RELATIONSHIP BETWEEN INTERNAL FACTORS AND FINANCIAL PERFORMANCE OF AGRICULTURAL FIRMS LISTED IN NAIROBI SECURITIES EXCHANGE, KENYA

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A RESEARCH PROJECT SUBITTED TO THE SCHOOL OF BUSINESS AND ECONOMICS IN PARTIAL FULFILMENT THE AWARD OF THE DEGREE OF MASTER OF BUSINESS ADMINISTRATION FINANCE OPTION, THE CO-OPERATIVE UNIVERSITY OF KENYA

NOVEMBER, 2024

DECLARATION

Declaration by the candidate

This project is my original work and has not been presented for award of a degree in any other University or for any other award.

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Declaration by the supervisors

We confirm that the work reported in this project was carried out by the candidate under our supervision and has been submitted with our approval as university supervisors.

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DEDICATION

I dedicate this research project to my wife Pillah, my kids Yann and Frane for their support throughout the project.

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I would like to acknowledge God Almighty for continued strength, life and unconditional love, and also for walking with me for my entire academic life. Also, I express my sincere thanks and gratitude to my project supervisors Dr. Dickson Kinyariro and Dr. Methusellah Bichage who have been teaching me on how to write the research proposal; I therefore highly appreciate them. I also take this time to thank the Co-operative University of Kenya management for providing the required resources for me to conduct my research proposal to a success.

TABLE OF CONTENTS

DECLARATION ..... **i**
DEDICATION ..... **ii**
ACKNOWLEDGEMENT ..... **iii**
LIST OF TABLE ..... **vii**
LIST OF FIGURES ..... **viii**
LIST OF ABBREVIATIONS AND ACRONYMS ..... **ix**
DEFINITIONS OF TERMS ..... **x**
ABSTRACT ..... **xii**
1. CHAPTER ONE **1**
INTRODUCTION **1**
1.1 Background of the Study 1
1.1.1 Global perspective on internal factors 2
1.1.2 Regional perspective on internal factors 3
1.1.3 Local perspective on internal factors 5
1.1.4 Internal Factors 6
1.1.5 Performance 8
1.1.6 Nairobi Securities Exchange (NSE) 9
1.2 Statement of the Problem 10
1.3 Objectives of the study 12
1.3.1 General objective 12
1.3.2 Specific Objectives. 12
1.4 Research Questions. 13
1.5 Significance of the study 13
1.6 Scope of the Study 14
2. CHAPTER TWO **16**
LITERATURE REVIEW **16**
2.1 Introduction 16
2.2 Empirical Review of Literature on the relationship between internal factors and the financial performance of Firms listed at NSE, Kenya. 16
2.2.1 Relationship between Leverage and performance 16
2.2.2 Relationship between Liquidity and financial performance 18

2.2.3 Relationship between Efficiency and financial performance 20
2.2.4 Relationship between size and financial performance 22
2.2.5 Relationship between Internal factors and financial performance measured by ROE 24
2.3 Theoretical review 26
2.3.1 Modigliani and Miller's capital structure theory 26
2.3.2 Liquidity preference theory 27
2.3.3 Efficiency structure theory 28
2.3.4 Trade-off theory 29
2.4 Critique of Literature 30
2.5 Conceptual Framework 31
2.6 Chapter summery 32
2.7 Research Gap 32
3. CHAPTER THREE 34
RESEARCH METHODOLOGY 34
3.1 Introduction 34
3.2 Research Design 34
3.3 Study area 34
3.4 Target Population 35
3.5 Sample Design 35
3.6 Diagnostic Tests 35
3.6.1 Test for Normality 35
3.6.2 Test for Multicollinearity 36
3.6.3 Hausman Test 36
3.6.4 Breusch and Pagan Lagrangian multiplier test for random effects 37
3.7 Operationalization of Study Variables. 37
3.8 Data Analysis and Presentation of Findings 37
3.8.1 Analytical Model 39
4. CHAPTER FOUR 42
RESEARCH FINDINGS AND DISCUSSIONS 42
4.3 Introduction 42
4.2 Descriptive Statistics 42
4.3 Diagnostic Test Results 48

4.3.1 Test for Normality 48
4.3.2 Test for Multicollinearity 49
4.3.3 Hausman Test 50
4.3.4 Breusch and Pagan Lagrangian Multiplier Test 51
4.4 Panel Regression Model Results 53
5. CHAPTER FIVE 57
DISCUSSION OF FINDINGS, CONCLUSION AND RECOMMENDATIONS 57
5.1 Introduction 57
5.2 Discussion of Findings 57
5.2.1 Relationship between Leverage and Financial Performance 57
5.2.2 Relationship between Liquidity and Financial Performance 59
5.2.3 Relationship between Efficiency and Financial Performance 61
5.2.4 Relationship between Firm size and Financial Performance 62
5.3 Conclusion 63
5.4 Recommendation 65
5.5 Areas for Further Research 66
6. REFERENCES 68
Appendix I: Agricultural Firms Listed In Nairobi Securities Exchange……..75
Appendix II: University Introduction Letter for data collection……76

LIST OF TABLE

Table 3.1 Operationalization of Study Variables. 37
Table 4.1 Descriptive Statistics of Study Variables 43
Table 4.2 Summary statistics by Agricultural Company Listed 47
Table 4.3 Skewness/Kurtosis tests for Normality 49
Table 4.4 Variance inflation factor 50
Table 4.5 The Hausman test 51
Table 4.6 The Breusch and Pagan Lagrangian Multiplier (LM) test 52
Table 4.7 Panel regression Results 54

LIST OF FIGURES

Figure 1 Conceptual framework……...22

LIST OF ABBREVIATIONS AND ACRONYMS

ANOVA – Analysis of Variance

ASE- Amman Stock Exchange

CMA – Capital Markets Authority

CR- Current Ratio

GDP-Gross domestic product

GNI-Gross national Income

KNBS-Kenya national bureau of statistics

NSE – Nairobi Securities Exchange

OLS-Ordinary least square

ROA-Return on assets

ROCE-Return on capital employed

ROE-Return on equity

DEFINITIONS OF TERMS

Internal factors: -Hamachi, E., Iancu, D., & Băcilă, M., (2017) in their work defined internal organizational factors to include the factors that influence the organization's activity which comprises of its owners, managers and leadership, employees, material resources, organizational culture, should determine the capabilities/capabilities/potential of the organization to adapt to/integrate to the external environmental components.

Performance: -Firm performance can be defined and measured in terms of: profitability, growth, market value, total return on shareholder, economic value added, customer satisfaction, based on the stakeholder's expectations (Carroll, A., 2004).

Leverage: -Taqi,M., Khan, R.,& Anwar, I., (2020) defines financial leverage as the use of external (borrowed) money invested in the business to finance its fixed assets. It's the degree of debt financing in the capital structure of a firm.

Liquidity: - This is the ease with which an asset can be converted into cash without affecting its market price (Hayes, A., 2022). The current ratio, which is computed by dividing current assets by current liabilities, was used to operationalize it.

Efficiency: - Burches, E., & Burches, M. (2020) defines efficiency as doing things in the most economical way. It represents how economically resources are being utilized in an entity in order to maximize returns and minimize wastages which will eventually maximize the value of the firm.

Growth: - Mansikkamäki, S., (2023) defines growth as the relative change in sales from the previous year (growth at the beginning of the observed transition period) and from the beginning

of the observed transition period (growth at the end of the transition period). It occurs when firms increase their size, usually measured in terms of sales, employment, profits or value added.

ABSTRACT

According various reports by KNBS Economic survey from 2012 to 2022, agricultural firms listed in NSE have reported mixed financial performance and financial element has not been fully factored. The reports mostly attribute performance of five agricultural firms to climate change either availability or non-availability of rain. This negates financial aspect that plays a key role in defining the overall financial performance of the organization. Further, KNBS Economic survey from 2012 to 2022 reports, depicts that some firms perform well others perform poorly to an extent of stopping to trade. The study aimed at investigating the relationship of internal factors and financial performance of agricultural firms listed at NSE, Kenya. The independent variables of the study were leverage, liquidity, efficiency and firm size while the dependent variable of the study will be Performance. The specific of the study will be to investigate the effect of leverage, liquidity, efficiency and the growth on the performance of agricultural firms listed at NSE, Kenya. The study will be confined to only listed firms listed at NSE, Kenya under agricultural sector only where the study will cover a period of 11 years from 2012 to 2023. Under the empirical literature review, the study discussed relevant current studies per variable. For the theoretical literature review Modigliani and miller's capital structure theory, Liquidity preference theory, efficiency structure theory and trade-off-theory. A panel data regression model was applied to analyze data from 72 firm-year observations over 11years from 2012 to 2023. The results indicate a positive and statistically significant relationship between liquidity (coefficient = 0.215, $p = 0.042$), efficiency (coefficient = 24.04, $p < 0.01$), and firm size (coefficient = 2.677, $p = 0.065$) with financial performance, as measured by return on equity (ROE). In contrast, leverage showed a negative but statistically insignificant relationship (coefficient = -1.939, $p = 0.824$) with ROE. The findings suggest that improved liquidity, higher operational efficiency, and larger firm size are associated with better financial performance in agricultural firms. The study highlights the importance of managing these internal factors to improve profitability. Practical recommendations are provided for stakeholders to enhance financial performance, and areas for further research are suggested, including the exploration of external factors and the use of longitudinal studies to understand long-term trends in agricultural firm performance.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

According to KNBS Economic survey (2022), agricultural sector has remained the crucial sector to the economic development of the country, it accounted for about 22.4% of the overall GDP in 2021. Also, service activities and industry related activities accounted for about 60% cent and 17.0 % respectively in 2021, KNBS Economic survey (2022). Additionally, KNBS Economic survey (2022), states that industry employs more than 40% of the whole workforce and more than 70% of the rural population. Given the vital role that this industry plays in the Kenyan economy, it is becoming more and more crucial to make sure that high frequency, high quality data is accessible to inform about the country's food supply status, the going rates, and the difficulties that can hinder sector output. In order to supplement information from other sources, the Central Bank of Kenya (CBK) developed a Survey of the Agriculture Sector.

According to KNBS Economic Survey, (2023) the industry had a 1.9% decline compared to a 0.3% decline in 2021, which had an impact on the output of tea, maize, milk, and horticulture. Additionally, according to KNBS Economic Survey, (2023) tea production fell from 537,800 tonnes in 2021 to 535,000 tonnes in 2022. According to the research, decreased rainfall in tea-growing regions was the cause of the decline in tea output. According to the research, the drought that caused a shortage of animal feed caused the volume of milk sold to consumers to drop from 801.9 million liters in 2021 to 754.3 million liters in 2022. This therefore call for study to be done on the above subject to investigate whether the internal factors affects performance of the agricultural forms listed at NSE, Kenya.

According to Rhone C, (2021) defines internal factors as organizational aspects that have a direct impact on the success, such as inconsistent leadership decisions, leverage, liquidity, efficiency, growth and unexpected management changes. Every company has a unique internal factor. Almost everything that has an impact on an organization's capacity to compete and adapt to changes in the external environment and, ultimately, the success or failure of the organizations is a component of its internal factors. How the organization develops as a standalone organizational unit and in reaction to its external environment depends on internal elements. Many studies have been done on the how the internal factors affect firm's performance globally, regionally and locally but the problem still remained unresolved.

1.1.1 Global perspective on internal factors

Globally, Foelber, D. (2023) stipulated that Apple company limited stocks kept on falling as a result of excessive leverage in its balance sheets. This was as a result of increase of excessive use of short term and long term debts to finance its operations during a period of rising interest rates and weakening consumer demand. This was not good time for a business to be piling debt onto its balance sheet because it will face a challenge when it comes to repaying back the debts as a result of making loses. This therefor signifying that leverage is still affecting firms negatively despites scholars having worked on how internal factors affects performance.

Dahmash, F., Salamat, W., Masadeh, W., & Alshurafat, H. (2021) in their work determined the impact of a asset growth, firm's size,asset tangibility, and financial leverage on profitability for all listed companies firms in Jordan. They used sample of 1,663 observations for the period ranging from 2011-2018 and unbalanced panel data regression analysis. Their findings revealed a significant and positive effect of asset growth and firm's size on profitability. On the other hand, financial leverage had an insignificant positive effect on profitability.

Nguyen, V., Nguyen, C., Nguyen,T., & Do, T. (2021) in their study investigated how internal factors affects food and beverage (F&B) firms performance for listed companies in Hanoi Stock Exchange (HNX). They collected data on the 15 Beverage and Food firms listed on the HNX from 2015 -2019. They then used the mixed research method, that is qualitative and quantitave research method. The finding of the study from Ordinary Least Squares (OLS) regression method showed that short-term debt to total liabilities and total assets had a negative effect on ROE and ROA. On the other hand, debt to total assets ratio had a negative effect on ROA while growth of total assets factors affected positively ROA and ROE.

