

**OWNERSHIP STRUCTURE AND FINANCIAL PERFORMANCE OF FIRMS
LISTED AT THE NAIROBI SECURITIES EXCHANGE**

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DECLARATION

I declare that this Research Project is my original work and has not been submitted for examination in any other university or institution of higher learning.

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D61/ 79269 / 2015

This research project has been submitted for examination with my approval as the University Supervisor:

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DEDICATION

I dedicate this research work first and foremost to the Almighty God whom I sought refuge in him during tough times endured in the course of writing this project. To my loving mum, dad, brother and girlfriend for understanding my absence in social activities. To my late last born brother and to my classmates and colleagues for their motivation to keep going strong and to never give up until I accomplish set targets.

ABSTRACT

This study investigated the effect ownership structure has on financial performance of firms listed in the Nairobi Securities Exchange. The specific objective of the study was to determine the relationship between managerial shareholding and financial performance. The study was informed by the agency theory, the stakeholder's theory and the Stulz integrated theory. The study used descriptive survey and cross sectional and longitudinal research design. The population comprised of all firms quoted at the NSE between 2011 and 2016. In this study, 52 firms qualified for inclusion in the study. Data was obtained from annual financial reports, company prospectuses, the Nairobi Securities Exchange handbook and the Capital Markets Authority database. Secondary data comprising of financial statements was coded using SPSS (Version 22). Descriptive statistics was used to provide summarized data through use of standard deviation, mean and features of SPSS (Version 22) was vital in variable response comparison and variable frequencies. Hausman test was used to determine the appropriateness of the multiple regression models. The study found out that ownership structure has a significant relationship with financial performance. Among individual variables, managerial ownership has a positive and significant effect ($\beta_1 = 0.303$, $p = 0.012$) on Return on Assets controlling for the age of the firm. Individual ownership also has a positive and significant effect ($\beta_2 = 0.319$, $p = 0.011$) with Return on Assets controlling for the age of the firm. Furthermore, the size of the firm does not have a significant effect on the return on assets while the age of the firm has a positive and significant effect on the return on assets ($\beta_2 = 0.547$, $p = 0.000$). As such, those in charge of governance in a firm should ascertain the impact of value addition of each form of ownership to the firm prior to arriving at the correct balance between the two forms of ownership to aid the firm in achieving stout performance. Policy makers should ensure that their firms not only grow in terms of age but also in terms of size. Secondly, the policy makers should ensure there is balance between the two types of ownership and ascertain the effectiveness of each form of ownership with respect to financial performance to improve firm productivity. Finally, while ownership structure is a great determinant of the financial success of any firm as it informs how the organization is legally set up, firms must decide on the ownership formula that will offer the greatest benefits as the form chosen affects profits, risk or value of the firm as this will influence decision making processes, control and sourcing and investment of funds.

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LIST OF ABBREVIATIONS AND ACRONYMS

CMA	Capital Markets Authority
CBK	Central Bank of Kenya
GMM	Generalized Method of Movements
IFRS	International Financial Reporting Standards
MC	Management Control
NSE	Nairobi Securities Exchange
OLS	Ordinary Least Squares
OC	Ownership Control
ROA	Return on Assets
ROE	Return on Equity
ROI	Return on Investment
R&D	Research and Development
SMEs	Small and Medium-Sized Enterprises
SPSS	Statistical Package for Social Sciences

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

A firm's ownership composition is considered among the critical internal mechanisms of corporate governance and corporate finance (Haldar & Rao, 2011). The researchers investigated various differing forms of ownership structure in a number of countries notably managerial shareholders, domestic and foreign shareholders, institutional and individual shareholders. They found out that these varied forms of ownership may impact positively or negatively on the financial performance of a firm. Lee (2008) postulates that ownership structure has a direct effect on investment in a firm that conversely influences a firm's financial performance.

According to Means and Berle (1932) managerial ownership influence on financial performance is based on the understanding that a firm's value is dependent on ownership distribution between managers and other cluster of owners. Inside this context alongside the incentive argument proposition, apportioning shares to managers may make them act like shareholders. In an extreme case the situation will be depicted by a firm run by a single owner-manager hence a complete alignment of the manager's and owner's incentives therefore no equity-related agency costs (Jensen & Meckling, 1976).

The Nairobi Securities Exchange has a composition of 64 listed firms spread across eleven broad categories, (www.nse.go.ke). Mutisya (2015) established that a typical listed company in Kenya has an assorted ownership structure where institutions and foreign investors form the two predominant groups of shareholders, each controlling 37% and 34% ownership respectively. The state with 8%, managers 3-4% (Capital

Markets Authority, 2017) and domestic individuals with 17% hold minority shares in most local listed companies. The entrepreneurship theory supplements the incentive theory by providing an explanation of the positive impact of managerial ownership in firms' characteristic of relatively dispersed ownership structures. Bull (2001) in his study observes that the resulting effect of the entrepreneurship theory is firms characterized by management buy-out which will normally perform better.

1.1.1 Ownership Structure

Ownership structure can be defined from two perspectives notably, ownership concentration and ownership identity (Gursoy & Gurunlu, 2010). Ownership concentration denotes shares of the largest owner influenced by monitoring cost and absolute risk determined by the Herfindhal index, which, denotes the percentage shareholding (Thomsen & Pedersen, 1999). Ownership identity is linked to the principal shareholder or the stake held by insiders.

Ownership structure causes agency problems pointing out conflicts that exists between shareholders and managers, or between minority and majority shareholders. Shareholders and managers have divergent interests. Shareholders, on one hand, wish to maximize value while managers opt for self- interested strategies. This may lead to a compromise on value maximization objective where managers exercise discretion to the detriment of owners (Shleifer & Vishny, 1997). Corporate governance mechanisms particularly ownership structure, purpose to solve this divergence-of-interest and to mitigate the costs associated with the conflicts (Jensen & Meckling, 1976).According to Dennis and McConnell (2002) if managers and shareholders' interests differ, higher stake in a firm may grant managers more opportunity to pursue self-interest goals without fear of requital.

Palepu, Healy and Bernard (2000) assert that researchers have not established a mechanism for selecting specific measures of analyzing ownership structure-performance relationship. However, the measures embraced by a number of researchers are based on information accessibility and the appropriateness of the research questions. A majority of scholars that have examined the effect of ownership concentration on performance have employed the Herfindahl index which is a measure of the equity stake of several largest investors (Demsetz & Lehn, 1985). In emerging economies, where there is limitation of data, studies have made extensive use of the equity stake of the largest shareholder (La Porta, 2002).

1.1.2 Financial Performance

Financial performance is essential in analyzing the main drivers of profitability; earnings, efficiency, risk-taking and leverage (Le & Phung, n.d). Financial performance can be described as a measure of how well a company is optimally deploying scarce resources to generate profits (Horngren, Harrison & Oliver, 2009). As Mesquita and Lara (2003) examined, profitability analysis focuses on the correlation between revenues and expenses and on the level of profits comparative to the size of investment. Emerging business enterprises in the long run target increased profits thus making it imperative to discern how to measure profitability.

Measuring performance of helps managers to arrive at a determination on whether they are achieving set objectives. Prior to considering the numbers and types of measures to put in place, an understanding of the clarity on goals and objectives of the business entity becomes imperative. Upon setting measures it becomes vital to regularly monitor processes by measuring performance against predetermined standards hence securing achievement of set goals (Kotane, 2015).

Financial performance can be measured using various significant ratios. Return on Investments (ROI) measures the net income to total investment (Shareholder's equity), and Return on Assets ratio (ROA) measures the net income to average assets (La Porta, 2002). ROA is a significant determinant of Return on Equity (ROE) as it demonstrates the proceeds realized on assets acquired (Palepu *et al.*, 2000). In the study by Davis and Donadson (1997) owner controlled (OC) firms were found to be significantly more profitable in comparison to management controlled (MC) firms through use of growth of net assets, growth of sales, return on sales and return on equity as performance measures.

