.

This outcome corroborates the findings of Alemayehu and Belete (2019) in Ethiopia and Ngumo et al. (2020) in Kenya, who established that operational efficiency significantly enhances banks' financial performance. However, it contrasts with Msomi and Olarewaju (2022), who found a negative association in South Africa.

These findings strongly support the Efficiency Theory, which asserts that banks that operate efficiently by minimizing costs and optimizing management processes achieve superior financial performance (Demsetz, 1973; Onuonga, 2014). Operational efficiency enhances profitability by improving productivity and reducing non-performing expenditures. Thus, the study concludes that listed commercial banks in Kenya must

continue to enhance operational efficiency by embracing innovation, automation, and effective cost management to strengthen their competitive edge and profitability

5.4 Recommendations

Based on the findings and conclusions of this study, several recommendations are made to enhance the financial performance of commercial banks listed at the Nairobi Securities Exchange (NSE). The recommendations are presented according to the key variables examined: firm size, capital adequacy, and operational efficiency.

5.4.1 Bank Size and Financial Performance of Commercial Banks Listed at the NSE

The study established that bank size has a positive and significant effect on the financial performance of listed commercial banks. This implies that institutions with a larger asset base tend to realize higher returns on assets due to economies of scale, stronger risk diversification, and enhanced credit management capacity. Accordingly, the study recommends that:

- Listed commercial banks should strategically expand their asset base through prudent reinvestment, mergers, and diversification to benefit from economies of scale and improved operational leverage.
- Smaller banks should adopt growth-oriented strategies, including asset accumulation and resource optimization, to strengthen their competitiveness and profitability.
- Policymakers and regulators should create an enabling environment that supports sustainable bank expansion without compromising financial stability or regulatory compliance.

5.4.2 Capital Adequacy and Financial Performance of Commercial Banks Listed at the NSE

The findings revealed that capital adequacy exerts a statistically significant effect on financial performance, emphasizing the need for an optimal balance between regulatory compliance and profitability. While adequate capital buffers protect banks from systemic shocks, excessively high capital ratios may constrain profitability. In light of this, the study recommends that:

- Listed commercial banks should maintain optimal capital adequacy levels that comply with Central Bank of Kenya (CBK) regulations while maximizing returns on assets.
- Bank management should regularly assess the trade-off between risk absorption capacity and profit generation to ensure efficient capital utilization.
- The CBK should offer policy guidance encouraging banks to strengthen capital management frameworks that support sustainable performance amid changing macroeconomic conditions.
- Banks should also mobilize stable deposits and adopt prudent lending practices to safeguard financial soundness and avoid excessive risk-taking.

5.4.3 Operational Efficiency and Financial Performance of Commercial Banks Listed at the NSE

The results indicated that operational efficiency significantly and positively influences financial performance. Improved operational processes, cost minimization, and technological adoption enhance profitability and overall institutional growth. Consequently, the study recommends that:

- Listed commercial banks should continuously invest in innovative technologies, including digital banking systems, artificial intelligence, and automation, to enhance efficiency and reduce transaction costs.
- Management should streamline operational processes and strengthen internal controls to improve cost management and service delivery.
- Banks should diversify income sources beyond traditional lending, such as agency banking, asset financing, and digital platforms, to mitigate risk and boost profitability.
- Continuous staff capacity development and performance management should be prioritized to sustain efficiency gains and adapt to evolving financial technologies.

5.5 Recommendations for Further Studies

While this study explained 86.8% of the variation in the financial performance of listed commercial banks using firm size, capital adequacy, and operational efficiency, the remaining 13.2% suggests that other factors also contribute to performance dynamics. To deepen understanding and broaden the scope of inquiry, the following areas are recommended for future research:

1. Inclusion of additional determinants:

Future studies should investigate other internal and external factors such as corporate governance practices, liquidity management, macroeconomic stability, and regulatory changes, which may influence the performance of listed commercial banks in Kenya.

2. Comparative analysis across institutions:

A comparative study between listed and non-listed commercial banks could provide valuable insights into how ownership structure, governance, and market exposure affect financial performance.

3. Cross-sectoral replication:

Researchers may replicate this study among other financial institutions such as microfinance institutions, insurance companies, and savings and credit cooperatives to establish whether similar performance drivers exist across financial sectors.

4. Use of alternative methodologies:

Future research could employ qualitative or mixed-method approaches to explore managerial perceptions and contextual factors influencing financial outcomes, thereby complementing the quantitative findings of this study.

5. Longitudinal and cross-country analysis:

A longitudinal or regional comparative study could help uncover long-term trends and cross-country differences, providing a broader policy perspective for financial sector development and stability in East Africa.