1.1.2 Regional perspective on internal factors

Edore, J., & Ujuju, E. (2020) found out that the independent variables used were long – term debts, short term debts and medium term debts while the dependent variable was the firm value. They analyzed the effect of financial leverage on value of firms in Nigeria. The independent variables used were long term debts, short term debts and medium term debts while the dependent variable was the firm value. They then used Pearson correlation coefficient and analyzed the data using Ordinary Least Squares regression. The data was collected using secondary method. The study results showed that long term debt had a positive and significant effect on the value of firm. Similarly, the medium term and short term debts had significant positive influence on firm's performance. It was further determined that financial leverage enhances the value of the firm therefore recommending that companies should go ahead and finance their operations using short term debts long term debt and medium term debts.

Hongli ,J, Ajorsu, S & Bakpa, K. (2019) In their work they investigated the effect of liquidity and financial leverage on firm performance of manufacturing industries quoted on the Ghana Stock Exchange from six different sectors from 2007-2015. They used financial leverage, firm size, firm age and liquidity as independent variables while sales growth was used as dependent variable which was determined with the use of ROA and ROE. Random effect model and fixed effect model were used to facilitate data analysis. The study findings revealed that liquidity had a positive and significant effect on return on equity as measured by current assets to current liabilities. On the other hand, financial leverage as measured by ROA and ROE had a strong positive impact on firm performance. It was then recommended that the management should minimize the use of debt financing and optimize the use of retained earnings to finance its operations.

Musa, M, Kwandwo, A, Donkor, M, & Obeng, F (2019) In their work examined the relationship between growth and the financial performance of non-financial firms listed on the Ghana Stock Exchange. They measured financial performance through ROE, ROCE and ROA and how they are affecting by the organizational growth. Data was extracted from the audited and published financial annual reports of fifteen non financial firms from 2008-2017. They then applied Pearson Product Moment Correlation Coefficient technique of data analysis. From the findings, growth as measured by ROA had a positive and significant effects on firms' financial performance. However, there was an insignificant and negative association between growth and the firms' ROCE and an insignificantly npositive relationship between growth and the firms' ROE were also established.

1.1.3 Local perspective on internal factors

Nyabanga, R, Mantanda J,.(2020). conducted their study on the effect of Firm Characteristics on Financial Performance of Listed Commercial Banks in Kenya. They measure the financial performance using Return on Asset (ROA) and Return on Equity (ROE) and they are affected by financial leverage. Their focus was on banking sectors listed at NSE, Kenya between 2010 to 2018, the data collected was analyzed through STATA 11 and this was basically descriptive, correlation and regression analysis. From the findings, leverage, had a significant positive effect on ROE, however, they found out that leverage has an insignificant positive effect on ROA. And for that reason, it was recommended that the company should make use of debt financing so that they can be able to improve the return on equity.

Mugetha, I,.(2019) Did the research on the effect of liquidity on financial performance of listed firms in the Nairobi securities exchange. the researcher used secondary data which was extracted from the audited financial reports which was used to compute the relevant ratios and encompassed panel data. The study utilized dynamic panel data regression model while ANOVA also used to test the relationship between the variables across the sectors. The study used non-experimental panel research design. The study focused on all 64 companies that are listed on the Nairobi Securities Exchange. All 64 of the companies listed on the Nairobi Securities Exchange were counted as a unit of analysis. It was found out that there is a strong and positive correlation between financial performance of financial and non-financial enterprises and liquidity. Accordingly, liquidity had a significant and favorable impact on financial performance of listed companies on the Nairobi Securities Exchange.

Mootian,. A,.Mukoma, K,. (2020) conducted their study on the firm Specific Factors and Financial Performance of Real Estate. ROA and ROE were used to assess financial success. The study's goals included figuring out how liquidity affects financial performance. Descriptive survey research approach was utilised in an effort to look into how several firm-specific characteristics affected the financial performance of the company. The five (5) real estate companies listed on the Nairobi Securities Exchange (NSE)'s investment sector were the study's sample. The research made use of data spanning ten years, from 2008 to 2017. The information was collected from the four real estate firms registered on the Nairobi Securities Exchange's website's public, audited financial annual reports. SPSS software was used to assist in analyzing the data. It was found that there was significant negative relationship between liquidity and financial performance.

1.1.4 Internal Factors

Internal factors are those factors within an organization that can be controlled, they come from within. Internal factors can largely affect the business operations Graciela Martinez and Elizabeth Shaker (2015). These can be positive or negative, Positive thoughts will help you with decision making, while negative thoughts will most likely hinder your way of doing in business. There are many internal factors that positively or negatively affects decision-making. For example, Muturi J., (2019) argues that financial leverage is is key and it is the degree to which firm uses debt and equity to finance its operations. This depicts the magnitude of how equity and debt finances the firm assets. Financial leverage refers to the use of borrowed funds (debt) to finance the acquisition of assets, with the expectation that the income generated by these assets will be greater than the cost of borrowing. Companies utilize leverage to amplify their returns, but it also increases the risk of loss if the returns do not exceed the cost of debt. Liquidity which

is the ease that company can convert available asset into cash which according Mootian,. A,.Mukoma, K,. (2020) liquidity has significant negative relationship between liquidity and financial performance. On the other hand its found that the efficiency of the staff within an organization has got direct relationship with the firm performance and therefore the organization must ensure that it has to be in line with the company objectives. Efficiency of a firm refers to the ability to minimize costs and maximize outputs, given the same amount of resources. It involves optimizing processes, reducing waste, and improving productivity to achieve better financial performance. Suchitra P., and Ravi R., (2022) asserts that operational efficiency indicates how well a company can turn inputs like labor and materials into outputs, such as goods or services, at the lowest possible cost without sacrificing quality. Firm's growth refers to the increase in a company's size over time. Growth can be measured in multiple ways, such as revenue growth, expansion in market share, or increase in the number of employees. Firm's growth is often seen as a sign of business success and the ability to expand operations, improve profitability, and increase market influence. According to Taqi,M., Khan, R.,& Anwar, I., (2020) defines financial leverage as the use of external (borrowed) money invested in the business to finance its fixed assets. It's the degree of debt financing in the capital structure of a firm.Also, liquidity is the ease with which an asset can be converted into cash without affecting its market price (Hayes, A., 2022). The current ratio, which is computed by dividing current assets by current liabilities, was used to operationalize it. According to Burches, E., & Burches, M. (2020) defines efficiency as doing things in the most economical way. It represents how economically resources are being utilized in an entity in order to maximize returns and minimize wastages which will eventually maximize the value of the firm. According to Mansikkamäki, S., (2023) defines firm size as the relative change in sales from the previous year (growth at the beginning

of the observed transition period) and from the beginning of the observed transition period (growth at the end of the transition period). It occurs when firms increase their size, usually measured in terms of sales, employment, profits or value added.

1.1.5 Performance

(Saputra, Achsani & Anggraeni, 2015) performance is the ability of a company to maximize the wealth of its shareholders by making the best use of available resources it manage It can both the financial and non-financial aspects of an organization. . Financial performance is also used to measure the firms overall financial health over a given period of time and can also be used to compare similar firms across the same industry or sector in aggregation **(Logavathani & Lingesiya, 2018).** Different measures have been used to determine the financial performance of an entity including profitability, return on assets (ROA), return on equity (ROE), return on investment (ROI), financial ratios, earnings per share, and many others. Profitability of a firm is measured in various ways include ; Net profit margin which is a ratio of net profit and the firm's total revenue, gross profit margin which is a ratio of gross profit and total sales revenue and so on. Profit after tax has emerged as one of the main and widely used measures of a firm's performance where the profit level is a key determinant of the firm. Additionally, the other measure of performance is the return on asset which measures the percentage of profitability arising from all resources employed. It also determines the ability of the firm to generate income by utilizing the company's assets at their disposal driven by the management which also indicates the efficiency of the management of the company in generating a net income from all the resources of the firm. A higher return on assets is an indication that the company is more efficient in utilizing its resources. The choice of financial indicators by the researchers is key

because they play a crucial role in assessing the performance and health of an organization. They are used to evaluate different aspects of a company, such as leverage, liquidity, operational efficiency and growth. Rahman et al., 2017 argued that financial ratios have traditionally been indicators of a corporate overall performance and may help quantify a potential impact of internal ratings on financial performance (Belas et al., 2012

1.1.6 Nairobi Securities Exchange (NSE)

Nairobi Securities Exchange was established in the 1920's where dealings in shares commenced with trading in a gentleman's agreement (NSE Annual Report, 2017). In 1953 London stock exchange (LSE) recognized the setting up of the Nairobi Stock Exchange as an overseas stock exchange. Currently, the NSE has 65 listed companies which are clustered into eleven sectors: Agriculture, Automobile and Accessories, Commercial Services, Banking, Real Estate Investment Trust, Construction and Allied, Insurance, Manufacturing and Allied, Investment, Telecommunications and Technology, and Energy and Petroleum. Under the agricultural sectors, there are seven listed companies which shall be involved in the study namely: Williamson Tea Kenya Ltd, Kapchorua Tea Co. Ltd,Kakuzi ltd, Rea Vipingo Plantations Ltd, Limuru Tea Co. Ltd, Sasini Ltd and Eaagads Ltd.

The NSE stipulates requirements for firms to fulfill before they are listed which requires that a firm must have a clear future policy. The NSE also provides an avenue for members of the public to participate in buying and selling bonds, shares and other primary market Securities through the issuance of initial public offers (IPO). The study focused in all agricultural firms listed in the NSE, not the sectors because they exhibit intrinsic heterogeneous characteristics. According to the NSE report (2022), 65 listed firms are actively participating in trading. The NSE is Kenya's primary open market, and it is essential to the country's economic development by promoting

savings and investment as well as assisting local and foreign businesses in gaining access to cost-effective capital. This is in line with Kenya Vision 2030, which aims to transform Kenya into a newly industrializing, middle-income nation by 2030 that offers a high standard of living to all of its citizens in a safe and secure environment.

1.2 Statement of the Problem

According various reports by KNBS Economic survey from 2012 to 2022, agricultural firms listed in NSE have reported mixed financial performance. The reports mostly attribute performance of all agricultural firms to climate change either availability or non-availability of rain. This negates financial aspect that plays a key role in defining the overall financial performance of the organization. Further, KNBS Economic survey from 2012 to 2022 reports, depicts that some firms perform well others perform poorly to an extent of stopping to trade.

According to KNBS Economic survey (2022), agriculture is a crucial sector to the economic development of the Kenya, this is so because it accounted for about 22.4% of the overall GDP in 2021. The sector played a crucial role in contributing to the growth of the country's GNI in 2020 which is a measure of disposable income. The GNI increased from KSh 11,058.4 billion in 2020 to KSh 12,588.2 billion in 2021, whereas nominal GDP increased from KSh 10,716.0 billion in 2020 to KSh 12,098.2 billion. The gross domestic product (GDP) per person also increased by 11.4% from KSh 220,132.2 in 2020 to KSH 245,145 in 2021. In addition to that, the sector employs more than 40% of the total workforce in the country and more than 70% of the rural population. Despite all such benefits from the sector, it has continuously been faced with several internal challenges which calls for an immediate solution which can be attained through research.

According to Kenya Bureau of National Statistics' (KNBS) Economic Survey, (2023) the industry had a 1.9% decline in performance compared to a 2.3% decline in 2021. This was as a result of a negative impact on the output of tea, maize, milk, and horticulture. The maize production fell from 537,800 tonnes in 2021 to 535,000 tonnes in 2022. According to the research, the decreased rainfall in tea-growing regions was the cause of the decline in tea output. On the other hand, research revealed that excessive drought caused a shortage in the animal feed production which led to a drop in the volume of milk sold from 801.9 million liters in 2021 to 754.3 million liters in 2022. Given the vital role that this industry plays in the Kenyan economy, it is necessary that high frequency and high-quality data is needed to inform about the country's food supply status. This therefore calls for study to be done on the above subject to investigate whether the internal factors like leverage, liquidity, efficiency and firm size, affected the performance of the agricultural firms listed at NSE, Kenya.