1.1.3 Relationship between Ownership Structure and Financial Performance

Thomsen and Pedersen (2000) viewed that a positive association between ownership structure and profitability exists. Since ownership structure is linked to corporate governance, an expected positive or negative outcome can be anticipated. In recent studies there are pieces of evidence supporting the understanding that ownership dispersed firms perform dismally than ownership concentrated firms. Bull (2001) finds higher market value-to-sales ratio for firms with ownership concentrated models. Jensen and Meckling (1976) found out the implications of ownership structure; ownership concentration (share percent of top five holders) and ownership structure (Government share percent, institutional, managerial, local individual holders). In their study shareholders were classified into external shareholders (investors without ballot right) and internal shareholders (investors with management right). The study concluded that a firm's value is dependent on the internal shareholder's share. Since ownership structure is linked to corporate governance, it can impact both positively and negatively on corporate governance (Duska, 2011).

According to Gedajlovic and Shapiro (1998) ownership structure has been a variable of interest to scholars. The greater the percentage of manager owned equity, the more motivated they become in enhancing the performance of a firm since equity ownership acts as a monetary incentive (Jensen & Meckling, 1976). Morck, Shleifer and Vishny (1997) argue that managers wield power through acquisition of large equity stakes hence are more inclined to have loose interest in maximizing profit leading to declining corporate financial performance. In research, emphasis on the influence of economic incentives on top executives, investors and ownership concentration has been used primarily as an indicator of agency costs (Vishny & Shleifer, 1997).

1.1.4 Listed firms at the Nairobi Securities Exchange

Nairobi Securities Exchange (NSE) is the principal bourse in Kenya. The NSE purposes to offer an automated platform enabling firms to list shares hence attracting would-be investors and in addition facilitate trading of complex securities. Formed in 1954 as an organization of stockbrokers, it takes pride in being the third most active capital market in Africa (NSE, 2017). The NSE mobilizes domestic savings by reallocating liquid assets from dormant to active agents. The NSE is licensed and regulated by the Capital Markets Authority (Nairobi Securities Exchange, 2017). Over the past few decades, the NSE has earned its mark in Africa as a well regulated and stout platform for the trading of bonds and equity instruments.

A majority of listed firms at the NSE have mixed forms of ownership. The main forms of ownership structure at the NSE include; managerial, state ownership, domestic individual ownership, foreign ownership and institutional ownership that affects the financial performance of the firms either positively or negatively. High ownership concentration stands out as a common characteristic of listed firms at the

NSE. This consequently empowers controlling shareholders to impose power by selectively choosing to undertake activities with an intent of obtaining personal gain. This comes at the expense of marginal shareholders.

1.2 Research Problem

The importance of the internal structure of a firm and performance has seen various studies conducted on correlation between ownership structure and financial performance giving varying findings. Empirical studies on ownership concentration and corporate performance have borne contradictory and non-conclusive findings. Mbaabu (2010) investigated the relationship between ownership, corporate governance structures and financial performance of forty-one firms in the insurance sector in Kenya from 2005 to 2009. The study revealed a negative ROA when ownership was considered. The results further showed that the size of the board constitution and financial leverage have a significant impact on both ROE and ROA. Bellack and Pfaffermay (2002) observed that performance gaps between firms in like industries in a country exist as firm-specific advantages become similar.

Kenya as an emerging market economy is composed of widely dispersed forms of ownership structures. According to George and Nyambonga (2014), the most prevalent forms of ownership in the NSE is concentrated ownership. Despite the improving performance at the NSE, firms face up to challenges on ownership structure with higher ownership concentration providing block shareholders with enhanced incentives at low cost to monitor management adversely affecting the firms' performance (Mutisya, 2015). The majority of listed firms at the NSE are owned by a few large owners who essentially own more than 25% of equity and the residual portion dispersed to minority investors who are protected by the legal system (Muka, 2010).

Wanjiku (2013) undertook a study on the effect of concentrated ownership structure on the financial performance of firms listed at the NSE. He found a positive correlation between concentrated ownership and financial performance of listed firms at the NSE. The study however failed to argue out the case of firms in dispersed ownership structure. This study explores the case of managerial and individual ownership identities which form a constituent of dispersed ownership. This study, therefore, intends to try to resolve the contradictory results in the study done by Wanjiku (2013) by reassessing dispersed ownership structure and its role on the financial performance of firms listed at the NSE. The sample by Mbaabu (2010), suffers from the effects of same-industry firm-specific advantages bias. This study reduces this bias by studying all the firms listed on the NSE. This study addresses the research gaps identified by addressing the question, "What is the relationship between ownership structure and financial performance of firms listed at the Nairobi Securities Exchange?"

1.3 Research Objectives

The objective of this study is to establish the relationship between ownership structure and financial performance of listed firms trading at the Nairobi Securities Exchange.

1.4 Value of the Study

The correlation between ownership structure and financial performance will be beneficial to researchers and stakeholders in the academic circles. Through this study, they will identify meaningful research gaps that may stimulate interest in conducting further research in future. In addition, the researchers will enhance their skills and knowledge through this study and successfully suggest recommendations on relevant areas for further studies.

The study will be beneficial to corporate managers in listed firms since it will seek to recommend an appropriate ownership structure and enable appropriate structural adjustment to enhance returns and performance thus creating competitive advantages. Government institutions may make use of the findings of this study on how various ownership structures affect other sectors of the economy and thus inform regulatory frameworks. Policy makers will further find the study critical in understanding how corporate policies affect the overall welfare of stakeholders in a firm. This will lead to the development of targeted appropriate policies with a view of protecting the minority investors.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter offers a review of literature on ownership structure, financial performance and their correlation with a focus on listed firms at the NSE. The literature review is organized to include the theoretical framework relating to the proposed study, the determinants of financial performance in listed firms, review of empirical studies and finally a summary of this chapter.

2.2 Theoretical Review

This section provides a review of ownership structure theories in developing an understanding of their relationship to firm's performance. Several theories exist that attempt to highlight ownership structure and how the firm's performance is affected by structure when meeting its obligations. The study was informed by three key theories including agency theory, stakeholder theory, and Stulz integrated theory.

2.2.1 Agency Theory

Previous studies on the correlation between ownership and performance of firms are based on agency theory as espoused by (Jensen & Meckling, 1976; Jensen, 1986). In their seminal paper, they argued that agency cost would arise in the circumstance where there is a separation between owners and managers of a firm creating conflicting goals between the two parties. Jensen (1986) compared management behavior observed in two different firm structure, where the manager owns 100% of the firm while the other is where the manager sells equity shares to outsiders respectively. As the manager's stake decreases, his incentive to explore new profitable opportunities consequently falls.

Managers of state owned firms and private entities are assumed to exercise bias by maximizing their own interest at the expense of the shareholders. In listed firms, this discrepancy is reduced through intervention of external mechanisms such as corporate controls and internal mechanisms such as managerial participation in ownerships, reward systems and the role of board of directors. This theory brings out an understanding of the relationship between ownership concentration, managerial ownership and performance. Agency problems are seen to be more in dispersed ownership as shareholders tend to free ride and hence are less effective in monitoring leading to ineffectiveness in performance. On the other hand, managerial owners are depicted to have more capacity hence increasing their monitoring capabilities.

Supporters of the agency theory argue that the firm is considered as a complex set of interactions among several individuals as opposed to a single, monolithic actor. The firm is should be viewed as presently as a link of contracts between agents and principals (Shankman, 1999; Martland, 1994).

2.2.2 Stakeholder Theory

Freeman (1984) investigated several aspects of the stakeholder theory. In his seminal paper, he based his argument on normative grounds. He argued that each stakeholder group has a right to be treated as an end in itself and not as a means to some end. This proposition called for stakeholder's enthusiasm in ensuring that resources are used to optimum levels that in turn should benefit the whole society.

Freeman (1984) argues that stakeholder theory plays a key role in establishing a framework for examining the influence of stakeholder management on the accomplishment of corporate goals. This view is supported by Blair (1995) where he states that decisions arrived by managers should factor in interests of all the

stakeholders in the firm. How a firm treats these groups and individuals comprising of the stakeholder's impacts either positively or negatively to its financial performance.