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APPENDICIES

APPENDIX I: DATA COLLECTION SHEET

Bank	2018	2019	2020	2021	2022
Bank Size					
Logarithm of value of the total assets					
Capital Adequacy (Tier 1 + Tier 2 capital)/Risk weighted Assets					
Tier 1 + Tier 2 Capital					
Risk-weighted Assets					
Operational Cost Efficiency= Operating Income/ Total Income (Interest and Noninterest)					
Operating Income					
Total Income (Interest and Noninterest)					

APPENDIX II: RETURN ON ASSETS [ROA] BETWEEN 2018-2022

Year	Barclays	Stanbic	Equity	Housing Finance	KCB	NIC	Standard Chartered	DTB	National Bank	Co- op Bank	I&M
2018	27823	20030	60577	-555	71803	17491	27775	26170	8122	43560	191
2019	29567	21630	66773	-37	84301	26753	27950	25550	8344	48196	228
2020	24561	17874	62253	1973	67949	45766	26689	25142	8894	50519	242
2021	32213	24465	99998	2085	95609	47238	28302	26187	10111	55147	249
2022	39509	27140	121296	3015	116381	59874	33093	31509	11363	71255	298

APPENDIX III: SIZE OF THE BANK [FOR THE YEAR 2018-2022]

Year	Barclays	Stanbic	Equity	HFC	KCB	NIC	Standard Chartered	DTB	National Bank	Co-op Bank
2018	325313	290570	573384	60588	714313	245107	285404	377719	115143	431671
2019	374904	303625	673682	56455	898572	494717	302138	386230	112029	457093
2020	379441	318982	1015093	55782	987810	527868	325605	425054	126842	496823
2021	428722	319198	1304914	53166	1139674	591088	334872	456843	146543	540387
2022	477257	351894	1447010	56951	1554030	619662	381260	526983	142769	562082

APPENDIX IV: CAPITAL ADEQUACY- FOR THE PERIOD 2018-2022

Year	Barclays	Stanbic	Equity	Housing Finance	KCB	NIC	Standard Chartered	DTB	NBK	Co-op Bank	I&M
2018	44207	44623	94957	50217	113661	30608	46640	58939	6936	70755	50874
2019	45189	49035	110719	46213	129741	66993	47761	64515	11704	80413	60682
2020	46505	41856	138641	8899	142423	72348	50891	68314	11935	85172	64189
2021	56448	46510	176191	8231	173507	77863	53214	74553	16365	94513	74048
2022	63613		182211	8725	206277	82422	56136	77662	15090	100872	76517

**APPENDIX VI: OPERATIONAL COST EFFICIENCY- FOR THE
PERIOD 2018-2022**

Year	Barclays	Stanbic	Equity	Housing Finance	KCB	NIC	Standard Chartered	DTB	National Bank	Co- op Bank	I&M
2018	17177	11082	32114	88	37642	11041	14579	11503	7534	25574	8223
2019	18815	13920	35295	101	47568	15584	15542	11902	9165	27531	9147
2020	19461	11638	40083	3750	37372	20847	15707	12344	8582	33559	12600
2021	16664	12709	48117	3051	47834	21489	14193	12326	8724	42244	13080
2022	18660	14968	61452	2825	42230	25120	15075	14940	10516	38090	15490

APPENDIX VII: DATA COLLECTION LETTER



TURKANA UNIVERSITY COLLEGE

(A constituent college of Masinde Muliro University of Science and Technology)

DIRECTORATE OF POSTGRADUATE STUDIES

MBA/M/2021/0510

7TH OCTOBER, 2024

The Director, Research Coordination Division,
National Commission for Science Technology and Innovation,
Utalii House, 8th and 9th Floor,
P.O Box 30523-0100.
NAIROBI.

Dear Sir/Madam,

RE: ALETIA E.SYLVIA REG. NO: MBA/M/2021/0510

The purpose of this letter is to introduce the above-named student who is pursuing a master's degree in Public Administration. The title of her research proposal is "*Internal Factors on Financial Performance of Listed Commercial Banks at the Nairobi Security Exchange, Kenya.*"

She has been cleared by the University College to proceed to the field to collect data for her thesis in the course of this semester.

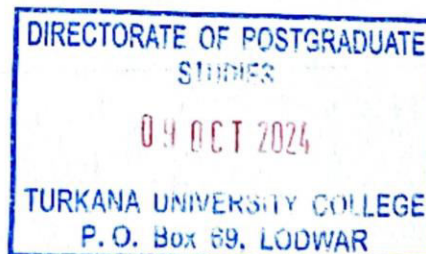
Any assistance accorded to her will be highly appreciated.

Thank you.

Yours faithfully,

Dr. Gervasio Miriti, Ph.D.

Ag. Director, Postgraduate Studies



APPENDIX VIII: NACOSTI PERMIT



REPUBLIC OF KENYA



NATIONAL COMMISSION FOR
SCIENCE, TECHNOLOGY & INNOVATION

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Date of Issue: 22/October/2024

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**APPENDIX IX: LIST OF COMMERCIAL BANKS IN KENYA LISTED
AT NAIROBI SECURITY EXCHANGE.**

BANK	YEAR LISTED
Barclays Bank Ltd.	1986
CFC Stanbic Holdings Ltd.	1989
Diamond Trust Bank Kenya Ltd.	1996
Equity Group Holdings.	2006
HF Group Ltd.	2006
I & M Holdings Ltd.	1996
KCB Group Ltd.	1988
National Bank of Kenya Ltd.	1971
NIC Bank Ltd.	2011 (merged with CBA Group in 2019 to form NCBA)
Standard Chartered Bank Ltd.	1989
The Co-operative Bank Ltd.	2008