Most studies on the topic have been done in developed nations leaving out developing countries such as Kenya which calls for a study to be done in order to fill the research gap. This is as it is with the works of Masadeh, W., Dahmash, F., Salamat, W., & Alshurafat, H. (2021) and Fahan, H., & Aigbogun, O. (2021) which was done in Jordan and Malasia respectively. On the other hand, most related studies on the topic done in Kenya amongst the listed firms at NSE, Kenya focused on other sectors with none having been done in agricultural sector which calls for one to be done to fill the gap. This is as it is in the works of David, W., Kariuki, K., Muturi, W., & Njeru, A. (2021) and Kinyua, F. & Fredrick, W,.(2021) which was done under manufacturing and insurance sectors respectively. Some companies have a better financial performance than others.What do this successful have comparing to failure ones? Could there be any trait that researchers have overlooked locally? Many studies done utilized some firm traits and subjected

others as control variables or they have not considered both financial cbehaviour in their studies even though they acknowledge that these “so called control variables” have an effect on fcompanies performance as it with the work of Utama, A., Tan, A., Lubis,T.,& Machpuddin, A.,(2020) and Pham., C., Tran,. Q., & Nguyen., L., (2018). Furthermore, the agricultural industry has been left behind by most researchers in Kenya. The researcher studied both financial firm behavior and determined how affected the financial performance of firms especially in the agricultural sector. The researcher combined effect of these variables (both financial firm characteristics such as leverage and liquidity, efficiency and firm size) and found out its synergetic effect on firm financial performance instead of being analyzed independently by previous researchers above.

1.3 Objectives of the study

The study will contain the following general and the specific objectives.

1.3.1 General objective

To determine the relationship between internal factors and financial performance of agricultural firms listed at Nairobi Securities Exchange

1.3.2 Specific Objectives.

1. To determine the relationship of leverage and financial performance of agricultural firms listed in Nairobi Securities Exchange.
2. To determine the relationship of liquidity and financial performance of agricultural firms listed in Nairobi Securities Exchange.
3. To determine the relationship of efficiency and financial performance of agricultural firms listed in Nairobi Securities Exchange.

4. To determine the relationship of firm size and financial performance of agricultural firms listed in Nairobi Securities Exchange.

1.4 Research Questions.

The study had the following research questions;

1.3.1 What was the relationship between leverage and financial performance of agricultural firms listed in Nairobi Securities Exchange?

1.3.2 What was the relationship between liquidity and financial performance of agricultural firms listed in Nairobi Securities Exchange?

1.3.3 What was the relationship efficiency and financial performance of agricultural firms listed in Nairobi Securities Exchange?

1.3.4 What was the relationship between firm size and financial performance of agricultural firms listed in Nairobi Securities Exchange?

1.5 Significance of the study

The study was of great importance to managers since to use it in making decisions concerning how to manage internal factors. The managers of the firms that are listed at NSE will be aware of the effects that various aspects of internal factors have on performance.

Similarly, it helped investors when selecting firms for investment within the agricultural sector at NSE based on internal factors management. The findings helped investors to know about the performance of listed firms at the NSE and how it is correlated with the internal factors, thus making informed decision.

Furthermore, the study helped the government to understand how the various internal factors affect performance of firms at NSE and therefore making it easy for the government to trace profit making agricultural firms which facilitated the process of tax collection from this firms.

The study was added to the existing literature on how the internal factors affect performance. Students, other researchers, and even academicians found the study very resourceful for further similar research.

Finally, the study helped to financial consultants and analysts who were able to understand the nature of the relationship between internal factors and performance of the agricultural firms listed at NSE thus advising their clients accordingly.

1.6 Scope of the Study

The study was confined to examining the relationship of internal factors and performance of agricultural firms listed at Nairobi securities exchange. The independent variable of the study was leverage, liquidity, efficiency and growth while the dependent variable was performed. The study covered a period of ten years from 2012 to 2022. The Study location will be in Kenya where five firms listed at NSE and agricultural sector was targeted. In 2012 there was preparation for devolution where the groundwork for devolved financial management, especially for sectors like agriculture, was laid in 2012. Financial restructuring and preparations at both the national and county levels had begun, with the anticipation that agriculture would become a county function. Secondly, introduction of the Kenya Vision 2030 agricultural strategies which included a focus on improving agricultural productivity as part of the economic pillar. The government increased budget allocations to agricultural research, extension services, and rural infrastructure, all aimed at enhancing agricultural output. Third, there was increased government agricultural investment to ensure food security and enhance production. This included subsidies

for fertilizers and seeds to lower production costs for smallholder farmers. Also, there was expansion of financial inclusion and mobile money significantly enhancing financial inclusion. Farmers increasingly used mobile platforms for transactions and access to financial services such as credit and savings. The use of mobile money in agriculture contributed to improving access to financial resources, particularly for smallholder farmers. Moreover, there was increased agricultural credit and insurance initiatives tailored to farmers. The Agriculture Finance Corporation (AFC) and other lenders were expanding their agricultural loan portfolios to support mechanization, inputs, and infrastructure. Additionally, agricultural insurance products to mitigate climate-related risks were emerging. Finally, Kenya witnessed robust international financial support from organizations like United States Agency for International Development (USAID), the World Bank, and the African Development Bank. These institutions financed agricultural productivity projects, value chain development, and climate resilience programs. This was the year when many agricultural development programs took root, with heavy financial backing. Studying 2012 provides insight into how these investments shaped the sector in the following years.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter will explore the various studies and publications relating to the research problem. The chapter will be focused on different theories on internal factors as well as providing a detailed review of empirical studies on how internal factors affects firm financial performance. Finally, the chapter gave a conceptual framework clearly showing how variables are related.

2.2 Empirical Review of Literature on the relationship between internal factors and the financial performance of Firms listed at NSE, Kenya.

2.2.1 Relationship between Leverage and performance

Forte., R, & Tavares, J., (2019) In their study did their study on the relationship between debt and a firm's performance: the impact of institutional factors of 11,836 manufacturing firms from nine European countries covering the period from 2008–2013, the study used leverage as one of its independent variable, the study employed descriptive research methodology. It was revealed that the impact of leverage on a firm's performance varies from nation to nation. In Spain and Italy there was a positive impact of financial performance for financial leverage but in Belgium, Germany, Norway and France was negatively related. In Portugal, the results obtained depicted not statistically significant and since the findings varies from one country to the other, the author of this study will use leverage as an independent variable to determined its relationship between leverage and firm performance of agricultural firms listed at NSE, Kenya so that he can come with a conclusion which is going to applies to all agricultural firms listed at NSE, Kenya.

Igbal., U,& Usman, M.,(2018) studied on Effect of Financial Leverage on Firm Performance of Textile Composite Companies of Pakistan. A selected five year data was collected from the year 2011 to the year 2015 and a sample of sixteen companies were selected as a sample in Pakistan Textile Composite Companies which were listed in PSX (100-index). To determine the outcomes, the study used regression modeling, correlation analysis, and descriptive statistics. The findings demonstrated that financial leverage had a considerable and adverse impact on firm Return on Equity while having a favorable and significant impact on firm ROA. The study used the same variable, i.e leverage to prove the findings of the study but examined the agricultural firms listed at NSE, Kenya and developed conclusions for firms listed in the above mention sector at NSE, Kenya to benefit from it.

Chen. H,(2020) In his study he did the research on the Impact of Financial Leverage on Firm Performance. It examined the effect of financial leverage on company performance using a sample of Chinese listed companies covering the years 2010 through 2019 as measured by return on assets (ROA) The study used 2SLS and OLS methods to take linear regression to analyze his data. The research showed financial leverage and firm performance had significantly negative relationship.

From various study, we have seen contradicting findings like the works of Igbal., U,& Usman, M.,(2018) and Forte., R, & Tavares, J., (2019) which they positive and negative effects on the form performance. The researcher used the same variable, i.e leverage as an independent variable to gauge how it affected performance of agricultural firms listed at NSE, Kenya and the finding was applied as mentioned.

Asifowose., D., Aina, S., Aduragbeni, T (2020) in their study, examined Effect of Financial Leverage on Firms Performance: Case of Listed Pharmaceutical Firms in Nigeria. The study covered a period from the year from 2003 to 2018 and used panel data for the entire period. The study used the regression model and descriptive statistics to analyze the effect of financial leverage on firm's performance. The data demonstrated that financial leverage had an effect on the performance of firms in terms of profitability and efficiency, particularly listed pharmaceutical companies in Nigeria. Considered that there was a significantly positive effect between the financial leverage and the performance, this therefore called for a research to be done to examine the relationship be relationship between leverage on the firm performance at Agricultural firms at NSE, Kenya, so that we can cope up with conclusion which is going to applied by all the firms listed at the above-mentioned sector at NSE, Kenya.

2.2.2 Relationship between Liquidity and financial performance

Sundas,S., Butt, M (2021) investigated the impact of liquidity on performance in Pakistan textile sector. It examined the impact of liquidity ratios on the profitability and performance of Pakistan's textile industry from the year 2005 to 2014. To closely examine the effect of liquidity on performance, an effect panel regression model was used in the study. It was determined that liquidity had a positive effect on financial performance. Since the findings showed that the liquidity had a positive effect on financial performance and the study was done Pakistan, the researcher examined the relationship between internal factors which liquidity was one of the internal variables. The study was done in the agricultural firms listed at NSE, Kenya so that the finding from the study was used by all firms in agricultural firms listed at NSE, Kenya.

Sumirrta, B., (2019) did the research on the effects of Internal and External Factors on Corporate Governance and the Performance of American International Group (AIG). The data used to perform this analysis was found from the firm's five-year annual audited financial reports from the year 2014 to 2018. SPSS was used to analyze his data and assess the impact of liquidity on the effectiveness of firm performance. The finding from the study showed a positive relationship between liquidity and the firm performance. And again, since the study was done in America and the finding showed that there was a significant positive relationship between the two variables, the researcher used the same variable liquidity to examine its relationship with firm performance of agricultural sectors listed at Nairobi securities exchange (NSE) in order to deduce conclusion on benefits accrued on firms listed in NSE

Horsfall, K. (2022) conducted their study on relationship between Liquidity and Financial Performance of Listed Non-Financial firms in Nigeria. The study was done for non-financial listed firms in Nigeria Exchange Group (NGX). Secondary data collected from NGX was used in the study. Also, it applied multiple regression in the analysis of data. The research showed that liquidity has a positive impact on the financial performance of non-financial enterprises listed on the NGX. It was depicted that current ratio has a positive impact on the financial performance of non financial enterprises listed on the NGX. The study recommended that listed firms in NGX that are non financial in nature need to increase their current assets in order to increase liquidity. The researcher used the liquidity as an independent variable to examine its impact on performance but it will done to only firms listed at NSE, Kenya but specifically agricultural sector to prove the findings of the study and subsequently to use the finding in this decision making.

Yameen, M.,Farhan, N.,&Tabash, M.,(2019) investigated the effect of liquidity on the profitability of pharmaceutical companies listed on Bombay Stock Exchange (BSE). The independent variable of the study were quick ratio, current ratio, firm size, leverage and firm age while the dependent variable was Return on Assets. The data was then extracted from Prowess IQ database from 82 pharmaceutical firms for ten years from the year 2008 to 2017 inform of balanced panel data. The study had a population size of 150 and a sample size of 82 pharmaceutical companies listed in BSE. Companies without data was excluded for the period under study. The data collected was analyzed through panel data where random and fixed effect models were applied in a regression model. The findings depicted that profitability of pharmaceutical firms had a significant and positive effect from quick ratio and liquidity ratio measured by return on assets. The study suffered from one limitation in that it was not clear on the research designed that was applicable.

2.2.3 Relationship between Efficiency and financial performance

Azad, A., Raza, A., & Zaidi., S., (2018) Investigated Empirically the relationship between Operational Efficiency and Profitability on oil and gas sector in Pakistan stock exchange. The study operationalized efficiency using the fixed asset turn over, quick ratio, debt turn over, current ratio, and total assets turn over in times while Performance was measured using ROE. The study was used secondary data collected for a period of six years from 2010 to 2015. Data was extracted from the annual reports of the four companies of oil and gas exploration sector in Pakistan. And because of a small number of companies the entire industry was used in the experiment. Ordinary least square, correlation matrix and descriptive statistics are used to describe the findings of the study and features of the data. The findings showed that the total assets turnover, debtors turnover and quick ratio have strong negative impacts on the profitability

measured by ROE, of firms. The current ratio and fixed asset turnover have positive impacts on the return on equity.