The stakeholder approach perceives a firm as a locus in relation to other interests of various stakeholders and in addition places focus on the manner in which participants in a corporation interacts amongst each other. Jensen (2001) while critiquing Freeman's theory came up with the 'Enlightened value maximization stakeholder theory'. In his theory, he advances that a firm would find it impossible to maximize value if it looks down upon any stakeholder group.

2.2.3 Stulz's Integrated Theory

The theory was developed by Stulz (1988) explaining the roof shaped relationship between ownership and firm performance. In his seminal paper, he focused on the takeover market in a bid to discipline managers. His model incorporated both the takeover premium hypothesis and the entrenchment hypothesis in a single theory. As the fraction of manager owned equity increases so does the increase in premium a hostile bidder must part with to acquire control of a target firm. However, the probability of the success of the takeover consequently declines.

When management own a smaller fraction of shareholding, it will be more likely that a hostile takeover will succeed at a value below the maximum the would-be investor will be willing to pay (Salehi & Baezgar, 2011). As managerial ownership in equity of a firm increase, the probability of a hostile takeover is canceled out. This rational results in a curvilinear trend between the value of the firm and insider's fraction of shares.

The more equity ownership by management in a firm, the more positive effect observed on a firm's performance since managers will be more competent to oppose

takeover threat for corporate control (Salehi & Baezegar, 2011). While the theory has acquired acceptance in light of the recent research findings, it, however, fails to provide solutions to the increasing corporate scandals across the world, which seems to suggest a need for increased management monitoring.

2.3 Determinants of Financial Performance

Financial performance is a function of factors that should be optimally utilized to maximize the returns. Determinants of a firm's financial performance include: Leverage, liquidity, company's age, company's size and ownership structure.

2.3.1 Leverage

Leverage holds a direct influence on shareholder's return, risk and a firm's market value. The ratio of debt-to-equity carries implications to shareholders' dividends and risk. This in turn affects cost of capital and firm market value (Pandey, 2007). Palepu *et al.* (2000) found contradictory results on the relationship between increased use of debt in capital structure and financial performance. Ghosh, Nag and Sirmans (2000), Berger and Bonaccorsi di Patti (2006) found a positive correlation between leverage and financial performance. Gleason and Mathur (2000), indicated a negative correlation between financial performance and leverage level.

2.3.2 Liquidity

The International Financial Reporting Standards (2016) define liquidity as cash available for immediate needs of the firm. Common measures of liquidity include current ratio and the acid test ratios. Liargovas and Skandalis, (2008) argue that a firm can use liquid assets to finance its operational activities in the absence of external finance. Duska (2011) argued that an adequate level of liquidity is positively

associated with a firm's success. In opposition, based on a theoretical model by La Porta (2002), recommended that a moderate amount of liquidity may steer entrepreneurial performance. However, adequate liquidity levels may imply idle capacity in the firm. The conclusion on the effect of liquidity on financial performance consequently is ambiguous.

2.3.3 Age

Examining the relation between firm age and financial performance is considered relevant for both theory and practice. Age could help firms become more efficient. Furthermore, old age may also make knowledge, abilities, and skills obsolete and induce organizational decay (Agarwal & Agarwal, 2002). Getting older slows performance regardless of whether a firm's age is measured from the time of listing or the time of incorporation (Loderer, Neusser, & Waelchli, 2009). Similarly Loderer *et al.* (2009) found a positive relationship between the age of a company and profitability.

2.3.4 Ownership structure

According to Lee (2008), the measurement of ownership structure involves the use of the share proportion held by a controlling shareholder as a proxy for ownership concentration. Ownership structure (insider) according to Brailsford, Oliver and Pua (2002), using managers and directors as insiders indicated a clear relationship between ownership structure and corporate value. Ongore (2011) similarly operationalized ownership concentration and ownership identity; share percentage ownership by the top five shareholders and actual shareholder identity. In previous studies the variables used in ownership structure include foreign shareholder equity/

total book value of equity and Institutional shareholder equity/total book value of assets.

2.3.5 Size

Economies of scale add a competitive edge to large and established companies. Past studies in finance have shown that the size of a company can assist in forecasting stock prices (Li & Simerly, 2000). Alamro, Almajali and Al-Soub (2012) equally argue that the firm's size can affect its financial performance. Nevertheless as pointed out by Yuqi, (2007) the effect of size may lead to large firms becoming bureaucratic consequently dragging optimum performance.

2.4 Empirical Review

Boateng and Huang, (2013) studied the role of the state, financial performance and ownership structure of firms in the real estate segment in the Republic of China. The study purposed to analyze the different role played by the state during the pre-boom (1999-2004) versus the booming period (2005-2010). A sample of 101 listed firms in real estate segment in Shanghai and Shenzhen Securities Market was selected from 1999 to 2010. The study adopted Tobin Q ratio as an expression of the dependent variable and tested its dependence on ownership structure. The results of the study indicated a nonlinear positive effect in the booming years. The government would need to play a less active role in direct involvement in real estate sector development to spur the private sector development.

Claessens, Djankov and Lang (2002) undertook an analysis on the effect of large shareholding and control on commercial market value. The study employed regression analysis on a sample of 1,300 firms from countries in the East Asia region. The study established that ownership concentration and control impacted on Tobin Q

positively and negatively in the same context. The period under which data was collected remained unspecified hence results do not hold conclusively.

Santamaria and Azofra (2011) carried out an investigation on the relationship between ownership structure and corporate performance of 80 banks in Spain. Using panel data collected between 1996 and 2004, analyzed by regression models and estimated by the GMM (Generalized Method of Moments), the study found out that there is greater separation between voting rights and the larger shareholder's cash flow for smaller firms by ROA. The study was well conducted with reference to the financial ratios determining bank performance; such a study could be replicated in developing countries to ascertain any similarities and/or differences.

Malik (2010) conducted a study on the effect of ownership concentration on risk and growth in 500 USA nonfinancial firms by using a sample of 187 firms. The variance in profit/equity ratio was used as an expression of risk. Its dependence was tested on ownership concentration. The findings of the study showed an insignificant positive relationship between firms controlled by managers as opposed to firms controlled by owners and in addition a high variance in profit/equity. The researcher's variables were well defined, an appropriate and commendable research methodology was adopted, thus reliable findings.

Garcia and Sanchez (2011) studied the influence of ownership structure on financial performance of firms and corporate governance. By employing a non-balanced panel consisting of 76 firms in the Spanish bourse between 1999 and 2002, the study applied piecewise OLS (Ordinary Least Squares) and 2SLS regression with random effects. The outcome of the study indicated the existence of a quadratic relationship between Tobin Q and large shareholding. With respect to foreign ownership, previous

studies have shown a progressive relationship subsisting between foreign shareholding in firms and financial performance. International studies in this chapter, however, are focused on developed economies or relationship-centered multi-tiered ownership economies.

Mutisya (2015) undertook to determine the correlation between investors' shareholding and financial performance by employing a descriptive research design. A population of 64 listed companies was selected out of which a sample of companies was investigated. The study used secondary data from firms listed on the NSE between 2010-to-2014. Data was in the form of NSE handbooks and Karl Pearson correlation coefficient attempted to describe the strength of the relationship between the variables. Multiple regression analysis was deployed in evaluating the impact of ownership structure on listed companies' financial performance. A weak positive relationship between the percentage of foreign shareholding and return on assets was the outcome of the study. However, the researcher was limited to one set of ownership identity.

Rottich (2014) tasked to determine the correlation between different ownership identities and financial performance of listed firms in the NSE. The study adapted the correlation research design. The entire population of listed firms in the NSE between 2009-to-2013 was used. Data was collected using secondary sources including financial publications and surveys. Data was analyzed using multiple regression to examine the influence of various ownership aspects on the financial performance of listed firms. The study concluded that government ownership has a significant negative relationship with performance and that institutional, foreign, and individual ownership have significant positive relationships with performance of firms. The

study, however, is broad since it analyzes a variety of ownership identities as opposed to this study which narrows down to one type of identity.

Otieno (2014) undertook a study on the correlation between ownership structure and tax avoidance of listed firms in the NSE. The objective was to ascertain the connection between ownership structure and tax avoidance of listed firms. A descriptive study design was adopted to test the relationship. The population was comprised of 61 companies listed on the NSE from 2009 to 2013. Data was collected mainly from secondary sources and analyzed using regression models. The outcome of the study indicated that ownership structure does not significantly influence tax avoidance as the effects of various forms of ownership on tax avoidance was insignificant at 5% confidence level. Ownership structure is irrelevant in explaining tax avoidance hence should not be considered in the quest to reduce instances of tax avoidance.

Wanjiku (2013) sought to determine the influence of ownership structure on financial performance of listed firms at the NSE. The researcher employed both cross-sectional and descriptive survey method to allow for comparison of the research findings. The population consisted of all 63 listed firms at the NSE between the years 2010 to 2014. Secondary data consisting of financial publications and annual reports were used. Descriptive statistics was used to summarize the data. The study found that ownership concentration alleviates conflicting interests between managers and owners thus promoting improved monitoring. This study adopted a descriptive research design and use an improved version of SPSS to test new relationships that might exist between the variables in the study.

Kiruri (2013) tasked to determine the relationship between ownership structure and profitability of banks in Kenya. Using a descriptive study design, data was drawn from all the 43 registered banks by the CBK. The study used annual reports that are available from the websites of the banks and in the CBK website. Primary data was also collected through questionnaires. The researcher obtained data for a five year period from 2007 to 2011. The outcome indicated that ownership concentration is negatively correlated with bank profitability implying that higher ownership concentration leads to lower profitability of commercial banks in Kenya. The study in addition found out that state ownership is negatively correlated with bank profitability. However, his study was contradictory after findings of both positive correlations between foreign ownership and domestic ownership with bank profitability.

Ongore (2011) undertook to study the correlation between ownership structure and performance of listed firms in Kenya. He sampled 40 firms at the NSE. Data was analyzed through Pearson's Product Moment Correlation and Logistic Regression. His findings suggested a positive relationship with firm performance since most of the holding companies are usually large corporations who translate investment practices and risk-taking behavior to the 24 firms. The results, however, failed to establish the level of shareholding beyond which would accelerate the firm's performance arising from the commitment of managers. The study used a narrow sample of 40 listed at the bourse.

Considering that listed firms at the NSE are more likely to have similar financial and economic environment to those of developing countries, this study expects that the performance of the firms replicates that of firms in the developing countries on a similar scale.

2.5 Conceptual Framework

The conceptual framework illustrates the relationship between the independent variables (determinants of ownership structure) and dependent variables (financial performance measures), (Ongore & Kusa, 2013). The independent variable (ownership structure) is measured by the proportion between managerial shareholding (equity) to aggregate equity of the firm and individual shareholder equity to total firm equity. Financial performance (dependent variable) is conversely measured using ROA. Since ROA reflects the efficiency of how the assets under the control of management are used to earn income, it is an intuitively robust measure of performance; therefore, this study intends to measure financial performance using ROA.

Independent variables

Dependent variable

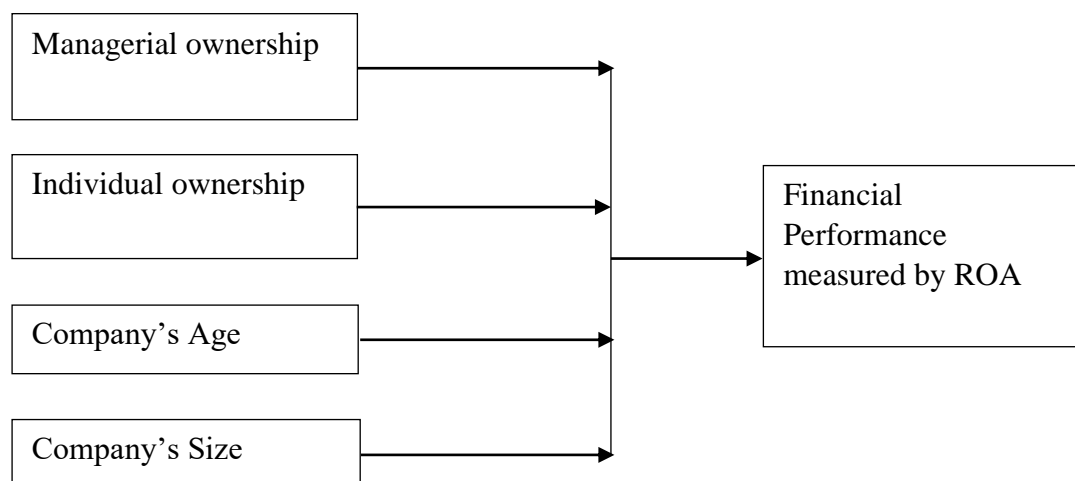


Figure 2.1: Conceptual Framework

2.6 Summary of Literature review

The financial theories and empirical reviews discussed reveal a correlation between ownership structure and financial performance. The agency theory steers clear

conflicts between management and owners by moving for reduction through large stake ownership concentration encouraging monitoring thus improving performance.

Stakeholder's theory advocates for management's push to redesign and tactfully deploy best practices in determining the nature of the correlation between ownership structures and the various groups of stakeholders inclusive of management. In contention between the incentive alignment and entrenchment arguments, Stulz's integrated theory Stulz (1988) shows that corporate performance is a non-monotonous function of managerial ownership and hence more equity ownership carries a positive effect on financial performance of a firm.

The outcome of the empirical literature on the relationship between ownership structure and financial performance are contradictory hence justifying need for elaborate research. Furthermore, many of the studies conducted on the correlation between financial leverage and performance have been researched in developed economies of the world characteristic of well-developed capital markets. In Kenya, the capital market is comparatively underdeveloped therefore prompting the need to further test and adapt traditional ownership structure theories which originated in developed markets, into the Kenyan context.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter outlines the research design adopted, the study population considered and the data collection method used. The methods for data analysis and measurement deployed is defined.

3.2 Research Design

A descriptive survey research design has been adopted. A descriptive study attempts to describe a subject often by creating a profile of a group of problems and events through data collection and tabulation of frequencies on research variables or their interaction (Cooper and Schindler, 2006). It further avoids manipulation of parameters of interest.

Data was collected once over the period 2011-2016 cross-sectionally and longitudinally. This aided in conducting analysis and numerical conclusions on the general population and generalize the results to the entire targeted population of listed firms in the NSE. A cross sectional study compares quantitative reasoning of a sample of firms. Both of the selected research designs have been preferred due to the reason that they allow for prudent comparison of the research findings.

3.3 Population

All firms that were actively listed on the NSE as of 5th July 2017 comprised the population for this suggested study. There were 64 firms (Appendix I) (NSE, 2017) listed on the NSE, the target population for the study comprised of firms that have consistently released their six-year annual financial reports. There were 64 listed firms but through screening only 52 firms were selected since they provided consistent and

reliable data on financial information. A census study was used but limited to firms that were consistently registered at the NSE for the six year period (1st January 2011-to-31st December 2016). This aided in achieving a comprehensive coverage.

3.4 Data Collection

The study used secondary data of listed firms at the NSE collected between 2011-to-2016 based on the availability and accessibility of data. Secondary data was gathered from financial publications, the NSE Handbook, and company annual financial obtainable from the NSE and the CMA libraries. Secondary data capture form has been used to collect all information from the population (Appendix II). The information obtained from financial statements aids in computing ratios to enable drawing of reliable and relevant conclusion on the relationship between variable to be analyzed.

3.5 Data Analysis

Multiple regression analysis was used to evaluate the relationship between ownership structure and financial performance of listed firms. Karl Pearson correlation coefficient was employed to describe the nature and strength of the correlation between the variables. Besides ownership structure other elements as well may lead to variations in company financial performance such as company's age and company's size. The factors mentioned below were used as control variables in the study.

The following regression model was adapted in the analysis:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + e$$

Where:

Y= Financial performance measured using Return on assets (ROA_{it}) for firm i in year t . ROA is calculated by dividing the company's net profits for the year by its total assets.