Megeid, N., A bd-Elmageed, M., & Riad, N., (2020) in their work investigated the association between operational efficiency and financial performance of the company on capital structure by use of management as a moderator variable. The independent variable of the study were operational effeiciency, profitability and liquidity while the dependent variable was capital structure. Data was collected from sixty five non-financial companies listed in the Egyptian stock exchange (EGX) from the year 2013 to 2019. Financial firms were excluded due to their unique financial aspect. Thereafter, secondary data was collected from audited and published annual financial reports. The three panel models for measuring the three multiple linear panel regression equations were utilized to test the effect of Tobin's Q ratio , ROA, gross profit margin, operational efficiency, ROE, current ratio, asset turnover, firm size and inventory turnover on capital structure by use of management earnings as a moderator variable. The study findings revealed that operational efficiency has a positive and significant impact on company' earnings management.

Tran, N., & Hong, D.,(2020) investigated the contribution of human capital efficiency to firm performance across twelve sectors in the Vietnamese economy from 2011 to 2018. The paper used the VAIC method to measure human capital efficiency (Pulic, 1998; 2000). The performance was measured using ROA and ROCE. Data was collected from the annual reports with a population of 1,617 and sample size of 227 of listed firms in Vietnam from the year 2011 to 2018. The study then applied the Generalized Method of Moments (GMM) model to analyzed data. The empirical finding revealed that human capital efficiency had a positive contribution to

firm performance across sectors in Vietnam. The study was limited to extend that it did not clearly specify the target population from which the sample was selected from.

Bayraktaroglu, A., & Baskak, F.,(2019) In their study explored the relationship between intellectual capital and firm performance for Turkish manufacturing firms on a more detailed level. Intellectual capital efficiency was measured using human capital efficiency, customer capital efficiency and structural capital efficiency while performance was measured using ROA and ROE. Data was collected from reports of annual audited financial reports of manufacturing companies listed in Istanbul Stock Exchange for 11 years period from 2003 to 2013. After the exclusion of observations with missing data on selected variables and 28 observations with negative scores, 400 firm × year observations belonging to manufacturing firms operating in seven manufacturing sub-industries was used in the analysis. The study then employed the multiple regression analysis model to identify the relationship between the intellectual capital and performance. The study results showed that the Turkish manufacturing sector innovation capital efficiency had a moderating effect on the relationship between structural capital efficiency (SCE) and profitability.

2.2.4 Relationship between size and financial performance

Yadav, I., Pahi, D., & Gangakhedkar, R.,(2021) examined the nexus between firm size, growth and profitability: new panel data evidence from Asia–Pacific markets. The independent variable of the study was firm size and growth while the dependent variable was profitability which was measured by ROA. The study then used the Global database COMPUSTAT which utilised panel dynamic fixed effects model which consisted of around 12,001 non-financial listed and active firms from 1995 - 2016 for 12 industrial and emerging Asia–Pacific economies which was the sample of the study. The study employed the dynamic panel regression to estimate fixed effects

(FE) approach and the random effects approach using OLS and correlation analysis method to detrmined the ralationshi that exist between the variables. From the findings, it was evident there was a positive growth-profitability relationship suggesting that initially profitability increases with the growth of the firm but eventually, overtime, gains in profit rates reduce, as size increases indicting that large size breeds inefficiency. The paper suffured from some limitations in that there was no clear research designed, also the population was not clearly presented and the pilot study was not performed to test validity and reliability of the data instrument.

Nadia Angelia, N, Kumalasari, D,& Christiawan, J.,(2021) Examined the effect of sales growth and independent commissioner's supervision on financial performance with corporate social responsibility as a moderating variable. Sales growth was one of the independent variable of the study while ROA was used to measure financial performance. The study then applied the experimental design. The population of the study consisted of 193 manufacturing companies listed on the IDX for the period between 2018-2020. purposive sampling technique was then employed to select a sample of 59 manufacturing companies from the population. The study then employed the multiple linear regression panel to analyze data. The study results proved that the higher the sales growth ,the higher the financial performance.

Nawaiseh,M.,(2020) investigated the effect firm's age, size and growth on its profitability based on the financial data of (22) Jordanian insurance firms that are registered in the Amman Security Exchange (ASE) during the period (2008-2017). Firm growth was one the independent variable of the study while profitability was the dependent variable of the study and was measured using ROE. The study sample consists of 22 firms which represented 95.2 % of insurance firms that are registered on ASE. Secondary data was collected from the financial reports of these firms

within the period of 2008-2017. They analyzed data using descriptive statistics in form of mean and standard deviations and inferential statistics in form of simple linear regression analysis. The study findings revealed that there is an insignificant effect of the insurance firm's growth on their profitability.

Abughniema, M, Aishatb, M, Hamdanc, M & Weshahb, S.,(2020) conducted their study to investigate the effect of Capital Structure and Firm Growth on the Firm Performance: Evidence from Jordan. Firm growth was one the independent variables of the study which was measured by sales growth while performance was the dependent variable of the study which was measured by ROA, ROS and ROI. They then conducted a quantitative reserch which was based on a cross-sectional time-series analysis of 35 industrial companies listed on the Amman Stock Exchange for 15 years from 2001 to 2015 which was comprised of 525 observations. They analyzed data using a multiple linear regression model where the findings revealed that firm growth positively affect the firm performance.

2.2.5 Relationship between Internal factors and financial performance measured by ROE

Utama, H., l Tan.,S., Lubis, T., & Machpuddin, A.,(2020) in their work they investigated the influence of company's external and internal factors to financial performance and company competitiveness on consumer good companies industry in Indonesia. Internal factors were measured using number of directors, number of employees and company size, while performance was measured using return of Equity. The sample of this research was 35 companies in the Consumer Goods Industry Sector on the Indonesia Stock Exchange during the period of 2016 to 2018. The study applied SEM (Structural Equation Modeling) based on component or variance-based analysis known as Partial Least Square (PLS) to analyze the data. The study findings

revealed that Internal factors affect the company's financial performance as measured by return on equity (ROE). The study had a several weaknesses in that it was not clear on research design as well us on the papulation of the study.

Hassan, S.,(2019) in his work, he assess the impact of Internal Factors on Banks' ROE, the independent variables were firm size, investment to deposit, non-performing investment and customer-to- income while the dependent variable was return on equity. The data was extracted from the Islamic banking industry of Bangladesh for the period ranging from 2012-2016. The researcher then applied cross-section random effects model to measure the relationship between dependent and independent variables. The findings of the study revealed that investment-to-deposit had a positive correlation with ROE and all other three variables had a negative relationship with ROE.

Pham, C., Tran, Q., Nguyen,L.,(2018) conducted their study on the effects of Internal Factors on Financial Performance of Listed Construction-Material Companies: The Case of Vietnam. The independent variable used in the study were firm size, growth, capital structure, business risk, fixed assets investment and management of accounts receivable while the dependent variable was firm performance which was measured by ROE and ROA. The study then used descriptive research design. The study applied regression for panel data which was collected from 30 listed construction-material firms. The study findings then revealed that firms' financial performance as measured by the ROE positively affect the firms' size, capital structure, capitalization expenditure, and accounts receivable management.

Hongli, J., Hongli, E., Bakpa,E.,(2019) did their study to assess the effect of liquidity and financial leverage on firm performance of manufacturing industries quoted on the Ghana Stock Exchange from six different sectors from 2007-2015. The independent variables was liquidity,

financial leverage, firm size, firm age and sales growth while the dependent variable of performance was measured by ROE and RAO. The study used the causal research design and panel data model. The study used a sample size of 22 manufacturing firms quoted on the Ghana Stock Exchange covering the period from 2007-2015. The data for the study was collected from the audited annual financial reports, Fact Book of Ghana Stock Exchange and from the web portals of individual firms which was then analyzed using STATA 14 to generate multiple linear regression models which explained the relationship between independent and dependent variables. The study found out that the effect of financial leverage has a strong positive impact on firm performance (ROA&ROE) with 65% of debt used to finance firm assets which in some extent had a great influence on firm performance.

2.3 Theoretical review

The theories that will underpin this investigation are discussed in the section as follows. They will consist of the Modigliani and Miller's theory of capital structure, liquidity preference theory, efficiency structure theory and trade off theory.

2.3.1 Modigliani and Miller's capital structure theory

The theory was developed by Modigliani and Miller,(1958) in their paper presented in the seminar. The original proposition (proposition 1) suggested that the firm is operating in a fully efficient market in which there are no taxes, transactions costs or bankruptcy costs. It also suggested that there is abundant information at the disposal of all parties where it argued that capital structure is irrelevant in determining the value of the firm. Therefore, it was believed that the level of financial leverage for a given entity does not in anyway influence the performance of such an entity where other factors will determine the firms performance away from leverage. In their second proposition (proposition 2) which was developed during the

Modigliani and Miller (1963) paper, they incorporated the effect of taxes in their model, so that the theory can come closer to the reality where it was argued that capital structure is relevant in determining the value of the firm as a results of the interest tax shield on debt finance, therefore leverage could increase the value of the firm making a fully equity financed firm to have lower value as opposed to an indebted firm.

Since it a publication scholars have tried to critique it where it a received a lot of criticism especially during preposition 1 where it was based on unrealistic assumptions such as where there are no taxes, transactions costs or bankruptcy costs as well as where there is abundant information at the disposal of all parties. For example, Stiglitz (1969) in his work proved that M&M assumptions were not vital therefore he disagreed with the work of M&M since it was on unrealistic assumptions which does not exist in the real world. The theory will therefore be relevant to the study as it explains how financial leverage can enable an entity to attain higher value due to the interest tax shield on debt financing as it is explained during proposition 2.

2.3.2 Liquidity preference theory

The theory was hypothesized by Keynes, J. (1936) where it discussed about the general concept of interest, employment as well as money. He developed the idea to support the interest rate's impact on both demand and supply for money. As a result, it is also known as the Keynesian Theory of Money. This hypothesis explains why businesses need to keep their cash on hand. According to the notion, holding onto cash might be done for the transactional, preventative, or speculative reasons (Gerber, 2013). For the purpose of conducting their daily economic activities, businesses retain cash. On the other side, the cautious motive occurs when businesses maintain liquid funds in order to deal with unforeseen emergencies, possibilities, and disasters. Businesses hold onto cash for speculative reasons so they can profit from changes in the price of

bonds and securities. This theory contends that both the supply and demand of money, often known as liquidity preference, affect interest rates. The cautious motive, on the other hand, is when businesses maintain liquid cash on hand to deal with unforeseen emergencies, opportunities, and disasters. In order to take advantage of changes in the price of bonds and securities, businesses hold onto cash for speculative reasons. This theory contends that the interest rate is influenced by both the supply and demand for money, which is also known as "liquidity preference. The hypothesis disregards actual forces like capital productivity and thrift. In this theory, Keynes viewed interest as a reward for releasing liquidity rather than as a reward for cost-cutting or saving. According to this notion, liquidity and financial performance are related. The theory therefore relevant to the study as it proposes the preferred level of liquidity that a firm should have at a particular time in order to meet the transactional, preventative and speculative demands which can lead to good performance of the firm.

2.3.3 Efficiency structure theory

Demsetz, H. (1973) in his work, he developed efficiency structure theory. The theory suggests that profitability and internal inefficiencies are related. According to Shipho (2011), the efficiency Structure hypothesis confirms that firms make large profits are more efficient than other institutions. Shipho (2011) claimed that the Efficiency structure theory argues that internal inefficiencies have an impact on firm profitability. The idea that more efficient businesses have lower costs, which therefore translate into higher profits, is formalized by the efficient structure hypothesis. The most effective companies will be able to grow their market share, which will lead to more concentration. According to the scale-efficiency theory, certain banks operate at a larger scale and incur reduced expenses as a result. The scale-efficient banks have faster growth and larger profits as a result of lower costs. The theory is therefore relevant to the study as it

explains how firm efficiency which is one of the independent variables can contribute towards the better performance of an entity.

2.3.4 Trade-off theory

According to Adair and Adaskou (2015), Modigliani and Miller developed the theory in 1958 based on the conventions that capital markets are perfect and that neither tax, transaction costs, nor agency costs can be used to assess how impartially the financial structure is in relation to the firm's value. According to the theory, businesses should strive for the appropriate degree of liquidity to balance the benefits and costs associated with holding onto cash (Mahfoudh, 2013). Due to the liquidity premium and likely tax shortfall, these assets have poor return rates, which are considered by the cost of holding cash.

The benefits of holding cash are twofold: the company can fund its endeavors and investments with liquid assets if other sources of funding are unavailable or prohibitively expensive, and it can avoid transaction costs associated with raising money by not needing to liquidate assets to make payments. According to Niresh (2012), maintaining a proper level of liquidity demonstrates that resources are locked up in liquid assets, making them unavailable for use in operations or investment goals that would yield higher returns. Therefore, businesses should constantly try to maintain a balance between various goals of profitability and liquidity. Liquidity for the company shouldn't be excessively high or low.