α - Regression constant

β - Coefficient of variation where β_1 - β_4 represents the sensitivity of a firm's performance to changes in the movements of the various variables

X_1 - Managerial ownership (Measured by the ratio between managerial equity to total firm equity)

X_2 - Individual ownership (Measured by the ratio between individual shareholder equity to total firm equity)

X_3 - The Age measured by the years of existence of the firm

X_4 - The Size of the firm measured as the natural log of Total Assets

e- Error Term

The following table shows how the above mentioned variables are operationalized:

Table 3.1: Operationalization of variables

Variable	Definition	Measurement scale
Financial performance	It is described as the measurement of the results of a firm's operations in monetary terms. It is measured by ROA (Operating income divided by total assets at the end of the year)	Ratio
Managerial ownership	An indicator variable equal to one if a firm is controlled by the manager and zero if otherwise. The controlling owner is defined a person in control of an absolute majority of voting rights or holding sufficient voting rights to have de facto control	Dummy
Individual ownership	An indicator variable equal to one if a firm is controlled by the individual and zero if otherwise.	Dummy
Age of the firm	A measure of years of existence of the firm	Ratio
Company size	The natural log of Total Assets	Ratio

The test of significance is performed at 95% level of confidence. Variance (ANOVA) and the F-test have been used to ascertain the significance of the regression. Pearson correlation analysis has been carried out to find the direction of the relationship between ROA against the independent variables. The coefficient of determination, R², is used to determine how much variation in dependent variable is explained by independent variables.

T-tests can be used to determine whether there is a significant difference between two sets of means. In this study, t-tests using SPSS statistical program would be used. Conducting the t-tests requires that the normality of the data is not violated. The P-values of results of the multiple regression analysis was used to test for significance of the relationship between variables. The significance level to be used shall be 0.05 (5%) to test for significance where any P-value of less than 0.05 shall indicate a significant relationship.

CHAPTER FOUR

DATA ANALYSIS, FINDINGS AND DISCUSSION

4.1 Introduction

This chapter presents a comprehensive analysis of secondary data extracted from annual reports of 52 companies listed on Nairobi Securities Exchange (NSE). The data collected is related to the following variables; financial performance, managerial ownership, individual ownership, age of the firms listed on the NSE and size of the firms listed on the NSE. This chapter is structured to include the following subsections; descriptive statistics, inferential statistics, and interpretation of the findings. Under the descriptive statistics; the five variables are described in detail in terms of mean, stand deviation, minimum and maximum recorded values. Tables are used to represent the description of each variable.

Under inferential statistics; correlation among the five variables mentioned earlier in this chapter are present and well described. Secondly, inferential statistics also includes the regression analysis, analysis of variance, and coefficient analysis. Regression analysis considered financial performance as the dependent variable while the remaining four variables were considered as independent or explanatory variables. The regression model aims to establish the relationships between financial performance and ownership of the companies listed at the NSE. Correlation analysis was done to establish the associations among the five variables. Lastly, coefficient analysis is also categorized under inferential statistics. Here, specific correlation between explanatory variables with dependent variables is presented in a multiple regression model.

The third subsection deals with interpretation of the presented results. Interpretation includes but not limited to: simplification of descriptive and inferential analysis, summary of findings and connection of findings to the topic of the study. Interpretation also deals with translation of results to users.

4.2 Data Collection

As mentioned in the introductory part, secondary data was extracted from annual reports of 52 companies listed on Nairobi Securities Exchange (NSE). There were 64 listed firms at the NSE but after screening, 52 listed companies are considered since they had all the required information in this study. In summary, the response rate is 52 targeted companies; this translates to 82.5% which is quite reliable.

4.3 Data validity

The data in this exercise was extracted from annual reports of firms listed on NSE; this is considered to be a reliable and credible source. Secondly, computations were double checked before exporting data to SPSS for analysis; this was purely for validation of collected data.

4.4 Descriptive statistics

Under this subsection, the five variables are described in detail in terms of mean, stand deviation, minimum and maximum recorded values. Tables are used to represent the description of each variable. Under each table there is a vivid description of values represented. The descriptive statistics findings were presented in Table 4.1.

The findings in Table 4.1 revealed that the mean return on assets (R.O.A) was 0.1991 varying from -0.12 and 1.47 (std. dev. = 0.356). The findings also revealed a mean of 0.1923 (std. dev. = 0.398) for managerial ownership (M.O) meaning that 19.23% of the ownership structure was managerial. Furthermore, the mean for individual ownership (I.O) was 0.8462 (std. dev. = 0.364) indicating that 84.62% of the firms were individually owned. With regard to the size of the firm measured as the natural log of total assets, the findings showed that the size of the mean size of the firm is 5.033 (std. dev. = 1.066) with a minimum size of 2.6 and a maximum size of 7.73. Finally the mean age of the firm in terms of the number of years that the firm has been in existence was 63.192 years (std. dev. = 32.395) with the firms having existed for a minimum of 2 years and a maximum of 166 years.

Table 4.1: Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness	Kurtosis
ROA	52	-0.12	1.47	0.1991	0.35652	2.309	1.368
MO	52	0	1	0.1923	0.39796	1.608	0.608
IO	52	0	1	0.8462	0.36432	-1.976	1.98
Size	52	2.6	7.73	5.0327	1.06576	0.339	0.342
Age	52	2	166	63.1923	32.39525	0.963	1.482

4.5 Correlation Analysis

Correlation analysis is a method of investigating the relationship between variables: managerial ownership, individual ownership, firm size and firm age with firm performance measured as the ROA. Consequently, the study examined the relationships that are inherent among the independent and dependent variables. The findings are presented in Table 4.2.

The findings presented in Table 4.2 revealed that managerial ownership has a positive and significant relationship with the quality of financial reporting ($\rho = 0.297, p <$

0.05) indicating that there is a 29.7% chance that the ROA of the firm will increase with increase in the managerial ownership of the firm. Furthermore, individual ownership of the firm has a positive and significant relationship with the ROA of the firm ($\rho = 0.301, p < 0.05$) showing that there is a 30.1% chance that the ROA of the firm will increase with increased individual ownership of the firm. In addition, the findings also showed that the size of the firm does not have a significant relationship with the ROA of the firms ($\rho = -0.106, p > 0.05, p > 0.01$). Finally, the findings also showed that the age of the firm in years has a positive and significant relationship with the ROA of the firms ($\rho = 0.680, p < 0.01$) indicating that there is 69.0% chance that the ROA of the firm will increase with increase in the age of the firm. This means that the higher age of the firm which indicates higher levels of market experience result in higher firm performance. Furthermore, the inter-independent factor correlations revealed that managerial ownership has a negative relationship with individual ownership of the firm ($\rho = -0.426, p < 0.05$) indicating that increasing managerial ownership of the firm would result in 42.6% chance of decrease in individual ownership of the firm. In addition, the findings also showed that the size of the firm has a negative relationship with individual ownership of the firm ($\rho = -0.302, p < 0.05$) meaning that with increased firm size, there is a 30.2% chance that the individual ownership of the firm will decrease. These correlations do not infer cause-effect relationships between the factors.

Table 4.2: Correlations

		ROA	Managerial Ownership	Individual ownership	Size
Managerial ownership	ρ	0.297*	1		
	Sig. (2-tailed)	0.032			
Individual ownership	ρ	0.301*	-0.426**	1	
	Sig. (2-tailed)	0.030	0.002		
Size	ρ	-0.106	0.014	-0.302*	1
	Sig. (2-tailed)	0.454	0.923	0.029	

Age	ρ	0.680**	0.239	0.19	0.019
	Sig. (2-tailed)	0.000	0.089	0.178	0.896

* Correlation is significant at the 0.05 level (2-tailed).

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

It is necessary to ensure valid model assumptions before running regression model (s). In case of any violations, consequent inferential measures may be invalid ensuing in faulty deductions. Consequently, it is essential to perform suitable model diagnostics. This section gives a description of the robustness tests to be conducted to improve the validity of all statistical inferences for the study. The tests include; linearity, normality, homoscedasticity and autocorrelation (Appendix 111).

4.6 Analysis of Ownership Structure and Financial performance

The regression equation is developed when there is a linear relationship between a dependent variable and independent variable (s) and also if there exists a significant relationship as depicted by the correlation coefficient. The regression model developed is used to predict the behavior of the dependent variable given the effect of the independent variable (s) thus enabling the establishment of the effect of the independent variable (s) on the dependent variable. The regression findings were presented using the model summary in Table 4.7, the analysis of variance in Table 4.8 and the regression model estimated coefficients in Table 4.9.

Table 4.7: Model summary

R	0.749
R Square	0.56
Std. Error of the Estimate	0.246
Change Statistics	
R Square Change	0.560
a Predictors: (Constant), Age, Size, MO, IO	
b Dependent Variable: ROA	

The model summary findings in Table 4.7 revealed that the independent variables of managerial ownership, individual ownership, firm size and firm age explain 56% of the variation in ROA ($R = 0.749 \approx 0.750$, R -square = 0.560). Since the value of R^2 approximately equal to 75%, the study inferred that the model for was reliable in explaining the behavior of ROA. Furthermore, the findings in Table 4.8 for the analysis of the variance revealed a regression mean sum of squares 0.908 and a residual mean sum of squares of 0.061 with both translating to a F-ratio of 14.983, $p < 0.05$ indicating that the regression model parameters account for close to 15 times the variation attributed to the residuals.

Table 4.8: Analysis of variance

	Sum of Squares	df	Mean Square	F	Sig.
Regression	3.633	4	0.908	14.983	0.000b
Residual	2.849	47	0.061		
Total	6.482	51			
a Dependent Variable: ROA					
b Predictors: (Constant), Age, Size, MO, IO					

Findings in Table 4.9 showed that managerial ownership had coefficients of estimate which was significant based on $\beta_1 = 0.303$ ($p < 0.05$) thus, managerial ownership has a positive and significant effect on ROA. This suggests that there is up to 0.303 unit increase in the ROA for each unit increase in managerial ownership of the firm. The t

statistic also shows that compared to the standard error attributed to managerial ownership, the estimated coefficient has 2.603 times the effect.

Table 4.9: Estimated regression coefficients

	Unstandardized Coefficients		Standardized Coefficients			Correlations
	B	Std. Error	Beta	t	Sig.	Zero-order
(Constant)	-0.369	0.210		-1.756	0.086	
MO	0.254	0.097	0.303	2.603	0.012	0.297
IO	0.244	0.093	0.319	2.634	0.011	0.301
Size	-0.008	0.035	-0.024	-0.232	0.818	-0.106
Age	0.006	0.001	0.547	5.134	0.000	0.680

a Dependent Variable: ROA

4.7 Discussion

It can be deduced that increased managerial ownership through increased shareholding in the firm results in increased levels of commitment as well as improved monitoring practices because of the investment and it also improves the level of ownership and a sense of belonging. The stakeholder theory advocates for management's push to redesign and tactfully deploy best practices in determining the nature of the correlation between ownership structures and the various groups of stakeholders inclusive of management. Based on Stulz's integrated theory, Stulz (1988) shows that corporate performance is a non-monotonous function of managerial ownership and consequently, more equity ownership by the managers of the firm carries a positive effect on financial performance of a firm.

The findings also showed that individual ownership has a positive and significant effect on the ROA, $\beta_2 = 0.319$, $p\text{-value} < 0.05$. This means that with each unit increase in individual ownership, there is 0.319 units increase in the firm's ROA. Furthermore, the effect of individual ownership was stated by the t statistic = 2.634 which implies that the standard error associated with the parameter is less than the effect of the

estimated parameter. These findings are in line with those of Rottich (2014) who sought to establish the correlation between different ownership identities and financial performance of listed firms in the NSE using a correlation research design on the entire population of listed firms in the NSE between 2009-to-2013 was used. The study found that while government ownership has a significant negative relationship with performance, institutional, foreign, and individual ownership have significant positive relationships with performance of firms. This study however narrowed down on two ownership structures, managerial and individual.

The findings however showed that the size of the firm has no significant effect on the ROA of the firm $\beta_3 = -0.024$, $p\text{-value} = 0.818$ which indicates that although there is a negative effect of the firm size on the ROA, the effect is not significant. This finding is also confirmed by the value of the t statistic = -0.232 which indicates that the effect of standard error of the estimated regression coefficient for firm is more than the effect attributed to the estimated coefficient. Economies of scale add a competitive edge to large and established companies. Past studies in finance have shown that the size of a company can assist in forecasting stock prices (Li & Simerly, 2000). Alamro, Almajali and Al-Soub (2012) equally argue that the firm's size can affect its financial performance. Nevertheless as pointed out by Yuqi, (2007) the effect of size may lead to large firms becoming bureaucratic consequently dragging optimum performance. Thus, there is no clear agreement on the effect of the size of the firm on the performance of the firm with the current study showing a negative effect thus confirming Yuqi (2007) findings because the larger the firm, the more likely it is to experience bureaucracy hence delaying the making of important decisions in the firm thus negatively impacting the performance of the firm.

Finally, the study findings also revealed that the age of the firm in years carries the largest effect on ROA compared to the managerial ownership, individual ownership and the firm size. The findings showed that the firm age has a positive and significant effect on the ROA of the firm, $\beta_4 = 0.547$, $p < 0.05$. These findings indicate that with each unit increase in the age of the firm, that is, with each year that the firm is in existence, the ROA of the firm increases by 0.547 units.

The age of the firm could help firms become more efficient because of their enhanced potential of dealing with certain situations innovatively. Furthermore, old age may also make knowledge, abilities, and skills obsolete and induce organizational decay (Agarwal & Agarwal, 2002). Thus, while the age of the firm could enhance the performance of the firm, the absence of innovative practices that keep the firm at par with new developments could have a negative effect (Loderer, Neusser & Waelchli, 2009). Similarly, in line with the findings of the current study, Loderer, et. al., 2009 found a positive relationship between the age of a firm and profitability.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the summary of the findings as documented in the results section. This chapter is structured to comprise the following; summary of the findings, conclusion, recommendations, limitations of the research, and future studies. Under summary of the findings; results are linked to the topic of study. In our case, the topic of study is about the association between financial performance and ownership of the firms listed on NSE.

Under conclusion; comments and identification of major findings from the results are presented. Thirdly, recommendations based on the results are also presented. In my case, recommendations are related to the kind of ownership (managerial and individual) is encouraged. Under limitations; the researcher lists some of the short comings that the research faced and it could not be able to avoid. For instance, the research relied only on secondary data. And lastly, future work may include areas not covered by this study. The areas may include foreign ownership structure.

5.2 Summary of Findings

The findings have showed that the mean ROA as a measure of firm performance is 0.199 among the listed firms. Furthermore, 19.23% of the ownership structure was managerial while 84.62% of the firms are individually owned. With regard to the size of the firm, majority of the firms have a size of slightly over 5 with a minimum of 2 and a maximum of 7.73. Taking the antilog of the mean results in a mean total assets value of 107,894.7. Finally the mean age of the firm was 63.192 years for majority of the firms.

With regard to the correlation between the variables, managerial ownership has a positive and significant relationship with the quality of financial reporting ($\rho = 0.297$). Furthermore, individual ownership of the firm has a positive and significant relationship with the ROA of the firm ($\rho = 0.301$), the size of the firm does not have a significant relationship with the ROA of the firms ($\rho = -0.106$) while the age of the firm in years has a positive and significant relationship with the ROA of the firms ($\rho = 0.680$).

5.3 Conclusions

The findings on the effect of managerial ownership showed that managerial ownership has a positive effect on the ROA controlling for firm age. Thus, increased managerial ownership is related to increased commitment, enhanced monitoring processes and practices and the feeling of ownership by virtue of having a stake in the firm. This means that the managers are able to put into place best practices that would ensure that they benefit in the long-run because they are shareholders in the firm. This also gives them an enhanced leverage in the decision making process and particularly critical decisions that are concerned with the investment of the firm. Furthermore, more managerial ownership can enhance performance since there will be a better arrangement of the financial motivations existing between the managers and capital owners. Further, the managers have an enhanced capacity to stand against a potential takeover and consequently those who intend to takeover will have to pay more. However, there are challenges or risks associated with managerial ownership such that it can result in increased cost of capital because of the reduced market liquidity and opportunities expansion.