This explains why, despite how beneficial liquidity is, abundant liquidity can be just as harmful as insufficient liquidity. Companies need to maintain optimal liquidity to guarantee good profitability and, consequently, financial performance. This theory basically contends that in order for agricultural enterprises to experience a positive link between liquidity and financial

performance, they must maintain an optimal level of liquidity, beyond which the relationship will turn negative.

The idea is relevant to this research because, when the present value of tax savings from debt is added and the present value of costs related to potential financial difficulties is subtracted, the value of indebted firms, including agricultural firms, is equal to that of a non-corporate debt. hence, given that interest is deducted from taxable incomes, agricultural businesses develop an inducement to utilize debt instead of equity (Adair & Adaskou, 2015). The theory is therefore relevant to the study as it suggests that when financing a firm using debt financing that increases leverage, you must take into account the counter balance between tax savings associated with debt financing and the borrowing cost related to debt financing.

2.4 Critique of Literature

Several empirical and theoretical studies have been done on the study topic which have had strengths and weaknesses as we have discussed in the literature review. Under the empirical literature review, most studies done failed to specify the research designs as it is with work of Yameen, M.,Farhan, N.,&Tabash, M.,(2019), Yadav, I., Pahi, D., & Gangakhedkar, R.,(2021) and Utama, H., l Tan.,S., Lubis, T., & Machpuddin, A.,(2020). On the other hand, most studies done were not clear on the population of the study as well as the sample design used as it is in the work of Tran, N., & Hong, D.,(2020) and Yadav, I., Pahi, D., & Gangakhedkar, R.,(2021). Most studies done on the topic failed to conduct a pilot study to test the validity and reliability of the data collection instruments as it is with works of Chen., H,(2020, **Igbal., U,& Usman, M.,(2018),** Hassan, S.,(2019) and Bayraktaroglu, A., & Baskak, F.,(2019).

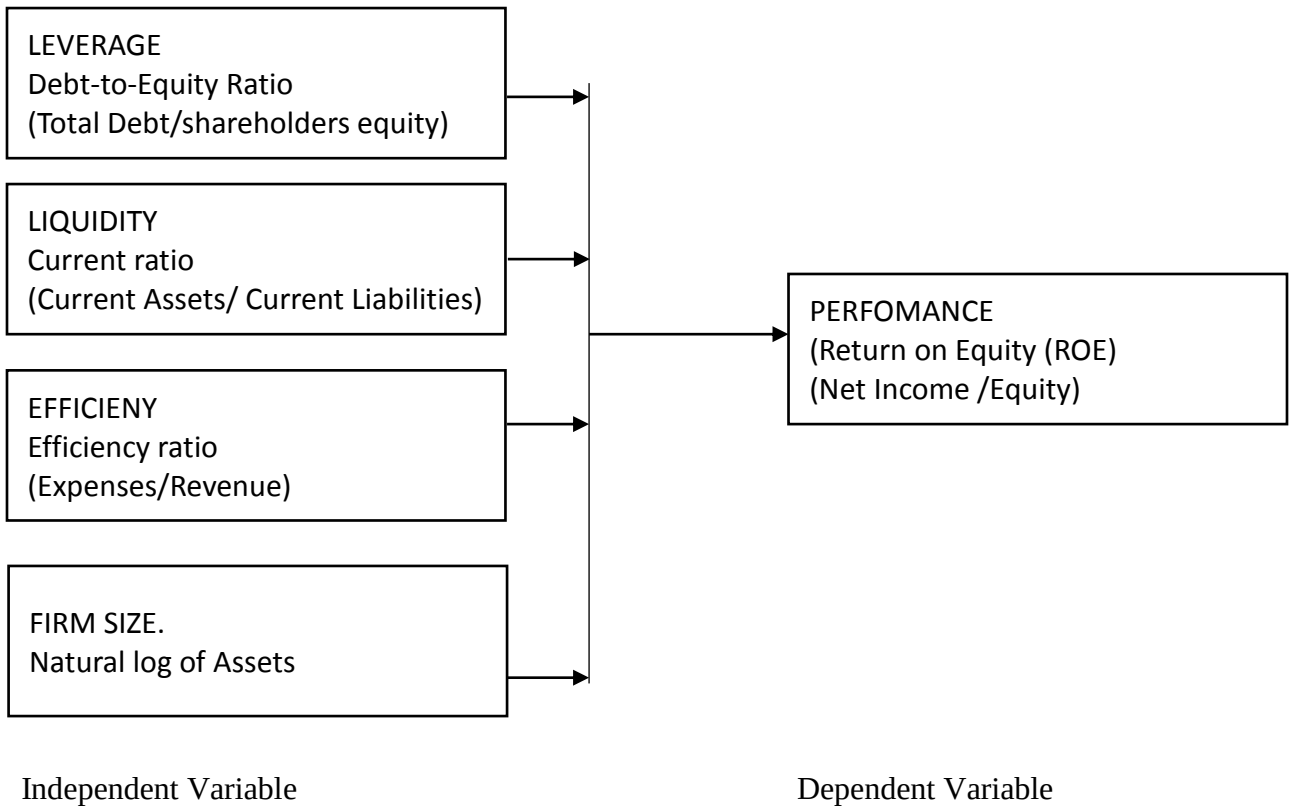
Under theoretical literature review, one of the relevant theories of the study used was Modigliani and millers theory of capital structure which suffered from limitations in that it was based on

unrealistic assumption such as there are no taxes, transactions costs or bankruptcy costs as well as where there is abundant information at the disposal of all parties. This therefore makes it not to be applicable in the real world full of inefficiencies.

2.5 Conceptual Framework

The conceptual framework refers to the reference linked concepts clearly showing how variables relate. In this study, conceptual framework identifies independent variables as leverage, liquidity efficiency and growth. These variables affect performance (dependent variable) in organizations as shown in the diagram

Conceptual Framework



2.6 Chapter summery

In this chapter, various research studies have been explored in relation to the research problem. Under the empirical literature review have discussed relevant studies per variable. For leverage the works of Forte., R, & Tavares, J., (2019), **Igbal., U,& Usman, M.,(2018),** Chen., H,(2020) and Asifowose., D., Aina, S., Aduragbeni, T (2020) have been discussed.

For liquidity, the works of Sundas,S., Butt, M (2021), Sumirrta, B.,(2019), Horsfall, K. (2022) and Yameen, M.,Farhan, N.,&Tabash, M.,(2019) have been also discussed.

For efficiency, the work of Azad, A., Raza, A., & Zaidi., S., (2018), Megeid, N., A bd-Elmageed, M., & Riad, N.,(2020), Tran, N., & Hong, D.,(2020) and Bayraktaroglu, A., & Baskak, F.,(2019) have been discussed.

For the growth, the work of Yadav, I., Pahi, D., & Gangakhedkar, R.,(2021), Nadia Angelia, N, Kumalasari, D,& Christiawan, J.,(2021), Nawaiseh,M.,(2020) and Abughniema, M, Aishatb, M, Hamdanc, M & Weshahb, S.,(2020) have been discussed and finally the dependent variable, the works of Utama, H., l Tan.,S., Lubis, T., & Machpuddin, A.,(2020), Hassan, S.,(2019), Pham, C., Tran, Q., Nguyen,L.,(2018) and Hongli, J., Hongli, E., Bakpa,E.,(2019) has been discussed.

Under the theoretical literature review, the study has discussed Modigliani and miller's capital structure theory, liquidity preference theory, efficiency structure theory and trade-off theory. The chapter has also presented critique of literature, research gap, conceptual framework and summery of literature.

2.7 Research Gap

Despite extensive studies done in the effects of internal factors on firm performance, several research gaps ranging from geographical, conceptual and methodological still exist which have

made the internal factors to remain thorny in contributing towards the struggle and the failure of the firms performance in the current world. Most studies done on the topic focused on developed nations leaving out developing countries such as Kenya as it is with works of Forte., R, & Tavares, J., (2019), **Igbal., U,& Usman, M.,(2018),** Chen., H,(2020) which were done in Europe, Pakistan and China respectively.

Most studies done in Kenya at NSE focused on other sectors and non has focused on agricultural sector as it is with works of David, W., Kariuki, K., Muturi, W., & Njeru, A. (2021) and Kinyua, F. & Fredrick, W,.(2021) which was done under manufacturing and insurance sectors respectively.

Most studies on the topic failed to perform diagnostic test and yet they used regression method of data analysys as it with the work of Utama, A., Tan, A., Lubis,T.,& Machpuddin, A.,(2020) and Pham., C., Tran,. Q., & Nguyen., L., (2018), Sumirrta, B.,(2019), Horsfall, K. (2022) and Megeid, N., A bd-Elmageed, M., & Riad, N.,(2020).

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter describes the research methods that were employed in the study which were; research design, target population, sampling design and sample size, methods of data collection and data analysis. The chapter concluded by providing an analytical multiple regression model that was used to analyzed data.

3.2 Research Design

Mugenda & Mugenda (2012**)** depicted research design as a systematic approach used to conduct a scientific study. It provided the direction in a way that targets to bring relevance to the research purpose with the economy in the procedure. On the other hand, research designs are plans and the procedures for research that provide a range of decisions from broad assumptions to detailed methods of data collection and analysis. (Creswell, 2014). The study applied correlational research design which was used to describe the various components of the investigation as well as the quantitative research design with the aim of identifying the relationship between the independent variables and the dependent variable. This is so because quantitative secondary data was collected from the NSE annual reports where the means, standard deviations, variances, correlation analysis and multiple regression analysis was performed.

3.3 Study area

The study was conducted in Kenya. The study was mainly be confined to firms listed at NSE, Kenya under agricultural sector since they have consistently reported low financial performance

which posed a threat to the economy of the country as agricultural sector is the back bone of the country's economy. Secondary data was used because all five firms listed in NSE have audited financial reports.

3.4 Target Population

Casteel, A.,& Bridier, N.,(2021) defines population to comprise of the groups, individuals, organizations, or other entities one seeks to understand and to whom or to which the study results may be generalized or transferred and is the principal group about which the research is concerned. It is a whole set of people or items from which the study aims to take a broad view of the findings from. The study targeted five firms listed at NSE, Kenya under agricultural sector.

3.5 Sample Design

Ndungo, (2018) defines sample size as the exact number that is considered as a unit of the population. The study applied census survey where all the five listed firms at NSE, Kenya under agricultural sector will be considered the since number is small and it will manageable by the researcher.

3.6 Diagnostic Tests

Diagnostic tests was carried out so to help in making decisions on how sufficient the data is give out results that is reliable. Normality tests, multicollinearity tests, Hausman Test and Breusch and Pagan Lagrangian multiplier test for random effects was conducted on the results.

3.6.1 Test for Normality

Bera and Jarque (1981) test for normality was used in this study. It further tested the null hypothesis that the disturbances are not normally distributed. If the p-value was < 0.05, then the

researcher would fail to reject the null hypothesis at the 5% level. However, if the p-value calculated is >0.05 the error variance was normally distributed.

3.6.2 Test for Multicollinearity

Daoud, J., (2017) defines multicollinearity is a scenario where more than two predictors are correlated. If this happend, the standard error of the coefficients would increase. When multicollinearity increases, regression coefficient might change from sample to sample, making interpretation of coefficient as a signal of relative importance of predicting factors more difficult (Cooper & Schindler 2003). It is calculated using the variance inflation factor (VIF) or tolerance. VIF is a term used to describe a scenario in which two or more independent variables are highly correlated with a value of >0.9, resulting in a multicollinearity problem (Xu et al. 2003). According to Xu et al. (2003), researchers have used VIF= 10 as a critical value rule of thumb to assess whether there is too much association.

3.6.3 Hausman Test

Hausman's specification test (1978) will be used to determine whether fixed or random effect should be used. If we fail to reject the null hypothesis, then random effect was an efficient estimator otherwise in case of rejection of null hypothesis, fixed effect estimation may give better or efficient estimation of betas. If Hausman test rejects the null hypothesis, therefore a decision is taken to use fixed effect model otherwise random model is usedWhen doing data analysis on the panel, one must choose between running a model with fixed effects or a model with random effects. In contrast to the fixed-effect model, which assumes that each business has its own unique set of features and a constant intercept, the random-effect model assumes that

there is only one significant intercept, and that it fluctuates randomly between firms (Khan, 2018).

3.6.4 Breusch and Pagan Lagrangian multiplier test for random effects

Breusch and Pagan Lagrangian multiplier will used to check whether random OLS or Pooled OLS is appropriate for the study. A calculated p-value >0.05 implies that the OLS or Pooled OLS is appropriate for the study while p-value <0.05 implies random effect is appropriate.