The findings also showed that individual ownership has a positive effect on the ROA, $\beta_2 = 0.319$. This means that with each unit increase in individual ownership, there is 0.319 units increase in the firm's ROA controlling for the age of the firm. This means that the individual owners have the capacity to affect profitability especially in privately listed companies. On the other hand, individual ownership is usually not large enough to carry a significant effect. In fact, if individual ownership is less than 5%, the power of influence is significantly diminished. In addition, majority of listed firms do not possess an ownership structure that is adequately diversified in most security market and majority of these firms that have individual ownership have it characterized as group or family or other states of ownership.

5.3 Recommendations

Based on the findings of this study, for instance, the study found out that there is no meaningful relationship between financial performance and firm size. Thus, the research recommends to policy makers to ensure that their firms not only grow in terms of age but also in terms of size.

Secondly, the research also found out that there is a very strong and negative relationship between managerial ownership and individual ownership. Hence, the study recommends to the policy makers of the listed firms to take an action and ensure there is balance between the two types of ownership. Further, the study found that about 19% of ownership is vested in managerial ownership while about 85% is vested in individual ownership. Policy makers should ascertain the effectiveness of each form of ownership with respect to financial performance to improve firm productivity.

Finally, ownership structure is a great determinant of the financial success of any firm as it informs how the organization is legally set up. Entrepreneurs must decide on the ownership formula that will offer the greatest benefits as the form chosen affects profits, risk or value of the firm as this will influence decision making processes, control and sourcing and investment of funds.

5.4 Limitations of the Study

This study relied only on secondary data which was extracted from annual reports of firms listed at the NSE. Only 52 firms were considered due to availability and consistency of data. The data was used without any alteration after extraction. In addition, the researcher did not have the proper mechanism of performing data verification.

Conceptualization only focused on 2 specific variables which could have been enhanced to accommodate other moderating variables. The period covered by the census survey study was 6 years. The regression model analysis was adopted to establish linear relationships.

5.5 Suggestions for Further Research

This study uses four variables, namely; managerial ownership, individual ownership, age of the firm, and size of the firm to establish their association with financial performance of the listed firms on NSE. Future studies are invited to conceptualize other forms of identities such as foreign and block ownership as well as include additional moderating variables. Secondly, the time frame used can be extended to a period exceeding 6 years. Other relationships not necessarily linear as analyzed using the regression model can be investigated. Lastly, the research relied only on secondary data extracted from annual and quarterly reports from the listed firms.

Therefore, future studies are invited to adopt primary data that is not cross-sectional, which can be verified and easily validated.

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APPENDICES

Appendix I: Firms Listed at the NSE as at July 2017 by Sector

1. Agricultural

Eaagads Ltd

Kapchorua Tea Co. Ltd

Kakuzi

Limuru Tea Co. Ltd

Sasini Ltd

Williamson Tea Kenya Ltd

2. Automobiles and Accessories

Car and General (K) Ltd

Sameer Africa Ltd

3. Banking

Barclays Bank Ltd

CFC Stanbic Holdings Ltd

I&M Holdings Ltd

Diamond Trust Bank Kenya Ltd

HF Group Ltd

KCB Group Ltd

National Bank of Kenya Ltd

NIC Bank Ltd

Standard Chartered Bank Ltd

Equity Group Holdings

The Co-operative Bank of Kenya Ltd

4. Commercial and Services

Express Ltd

Kenya Airways Ltd

Nation Media Group

Standard Group Ltd

TPS Eastern Africa (Serena) Ltd

Scan Group Ltd

Uchumi Supermarket Ltd

Longhorn Publishers Ltd

Atlas Development and Support Services

Deacons (East Africa) Plc

Nairobi Business Ventures Ltd

5. Construction and Allied

Athi River Mining

Bamburi Cement Ltd

Crown Berger Ltd

E.A Cables Ltd

E.A Portland Cement Ltd

6. Energy and Petroleum

KenolKobil Ltd

Total Kenya Ltd

KenGen Ltd

Kenya Power and Lighting Co. Ltd

Umeme Ltd

7. Insurance

Jubilee Holdings Ltd

Sanlam Kenya PLC

Kenya Re-Insurance Corporation Ltd

Liberty Kenya Holdings Ltd

Britam Holdings Ltd

CIC Insurance Group Ltd

8. Investment

Olympia Capital Holdings Ltd

Centum Investment Co. Ltd

Trans-Century Ltd

Home Afrika Ltd

Kurwitu Ventures

9. Investment Services

Nairobi Securities Exchange Ltd

10. Manufacturing and Allied

B.O.C Kenya Ltd

British American Tobacco Kenya Ltd

Carbacid Investments Ltd

East African Breweries Ltd

Mumias Sugar Co. Ltd

Unga Group Ltd

Eveready East Africa Ltd

Kenya Orchards Ltd

Flame Tree Group Holdings Ltd

11. Telecommunication and Technology

Safaricom Ltd

12. Real Estate Investment Trust

Stanlib Fahari

13. Exchange Traded Fund

New Gold Issuer (RP) Ltd

Source: Nairobi Securities Exchange Web site (June 2017)

Appendix II: Secondary Data Capture Form

FIRM	Size	ROA	AGE	MO	IO
Eaagads Ltd	5.37	0.122	70	1	0
Kapchorua Tea Co. Ltd	5.40	0.096	147	0	1
Kakuzi	6.61	0.133	110	0	1
Limuru Tea Co. Ltd	5.47	0.159	52	0	1
Sasini Ltd	7.09	0.041	64	0	1
Williamson Tea Kenya Ltd	6.80	0.118	64	1	0
Car and General (K) Ltd	6.87	0.047	80	0	1
Sameer Africa Ltd	6.55	-0.009	47	1	0
Barclays Bank Ltd	5.33	0.0567	100	0	1
CFC Stanbic Holdings Ltd	5.25	0.0328	8	0	1
I&M Holdings Ltd	5.26	0.0418	42	1	0
Diamond Trust Bank Kenya Ltd	5.31	0.0328	71	1	0
HF Group Ltd	7.73	0.020	51	0	1
KCB Group Ltd	5.66	0.051	120	0	1
National Bank of Kenya Ltd	4.99	0.279	48	0	1
NIC Bank Ltd	5.12	0.041	57	1	0
Standard Chartered	5.33	0.054	105	0	1

Bank Ltd					
Equity Group Holdings	5.51	0.064	2	0	1
The Co-operative Bank of Kenya Ltd	5.42	0.044	51	0	1
Express Ltd	5.71	-0.123	98	0	1
Nation Media Group	4.05	0.28	57	0	1
Standard Group Ltd	3.60	0.074	114	0	1
TPS Eastern Africa (Serena) Ltd	4.12	0.035	46	1	0
Scan Group Ltd	4.05	0.090	20	0	1
Uchumi Supermarket Ltd	3.73	-0.119	41	0	1
Athi River Mining	4.55	0.0187	42	0	1
Bamburi Cement Ltd	4.58	0.190	65	0	1
Crown Berger Ltd	3.56	0.069	166	0	1
E.A Cables Ltd	3.84	0.022	50	0	1
E.A Portland Cement Ltd	4.26	0.128	83	0	1
KenolKobil Ltd	7.19	0.0355	57	0	1
Total Kenya Ltd	4.54	0.078	61	0	1
KenGen Ltd	5.39	0.162	62	0	1
Kenya Power and Lighting Co. Ltd	5.31	0.0238	62	0	1
Jubilee Holdings Ltd	4.82	0.052	79	0	1