3.7 Operationalization of Study Variables.

Table 3.1 Operationalization of Study Variables.

Variable	Type	Parameters	Measurement
Leverage	Independent Variable	Debt-To Equity Ratio	Ratio.
liquidity	Independent Variable	Current Ratio	Ratio.
Efficiency	Independent Variable	Efficiency Ratio	Ratio.
Firm Size	Independent Variable	Natural log of Assets	
Performance	Dependent variable	Ratio(ROE)	Ratio

3.8 Data Analysis and Presentation of Findings

Babjide, D.,(2022) defines data analysis as a process of inspecting, cleansing, transforming, and data modeling with the main aim of discovering useful information, informing conclusions, or supporting theories for empirical decision-making.The secondary data will be collected,

classified, edited, coded and tabulated for data analysis. The study will then use Stata to generate measures of central tendency including mean and standard deviations. Correlation analysis will also be performed to establish relations between variables. In order to ascertain the correlations that could exist between independent variables and the dependent variable, multiple regression analysis will be carried out. ANOVA will also be performed to analyze the difference between the means of four independent variables while OLS will be conducted to describe the relationship between one or more independent quantitative variables and dependent variable.

3.8.1 Analytical Collection

Data collecting instruments are the tools used to collect data once the researcher has determined the kinds of information that are required (Waiyaki, 2017). Secondary data was used in this study. A systematic literature review was used to collect secondary data from the relevant literature for the study.

3.8.2 Analytical Collection

The consistency of a scale or measurement tool with its outcome is known as reliability. That means a test will be deemed reliable if it is administered with an instrument for a certain subject and the results are consistent across attempts. (Julius, 2020). The same questions were presented to the same respondents twice using the test-retest methodology, and dependability estimates were calculated by identifying a pattern in the data gathered from related investigations. According to Zikmund et al. (2013), a Cronbach's alpha of 0.8 or greater is regarded as very dependable. The replies to each question on the questionnaire were compared in order to assess the questionnaire's reliability**.**

3.8.2 Reliability instrument

The consistency of a scale or measurement tool with its outcome is known as reliability. That means a test was deemed reliable if it was administered with an instrument for a certain subject and the results are consistent across attempts. (Julius, 2020). The same procedure were used to the all financial audited reports that was published, and dependability estimates were calculated by identifying a pattern in the data gathered from related investigations. According to Zikmund et al. (2013), a Cronbach's alpha of 0.8 or greater is regarded as very dependable. The replies to

each question on the questionnaire were compared in order to assess the questionnaire's reliability

3.8.3 Validity of instruments

Validity is about what an instrument measures and how well it does so (Ahmed, & Ishtiaq, 2021). A preliminary test was used to determine the instrument's validity. Content validity was used in the study. To review and offer suggestions for enhancing the content of data collection tools, content validity contacts experts in the pertinent phenomena (Saunders et al., 2009). Before starting the main data collection, the researcher did a preliminary test with 5 audit report that was published from the target population who reviewed the study's questionnaire and made the necessary adjustments.

3.8.4 Analytical Model

The multiple regression model that will be used is as laid below. The error term is also provided which measures the unexplained variations in the model.

$$Y=\alpha + \beta 1X1 + \beta 2X2 + \beta 3X3 + \beta 4X4 + \varepsilon$$

Where:

Y= Performance measured by return on equity (ROE).

X1=Leverage measured by debt-to-equity ratio.

X2=Liquidity measured by current ratio.

X3=Efficiency measured by Efficiency ratio.

X4=Firm size measured by Natural log of assets.

α=The constant term.

βi= coefficient used to measure the sensitivity of the dependent variable a unit change in the predictor variable.

ε= The error term used to capture unexplained variations in the model and which is assumed to be normally distributed with a mean of zero and a constant variance

CHAPTER FOUR

RESEARCH FINDINGS AND DISCUSSIONS

4.3 Introduction

This chapter presents the findings of the study, including a comprehensive analysis and discussion of the results. The chapter is structured to provide an overview of the data through descriptive statistics, evaluate the adequacy of the data using diagnostic tests, and present the outcomes from panel regression analysis. The findings are interpreted in the context of the study objectives, drawing comparisons with existing literature to provide insights into the relationship between the independent variables (leverage, liquidity, efficiency, and firm size) and the dependent variable (financial performance measured by return on equity). The goal is to identify patterns, relationships, and significant predictors impacting the financial performance of agricultural firms listed on the Nairobi Securities Exchange (NSE), Kenya.

4.2 Descriptive Statistics

Table 4.1 below provides the descriptive statistics of the key variables used in the study, which include the number of observations (Obs), mean, standard deviation (Std. Dev.), minimum (Min), and maximum (Max) values. These statistics offer a preliminary understanding of the data distribution for each variable.

Table 4.1 Descriptive Statistics of Study Variables

Variable	Obs	Mean	Std. Dev.	Min	Max
year	72	2017.5	3.476	2012	2023
turnover	72	2000007.2	1737856.2	47947	7345305
profitafterincometax	72	237378.99	384008.64	-337737	1800646
currentassets	72	1433800.6	1162035.2	33001	3657136
noncurrentassets	72	3844595.4	4179193.9	93796	14033606
totalassets	72	5278396	5049436	208501	16818463
currentliabilities	72	299758.47	278578.48	4530	1224956
noncurrentliabilities	72	733858.57	659477.23	14837	2287908
totalliabilities	72	1033617	886192.85	26211	2858231
totalequity	72	4174206.3	4274975.5	182290	14539268
leveragedebttoequityratio	72	.282	.125	.085	.693
liquidity	72	6.466	8.468	-1.561	46.449
efficiency	72	.399	.185	.051	.808
firmsize	72	6.415	.61	5.319	7.226
performance	72	4.725	8.559	-14.725	42.04

The average turnover for the firms is approximately 2,000,007, with substantial variability indicated by a standard deviation of 1,737,856. The profit after income tax displays a mean of 237,378.99 but ranges significantly from negative values (losses) to a high of 1,800,646, reflecting varied performance across the sample. The mean current ratio of 6.466 suggests that,

on average, the firms maintain relatively high liquidity, although the presence of negative minimum values implies potential liquidity challenges for certain firms.

The average debt-to-equity ratio of 0.282 indicates a conservative leverage approach, with variability suggesting different financing structures among the firms. The firm size, measured by the natural log of assets, averages 6.415, while efficiency (asset turnover) has a mean of 0.399, signifying moderate effectiveness in using assets to generate revenue.

Summary statistics by Agricultural Company Listed

The descriptive statistics in Table 4.2 highlighted key financial metrics across six agricultural companies listed on the Nairobi Securities Exchange. The analysis focused on the variables of Return on Equity (ROE), turnover, liquidity, asset turnover efficiency, and firm size (log assets). The following section discussed the results for each company and their implications.

Eaagads Ltd

Eaagads Ltd exhibited a negative mean ROE of -2.617, indicating that, on average, the company experienced losses. The high variability (standard deviation of 6.184) and the wide range from -14.725 to 4.529 reflected inconsistent profitability over the study period. This fluctuation in ROE suggests that while there were occasional periods of profitability, the company struggled to maintain positive returns consistently. In terms of turnover, Eaagads generated a mean of 126,380.33, with significant fluctuations (SD of 51,240.044). This revenue, although modest, varied substantially from year to year. Liquidity was relatively high, with a mean of 10.441, but the standard deviation of 17.283 indicated substantial volatility in the company's ability to manage short-term obligations. Eaagads also had low asset turnover efficiency, with a mean of 0.149, showing that the company was not effectively utilizing its assets to generate revenue. The firm’s size, indicated by the mean log of assets (5.947), suggested that Eaagads was a smaller

company compared to its peers.

Kakuzi

Kakuzi, on the other hand, demonstrated strong financial performance, with a mean ROE of 11.007, supported by a relatively low standard deviation of 3.914. The company consistently generated positive returns, with a range from 5.367 to 15.323. This stability in profitability reflects effective management and operational efficiency. Kakuzi's turnover was notably higher than Eaagads', with a mean of 2,948,215, reflecting its larger scale of operations. The company also exhibited sound liquidity management, with a mean of 7.835, and moderate fluctuations (SD of 2.675). Its asset turnover efficiency was high at 0.507, indicating that Kakuzi effectively utilized its assets to generate revenue. With a mean firm size log of 6.737, Kakuzi was one of the larger companies in the study, aligning with its high turnover and solid performance.

Kapchorua Tea Co. Ltd

Kapchorua Tea Co. Ltd displayed a mean ROE of 8.197, suggesting good profitability, although with more variability (SD of 6.041). The company experienced both positive and negative performance over the study period, with a range from -2.959 to 16.843. Kapchorua's turnover of 1,382,029.3 indicated stable revenue generation, though it was smaller than Kakuzi's. Liquidity was moderate, with a mean of 4.236 and a standard deviation of 4.276, reflecting variability in the company's ability to meet short-term obligations. The company showed strong asset turnover efficiency, with a mean of 0.667, indicating effective use of its assets. Kapchorua's firm size,

represented by the mean log of assets (6.316), was moderate in comparison to the other companies.

Limuru Tea Ltd

Limuru Tea Ltd demonstrated a mean ROE of 2.857, indicating relatively low profitability, with high variability (SD of 13.642). The range of -11.787 to 42.04 indicated significant fluctuations in the company's performance, with occasional periods of significant losses. Limuru's turnover was much smaller, with a mean of 97,544.333, and the company exhibited greater volatility in revenue (SD of 26,780.029). The mean liquidity of 6.06 suggested that Limuru had a reasonable capacity to meet its short-term obligations, though there were periods of financial stress, as reflected in the SD of 3.373. The company's asset turnover efficiency was moderate, with a mean of 0.378, suggesting that Limuru could improve its utilization of assets to generate revenue. The firm size, with a mean log of assets of 5.421, indicated that Limuru was one of the smaller companies in the study.

Sasini

Sasini had a mean ROE of 3.573, reflecting moderate profitability, but with considerable variability (SD of 4.654), as evidenced by the range of -2.621 to 12.644. The company's turnover was significantly higher, with a mean of 3,978,225.1, reflecting its larger scale of operations. However, the liquidity ratio of 5.998, with a high SD of 8.890, suggested that Sasini faced challenges in managing its short-term assets consistently. The company's asset turnover efficiency was relatively low, with a mean of 0.284, suggesting inefficiencies in utilizing assets to generate revenue. Sasini's firm size was the largest among the companies, with a mean log of

assets at 7.14, consistent with its high turnover.

Table 4.2 Summary statistics by Agricultural Company Listed

Company: Eaagads Ltd	mean	Median	sd	min	max	p25	p75
performance	-2.617	.243	6.184	-14.725	4.529	-7.84	1.269
turnover	126380.33	132837	51240.044	48622	234296	89665.5	149654.5
liquidity	10.441	2.014	17.283	-1.561	46.449	1.32	12.872
efficiency	.149	.144	0.071	.051	.274	.09	.203
firmsize	5.947	5.961	0.257	5.633	6.428	5.729	6.012
Kakuzi							
performance	11.007	12.433	3.914	5.367	15.323	6.709	14.403
turnover	2948215	2856294	1171393.375	1384375	5401468	2085880.5	3452677.5
liquidity	7.835	8.214	2.675	3.902	11.223	5.429	10.25
efficiency	.507	.507	0.087	.372	.709	.443	.538
firmsize	6.737	6.767	0.120	6.553	6.882	6.622	6.839
Kapchorua Tea Co.Ltd							
performance	8.197	8.749	6.041	-2.959	16.843	5.7	12.751
turnover	1382029.3	1387194.5	202524.675	1073899	1841490	1242355.5	1452265
liquidity	4.236	2.495	4.276	.143	14.07	2.033	4.248
efficiency	.667	.654	0.092	.541	.808	.584	.742
firmsize	6.316	6.303	0.039	6.273	6.396	6.288	6.34
Limuru Tea Ltd							
performance	2.857	1.867	13.642	-11.787	42.04	-5.131	4.784
turnover	97544.333	100292.5	26780.029	47947	137767	82319.5	119193
liquidity	6.06	5.463	3.373	2.079	12.561	3.501	6.981
efficiency	.378	.388	0.128	.156	.608	.335	.413
firmsize	5.421	5.423	0.069	5.319	5.512	5.358	5.492
Sasini							
performance	3.573	2.796	4.654	-2.621	12.644	.236	6.79
turnover	3978225.1	3542924.5	1460335.157	2762547	7345305	2805832	4731314
liquidity	5.998	2.286	8.890	1.217	30.725	1.833	4.328
efficiency	.284	.298	0.082	.174	.449	.201	.333
firmsize	7.14	7.17	0.094	6.951	7.226	7.117	7.209
Williamson Tea Kenya Ltd							
performance	5.331	7.266	7.370	-4.292	17.285	-2.614	9.944
turnover	3467648.8	3499289.5	387564.591	2590416	4019821	3356016	3670723
liquidity	4.228	2.359	4.208	.517	13.338	1.958	4.963
efficiency	.408	.41	0.047	.303	.498	.383	.427
firmsize	6.93	6.932	0.035	6.86	6.978	6.903	6.957

Williamson Tea Kenya Ltd

Williamson Tea Kenya Ltd had a mean ROE of 5.331, which was a positive but variable return,

as indicated by the high standard deviation of 7.370. The company's ROE ranged from -4.292 to 17.285, showing occasional losses but also strong profitable periods. Williamson's turnover was substantial, with a mean of 3,467,648.8, reflecting its large scale of operations. The liquidity ratio of 4.228, with an SD of 4.208, indicated moderate variability in the company's ability to manage short-term obligations. The asset turnover efficiency of 0.408 suggested fair use of assets, with room for improvement. Williamson's firm size was notable, with a mean log of assets of 6.93, positioning it as one of the larger firms in the study.

4.3 Diagnostic Test Results

To validate the model and ensure its reliability, diagnostic tests were conducted:

4.3.1 Test for Normality

The normality of the error terms in the regression model was assessed using the Jarque-Bera test, which evaluates skewness and kurtosis to determine if the residuals follow a normal distribution. The results of the Skewness/Kurtosis tests for normality are presented in Table 4.3

For the residuals, the probability values for skewness and kurtosis were 0.571 and 0.676, respectively. These values indicated that there was no significant evidence of skewness or kurtosis in the residuals, suggesting that the distribution was approximately symmetric and had a normal shape. The adjusted chi-squared statistic (adj_chi2(2)) was 0.350, and the corresponding p-value was 0.621. Since the p-value was greater than the conventional significance level of 0.05, it was concluded that the residuals did not significantly deviate from normality.

Table 4.3 Skewness/Kurtosis tests for Normality

Variable	Obs	Pr(Skewness)	Pr(Kurtosis)	adj_chi2(2)	Prob>chi2
residuals	72	0.571	0.676	0.350	0.621

4.3.2 Test for Multicollinearity

The potential issue of multicollinearity among the independent variables was evaluated using the Variance Inflation Factor (VIF) analysis. The VIF values for the independent variables are shown in Table 4.4.

The VIF values for efficiency, leverage, and firm size were 1.589, 1.579, and 1.013, respectively. Since all these values were well below the threshold of 10, it was determined that there were no significant multicollinearity concerns among the independent variables. Specifically, VIF values closer to 1 indicate that the variables are not highly correlated with each other, which is a favorable condition for stable regression coefficients.

Table 4.4 Variance inflation factor

Variable	VIF	1/VIF
efficiency	1.589	.629
leverage	1.579	.634
firmsize	1.013	.987
Mean VIF	1.394	.

The mean VIF across all variables was calculated to be 1.394, further reinforcing that multicollinearity was not an issue in the model. Therefore, the results from the VIF analysis supported the assumption that the independent variables could be included in the regression analysis without compromising the reliability of the estimates.

4.3.3 Hausman Test

The Hausman test was conducted to determine whether a fixed effects or random effects model should be used for the data analysis.

H0: Random effect is appropriate

Ha: Fixed effect is appropriate

The results from the test are presented in Table 4.5

The coefficients for the fixed effects model (b) and random effects model (B) were compared. For the variable firm size, the difference between the fixed and random coefficients was 13.85733, with a standard error of 7.257919. For leverage, the difference was 9.025116 with a

standard error of 7.069221. Finally, for efficiency, the difference in coefficients was 4.06229 with a standard error of 8.83669.

Table 4.5 The Hausman test

```
. // Perform Hausman test
. asdoc hausman fixed random
(File Myfile.doc already exists, option append was assumed)
```

	Coefficients			
	(b) fixed	(B) random	(b-B) Difference	sqrt(diag(V_b-V_B)) S.E.
firmsizelo~s	16.69979	2.842465	13.85733	7.257919
leveragede~o	5.50812	-3.516996	9.025116	7.069221
efficiency~o	27.06385	23.00156	4.06229	8.83669

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

chi2(3) = (b-B)'[(V_b-V_B)^(-1)](b-B)
= 7.11
Prob>chi2 = 0.0686

The Hausman test statistic, $chi^2(3)$, was computed to be 7.11, with a corresponding p-value of 0.0686. Since the p-value is greater than 0.05, the null hypothesis (that the difference in coefficients is not systematic) was not rejected. This suggests that the random effects model is more appropriate than the fixed effects model for this study, as the random effects model is consistent and efficient under the null hypothesis.

Therefore, based on the Hausman test results, it was concluded that the random effects model should be used for analyzing the relationship between the independent variables and the dependent variable in this study.

4.3.4 Breusch and Pagan Lagrangian Multiplier Test

The Breusch and Pagan Lagrangian Multiplier (LM) test for random effects was conducted to determine whether a random effects model was appropriate for the data. The test is designed to

compare the goodness of fit between a random effects model and a pooled OLS model by testing the null hypothesis that the variance of the random effects ($Var(u)$) is zero. The results are shown in Table 4.6 below.

The test results indicated that the variance of the random effect (u) was reported as zero, suggesting that there was no significant variation across companies that could be captured by a random effect. Specifically, the variance of u was found to be zero, with a corresponding standard deviation of zero as well. This implies that the company-specific random effects did not contribute to the model in any meaningful way.

Table 4.6 The Breusch and Pagan Lagrangian Multiplier (LM) test

```
Breusch and Pagan Lagrangian multiplier test for random effects

        performanceroe[Company_num,t] = Xb + u[Company_num] + e[Company_num,t]

        Estimated results:
                         |        Var     sd = sqrt(Var)
                ---------+------------------------------
                perform~e |    73.25482       8.558903
                        e |     53.5617       7.318586
                        u |           0              0

        Test:   Var(u) = 0
                                chibar2(01) =      0.00
                              Prob > chibar2 =    1.0000
```

Given these results, the analysis concluded that a pooled OLS model would be more appropriate for the data. Since the random effects did not significantly vary across companies, pooling the data for a simpler OLS regression would be a better fit, as it would avoid the unnecessary complexity introduced by random effects.

Thus, the Breusch and Pagan test supported the decision to use a pooled OLS model instead of a random effects model for this particular dataset, simplifying the analysis while still providing valid results.

4.4 Panel Regression Model Results

The panel regression analysis results revealed significant relationships between several independent variables—leverage, liquidity, efficiency, and firm size—and the dependent variable, performance (measured by Return on Equity, ROE). Leverage was found to have a negative coefficient of -1.939, with a t-value of -0.22 and a p-value of 0.824. These results indicated that leverage did not significantly affect performance, as the p-value was greater than 0.05, suggesting that changes in leverage were not associated with changes in firm performance. On the other hand, liquidity showed a positive and statistically significant effect on performance, with a coefficient of 0.215 and a t-value of 2.07. The p-value of 0.042, which was less than 0.05, confirmed that liquidity was positively related to performance, indicating that firms with higher liquidity tended to experience better financial performance.

Efficiency also had a strong positive relationship with performance, with a coefficient of 24.04 and a t-value of 4.08. The p-value of 0.000 was well below the 0.01 significance level, signifying that more efficient firms were likely to achieve better performance. This highlighted the importance of operational efficiency in driving financial outcomes. Firm size, while showing a positive effect on performance, had a weaker influence, with a coefficient of 2.677, a t-value of 1.88, and a p-value of 0.065. Though the p-value was slightly higher than the conventional threshold of 0.05, it remained significant at the 0.10 level, suggesting that larger firms might experience better performance, but this effect was less pronounced than that of liquidity and efficiency.

Table 4.7 Panel regression Results

performance	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
leverage	-1.939	8.693	-0.22	.824	-19.29	15.412	
liquidity	.215	.104	2.07	.042	.008	.422	**
efficiency	24.04	5.894	4.08	0	12.275	35.804	***
firmsize	2.677	1.425	1.88	.065	-.167	5.522	*
Constant	-22.881	9.365	-2.44	.017	-41.574	-4.188	**

Mean dependent var	4.725	SD dependent var	8.559
R-squared	0.620	Number of obs	72
F-test	7.895	Prob > F	0.000
Akaike crit. (AIC)	494.680	Bayesian crit. (BIC)	506.063

*** *p<.01, ** p<.05, * p<.1*

The model's overall fit was measured by an R-squared value of 0.620, indicating that 62% of the variation in performance could be explained by the independent variables, suggesting a good

model fit. The F-test statistic of 7.895 with a p-value of 0.000 confirmed that the model as a whole was statistically significant, meaning that at least one of the independent variables had a significant relationship with performance. Additionally, the Akaike Information Criterion (AIC) and Bayesian Information Criterion (BIC) values of 494.680 and 506.063, respectively, were used to evaluate the model's relative fit, with lower values indicating a better fit.

The panel regression analysis results suggested that liquidity, efficiency, and firm size were significantly associated with firm performance, while leverage did not show a significant effect. The findings underscored the importance of liquidity management and operational efficiency as key drivers of financial performance. These results provide valuable insights into the factors that influence the financial success of firms and highlight areas where improvements could lead to enhanced performance outcomes.

The multiple regression model that was used is as laid below.

$$Y = \alpha + \beta 1X1 + \beta 2X2 + \beta 3X3 + \beta 4X4 + \varepsilon$$

Where:

Y= Performance measured by return on equity (ROE).

X1=Leverage measured by debt-to-equity ratio.

X2=Liquidity measured by current ratio.

X3=Efficiency measured by Efficiency ratio.

X4=Firm size measured by Natural log of assets.

α=The constant term.

βi= coefficient used to measure the sensitivity of the dependent variable a unit change in the predictor variable.

ε= The error term used to capture unexplained variations in the model and which is assumed to be normally distributed with a mean of zero and a constant variance

Based on the results of the panel regression analysis, the fitted model was expressed as:

$$Performance(ROE) = -22.881 - 1.939(Leverage) + 0.215(Liquidity) + 24.04(Efficiency) + 2.677(Firm\ Size) + \epsilon$$

The coefficients indicated that for each unit increase in leverage, ROE decreased by 1.939 units, while each unit increase in liquidity resulted in a 0.215-unit increase in ROE. Efficiency had a significant positive impact, with each unit increase associated with a 24.04-unit increase in ROE. Firm size also had a positive influence, with a coefficient of 2.677. The error term (ϵ) accounted for variations in ROE not explained by the independent variables, upholding the assumption of normal distribution with constant variance.

CHAPTER FIVE

DISCUSSION OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

Chapter Five presents the discussion of the research findings, conclusions drawn from the results, and recommendations based on the research objectives. The chapter focuses on Relationship of Internal Factors and Financial Performance of Agricultural Firms listed in Nairobi Securities Exchange(NSE). The discussion is structured to follow the sequence of the study's objectives, providing an in-depth interpretation of the results, connecting them to existing literature, and highlighting their significance. This section also includes practical recommendations for stakeholders and final reflections on the implications of the study.

5.2 Discussion of Findings

The discussion of findings centers on the relationship between internal factors and the financial performance of agricultural firms listed on the Nairobi Securities Exchange (NSE). The study examined key variables, including leverage, liquidity, efficiency, and firm size, to assess their impact on return on equity (ROE). Each variable's influence is interpreted in relation to the broader context of financial theories and past research.

5.2.1 Relationship between Leverage and Financial Performance

The analysis of the relationship between leverage and financial performance, measured by return on equity (ROE), revealed an inverse relationship with a coefficient of -1.939. This negative coefficient indicated that as leverage increased, financial performance tended to decrease, albeit

insignificantly. The p-value for leverage was 0.824, which was well above the standard significance thresholds ($p < 0.05$ or $p < 0.1$). This lack of statistical significance implied that leverage did not have a meaningful impact on the financial performance of the agricultural firms listed on the Nairobi Securities Exchange (NSE).

While leverage is often employed by firms to potentially enhance returns through financial leverage, this study suggested that its effectiveness in the context of agricultural firms was limited. The observed negative relationship may have been due to the inherent risks of high debt levels, especially in the agricultural sector, which is susceptible to factors like weather variations, commodity price volatility, and international market shifts. The mean VIF for the model was 1.394, confirming that multicollinearity was not an issue and that the results were robust in that regard.

The analysis of the relationship between leverage and financial performance in this study supports the findings of Chen (2020), who observed that leverage has a minimal or insignificant impact on financial performance. This indicated that high leverage in certain industries, especially those with stable cash flows, could increase returns on equity by using borrowed funds to amplify profits.

However, the results of this study contradict those of Asifowose, Aina, and Aduragbeni (2020), who examined the effect of financial leverage on firm performance and found a positive relationship between leverage and performance. Their study suggests that firms with higher leverage tend to achieve better financial performance due to the potential for leveraging fixed costs and maximizing returns from borrowed capital. In contrast, this study's findings, which show a statistically insignificant negative relationship, indicate that the effect of leverage in agricultural firms might differ from other sectors or contexts explored in previous research.

The discrepancy in findings between this study and that of Asifowose et al. (2020) may be due to the specific characteristics of the agricultural sector, where firms face volatility in income, dependency on weather conditions, and fluctuating market prices. These factors could limit the effectiveness of leverage as a tool for enhancing financial performance. Therefore, while leverage may have a positive impact in other industries, its role in agricultural firms may be less pronounced or even detrimental, as indicated by the results of this study. While leverage could influence financial outcomes to some degree, its effect was less pronounced in the agricultural firms compared to other industries with more predictable cash flows. This suggests that while leverage is a tool for potentially enhancing financial performance, its benefits are limited for agricultural firms facing unique risks. Therefore, stakeholders in the agricultural sector should recognize that although leverage can be strategically used, its effect on financial performance may be more subdued compared to industries with more stable operational environments.

5.2.2 Relationship between Liquidity and Financial Performance

The relationship between liquidity and financial performance, as indicated by the findings of this study, demonstrates a positive and statistically significant association. The coefficient for liquidity is 0.215, with a p-value of 0.042, which is below the 0.05 threshold for statistical significance. This suggests that higher liquidity, as measured by the current ratio, is associated with better financial performance, specifically in terms of return on equity (ROE), for agricultural firms listed on the Nairobi Securities Exchange (NSE).

The findings of this study align with previous literature that emphasizes the positive relationship between liquidity and financial performance. Specifically, the study's result, which shows a positive and statistically significant coefficient for liquidity (0.215, $p = 0.042$), supports the conclusions drawn by Sundas and Butt (2021), Sumirrta (2019), and Yameen, Farhan, and Tabash (2019). Their findings indicate that firms with higher liquidity levels are better positioned to meet short-term obligations and take advantage of growth opportunities, which directly contribute to their financial performance.

The positive association between liquidity and financial performance in this study can be attributed to the ability of firms to effectively manage short-term financial obligations and ensure smooth business operations. Agricultural firms, in particular, face unique challenges such as fluctuations in commodity prices, climate change, and seasonality of operations. Therefore, maintaining an adequate level of liquidity allows them to better absorb these shocks, sustain operations during lean periods, and capitalize on profitable opportunities when they arise. This, in turn, boosts their return on equity, which is a key measure of financial performance.

The results of this study, alongside the insights from the broader literature, shows the critical role of liquidity in enhancing the financial performance of agricultural firms. Maintaining a healthy liquidity position enables firms to manage short-term financial risks and improve profitability, thus supporting their long-term financial health.

5.2.3 Relationship between Efficiency and Financial Performance

The relationship between efficiency and financial performance, as measured by the efficiency ratio in this study, reveals a strong positive and statistically significant association with financial performance, specifically return on equity (ROE). The coefficient for efficiency is 24.04, with a p-value of 0.000, which is well below the 0.01 threshold for statistical significance. This suggests that higher efficiency, as reflected by a higher efficiency ratio, is positively correlated with improved financial performance in agricultural firms listed on the Nairobi Securities Exchange (NSE).

These findings are consistent with previous research that emphasizes the critical role of efficiency in driving financial performance. For instance, Megeid, Abdelmageed, and Riad (2020) investigated the association between operational efficiency and financial performance, particularly focusing on capital structure and management as moderator variables. Their findings revealed that operational efficiency has a positive and significant impact on a company's earnings management. Similarly, Tran and Hong (2020) examined the contribution of human capital efficiency to firm performance and found that human capital efficiency significantly contributes to firm performance. Both studies reinforce the positive relationship between efficiency and financial performance, aligning with the current study's conclusion that efficiency is a key determinant of better financial outcomes.

The high coefficient and statistical significance of the efficiency variable suggest that agricultural firms with better utilization of their assets and operational processes tend to achieve higher returns on equity. This finding highlights the importance of improving efficiency as a

strategy for boosting financial performance in agricultural firms, which is essential for sustaining profitability and competitiveness in a dynamic market environment.

5.2.4 Relationship between Firm size and Financial Performance

The relationship between firm size and financial performance in this study shows a positive but marginally significant association. The coefficient for firm size, as measured by the natural log of assets, is 2.677, with a p-value of 0.065, which is below the 0.1 threshold for statistical significance. This indicates that while firm size is positively associated with return on equity (ROE), the relationship is only weakly significant at the 10% level. In other words, larger firms tend to perform better financially, but the evidence for a strong link between firm size and financial performance is somewhat limited in this case.

This result aligns with the broader literature, including Yadav, Pahi, and Gangakhedkar (2021), who found a positive growth-profitability relationship. Similarly, larger firms in this study appear to have better financial performance, which can be attributed to their ability to leverage economies of scale, enhanced financial resources, and a stronger market presence, all of which can facilitate better returns. However, this relationship is not as strong or significant as those observed with other factors such as efficiency and liquidity, which were found to have more pronounced effects on financial performance.

Additionally, the findings contradict Nawaiseh (2020), whose research indicated an insignificant effect of firm growth on profitability for Jordanian insurance firms. This discrepancy may arise due to differences in industry characteristics; while firm size may hold more significance in

capital-intensive sectors like agriculture, it may be less influential in sectors where intangible assets, such as human capital or technological innovation, drive profitability.

Lastly, the positive relationship between firm size and performance observed here also resonates with the study by Abughniema et al. (2020), who found that firm growth positively affects performance. Thus, larger agricultural firms may have more resources to invest in operational efficiencies and leverage market opportunities, which in turn contribute to better financial performance. However, as the results in this study suggest, while firm size does play a positive role, its impact is less significant than other factors like efficiency and liquidity, which were found to be more directly correlated with better financial outcomes.

Thus, while firm size does contribute positively to financial performance, its influence is secondary to the more significant factors of liquidity and operational efficiency, which were found to have strong, statistically significant impacts on the return on equity (ROE) of agricultural firms listed on the NSE. The results suggest that while firm size can provide a competitive advantage, the efficient management of liquidity and operational resources appears to be more critical for enhancing financial performance.

5.3 Conclusion

This study aimed to investigate the relationship between internal factors and the financial performance of agricultural firms listed on the Nairobi Securities Exchange (NSE), with a focus on leverage, liquidity, efficiency, and firm size as key variables. The results highlighted significant findings that provide valuable insights into how these internal factors impact the return on equity (ROE), which serves as a proxy for financial performance.

The analysis revealed that leverage, as measured by the debt-to-equity ratio, does not have a significant positive impact on financial performance. In fact, a negative relationship was observed, suggesting that increasing leverage may not be beneficial for the financial performance of agricultural firms in this context. This finding emphasizes the importance of careful management of debt levels, as high leverage might increase financial risks and hinder performance.

The study also found a statistically significant positive relationship between liquidity and financial performance. The positive coefficient for liquidity suggests that firms with better liquidity positions, as measured by the current ratio, are more likely to perform better financially. This supports the idea that liquidity plays a critical role in ensuring firms can meet short-term obligations and capitalize on growth opportunities, directly contributing to improved financial performance.

Efficiency, as measured by the efficiency ratio, emerged as the most significant predictor of financial performance. The strong positive relationship observed between efficiency and return on equity indicates that firms with better operational efficiency are more likely to achieve higher profitability. This highlights the importance of optimizing operations and reducing inefficiencies to enhance financial outcomes.

Finally, the study found a positive, though marginally significant, relationship between firm size and financial performance. Larger firms were shown to have better financial performance, likely due to their ability to leverage economies of scale and access greater resources. However, the effect of firm size was less pronounced than that of liquidity and efficiency, suggesting that while firm size may offer advantages, it is not as crucial to financial performance as the efficient management of liquidity and operational resources.

The study highlights the critical role that internal factors such as liquidity and efficiency play in driving the financial performance of agricultural firms. While firm size also has a positive influence, its impact is secondary to liquidity and efficiency. The findings underscore the need for agricultural firms to focus on improving their operational efficiency and maintaining strong liquidity positions to enhance their financial performance. These results have important implications for stakeholders in the agricultural sector, including investors, managers, and policymakers, who should consider these factors when making decisions related to firm performance and growth.

5.4 Recommendation

Based on the findings of this study, several recommendations can be made to improve the financial performance of agricultural firms listed on the Nairobi Securities Exchange (NSE). These are: Optimizing leverage where given the negative relationship between leverage and financial performance, agricultural firms should carefully consider their debt levels. While some level of debt can be beneficial for growth, excessive leverage may lead to financial instability and increased risk. Firms should focus on maintaining an optimal debt-to-equity ratio that balances growth with financial stability. Financial managers should assess the potential risks and returns associated with debt and explore alternative financing options, such as equity financing, to support sustainable growth. Secondly, improving liquidity management where the positive relationship between liquidity and financial performance emphasizes the importance of maintaining healthy liquidity levels. Agricultural firms should prioritize effective liquidity management by ensuring they have sufficient cash reserves to meet short-term obligations and

capitalize on investment opportunities. Developing a strong working capital management strategy, including managing inventory, receivables, and payables efficiently, is essential to maintain liquidity and enhance overall financial performance. Thirdly, enhancing operational efficiency where operational efficiency was found to have a significant positive impact on financial performance. Agricultural firms should invest in technology, process optimization, and cost reduction strategies to improve operational efficiency. In minimizing waste, enhancing productivity, and reducing operational costs, firms can increase profitability and overall performance. Additionally, training and development programs aimed at improving workforce efficiency can be instrumental in achieving better financial outcomes. Finally, leveraging economies of scale for larger firms, that is, while firm size had a positive impact on financial performance, the effect was less significant than liquidity and efficiency. Larger firms should continue to leverage their size to achieve economies of scale, expand their market reach, and improve bargaining power with suppliers and customers. However, smaller firms can also benefit from focusing on operational efficiency and liquidity management, even if they cannot achieve the same scale advantages.Improving financial performance in the agricultural sector requires a balanced approach that prioritizes liquidity management, operational efficiency, and optimal leverage. Through implementing these recommendations, agricultural firms can enhance their financial outcomes and achieve sustainable growth in a competitive market environment.

5.5 Areas for Further Research

While this study provides valuable insights into the relationship between internal factors and financial performance of agricultural firms listed on the Nairobi Securities Exchange (NSE),

there are several areas where further research could expand the understanding of this topic and offer practical implications for stakeholders:

Future studies could explore the influence of external factors such as market conditions, government policies, and global commodity price fluctuations on the financial performance of agricultural firms. Understanding how these external variables interact with internal factors could provide a more comprehensive view of the challenges and opportunities faced by firms in the sector.

In addressing these areas for further research, future studies can build on the findings of this work and provide more in-depth knowledge that can assist agricultural firms, policymakers, and researchers in enhancing the financial performance and sustainability of the sector.

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APPENDICES

Appendix I: Agricultural Firms Listed In Nairobi Securities Exchange

1	Eaagads Ltd.
2	Kapchorua Tea Kenya Plc.
3	Kakuzi Plc
4	Limuru Tea Co. Ltd.
5	Sasini Plc.

APPENDIX II: University Introduction Letter for Data Collection

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BOARD OF POSTGRADUATE STUDIES

29th October, 2024

The Director,
National Commission for Science, Technology & Innovation, Utalii House,
Nairobi.

Dear Sir,

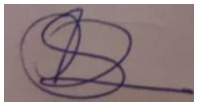
REF: HOSEA GETERI NYAMBANE - MBAC02/8003/2019

This is to introduce the above named Master of Business Administration student in the School of Business and Economics of the Co-operative University of Kenya.

He has successfully completed his course work and is proceeding to the field to collect data from agricultural firms listed in the Nairobi Securities Exchange. The title of his research project is ***"Relationship between Internal Factors and Financial Performance of Agricultural Firms Listed in Nairobi Securities Exchange, Kenya.***

Kindly accord him the necessary assistance.

Yours Sincerely,



D. K. Muthoni,
Director, Board of Postgraduate Studies.
Cc: Dean, SBE.