Sanlam Plc	4.33	0.039	70	0	1
Kenya Re-Insurance Corporation Ltd	4.47	0.118	46	0	1
Liberty Kenya Holdings Ltd	4.49	0.037	52	0	1
Britam Holdings Ltd	4.76	0.0263	51	0	1
CIC Insurance Group Ltd	4.29	0.067	48	0	1
Olympia Capital Holdings Ltd	3.19	0.029	48	1	0
Centum Investment Co. Ltd	4.73	0.145	49	0	1
Trans-Century Ltd	4.22	-0.033	19	0	1
B.O.C Kenya Ltd	5.11	0.1148	76	0	1
British American Tobacco Kenya Ltd	5.64	0.47	109	0	1
Carbacid Investments Ltd	4.55	0.23	55	0	1
East African Breweries Ltd	4.76	0.22	94	0	1
Mumias Sugar Co. Ltd	4.39	-0.069	45	0	1
Eveready East Africa Ltd	3.03	0.22	49	0	1
Kenya Orchards Ltd	4.85	0.134	21	0	1
Safaricom Ltd	6.42	0.233	23	0	1

Appendix III: Diagnostic Statistics

Linearity Test

Linearity was tested using ANOVA model through test of linearity as presented in Table 4.3. The findings in Table 4.3 indicated that there was a linear relationship between ROA and managerial ownership of the firm ($F = 20.68, p < 0.05$) with the deviation from linearity which could render the relationship to be not linear not significant ($F = 0.445, p > 0.05$). Furthermore, the findings revealed that there is a linear relationship between ROA and individual ownership of the firm ($F = 2.914, p < 0.05$) with the deviation from linearity not significant ($F = 0.843, p > 0.05$). The findings also showed that ROA has no linear relationship with the size of the firm ($F = 0.649, p > 0.05$) with deviation from linearity not significant ($F = 1.156, p > 0.05$) indicating that the most probable relationship between the size of the firm and the ROA is non-linear. Finally, the findings revealed that there is a linear relationship between the age of the firm and the ROA ($F = 2.994, p < 0.05$) with the deviation from linearity also significant ($F = 11.266, p < 0.05$). These findings indicate that the ROA can be forecast given the ownership structure of the firm and the age of the firm. This also means that the assumption of linearity is not violated except for the size of the firm.

Table 4.3: Test for Linearity

			Sum of Squares	df	Mean Square	F	Sig.
ROA * MO	Between Groups	(Combined)	0.572	1	0.572	4.843	0.032
		Linearity	0.717	1	0.717	20.68	0.000
		Deviation from Linearity	0.092	4	0.023	0.445	0.776
ROA * IO	Between Groups	(Combined)	0.588	1	0.588	4.984	0.030
		Linearity	0.303	3	0.101	2.914	0.046
		Deviation from Linearity	0.434	9	0.048	0.843	0.582

ROA * Size	Between Groups	(Combined)	5.92	46	0.129	1.145	0.493
		Linearity	0.073	1	0.073	0.649	0.457
		Deviation from Linearity	5.848	45	0.13	1.156	0.488
ROA * Age	Between Groups	(Combined)	6.377	38	0.168	20.677	0.000
		Linearity	2.994	1	2.994	368.865	0.000
		Deviation from Linearity	3.383	37	0.091	11.266	0.000

Source: Researcher (2017)

Normality test

The null hypothesis for normality of the data is that the data is normal hence there is no violation of normality. From Table 4.4, the Kolmogorov-Smirnov statistics are all not significant ($p > 0.05$) showing that the normality assumption is not violated for all the variables. Furthermore the Shapiro-Wilk statistic was not significant ($p > 0.05$) thus affirming the finding that the data for all the variables do not violate the normality assumption. This infers that the sampling distribution of the mean is normal and the distribution of means across samples is normal. Therefore, statistical errors such as outliers have been catered for.

Table 4.4: Normality test

	Kolmogorov-Smirnova			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
ROA	0.308	52	0.200	0.620	52	0.099
MO	0.475	52	0.189	0.522	52	0.200
IO	0.438	52	0.071	0.581	52	0.550
Size	0.716	52	0.280	0.973	52	0.277
AGE	0.351	52	0.105	0.929	52	0.140

a Lilliefors Significance Correction

Homoskedasticity test

The study tested homoskedasticity using White test. Table 4.5 illustrates the results. The findings indicated that χ^2 (16) was 111.09, p value of 0.3011 suggesting that

assumption of homoskedasticity was not violated. Figure 4.1 shows the assumption homoskedasticity was not violated there was no clustering or systematic pattern. The null hypothesis was the presence of homoskedasticity while the alternative hypothesis was the presence of unrestricted heteroskedasticity.

Table 4.5: Homoskedasticity test

chi2(16)	111.09
Prob > chi2	0.3011

Source: Researcher (2017)

Normal P-P Plot of Regression Standardized Residual

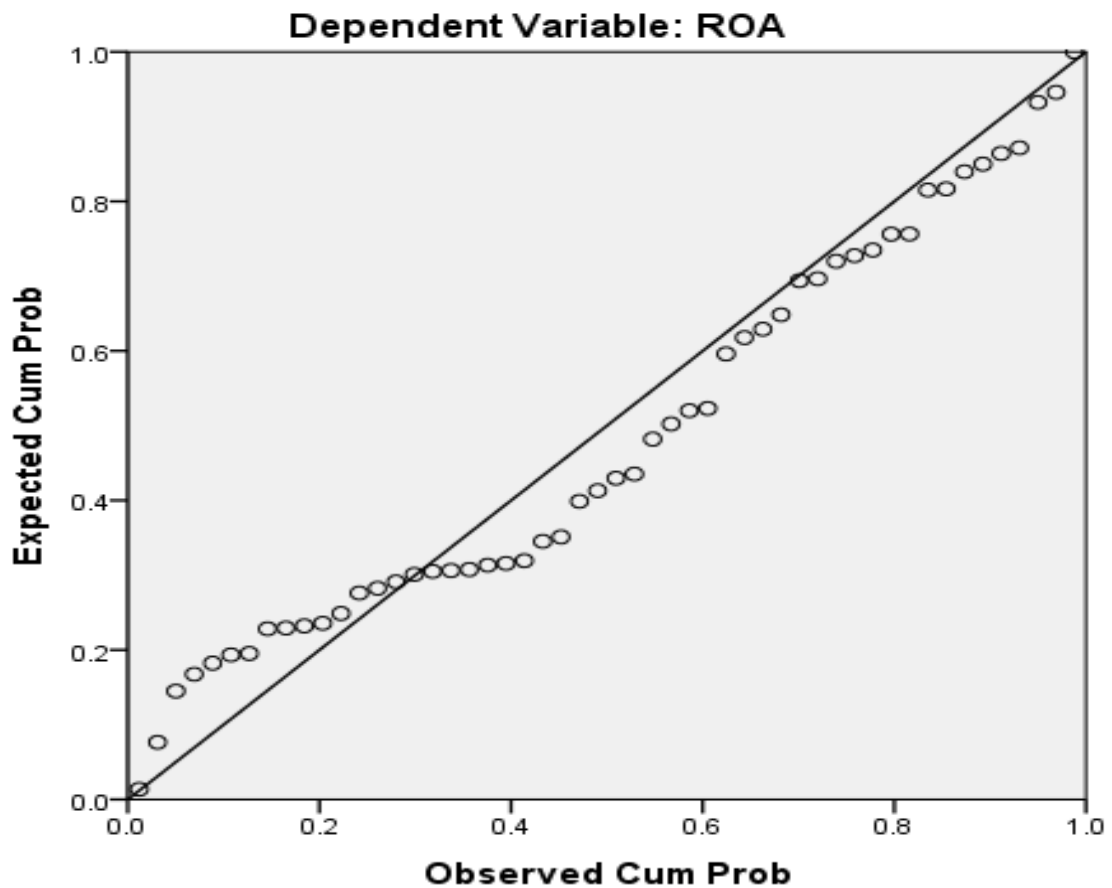


Figure 4.1: Normal P-P plot

Source: Researcher (2017)

Multicollinearity test

Using SPSS, the variance inflation factors (VIF) and tolerance values are computed where the values of VIF were less than 10 and tolerance were more than 0.1 according to the sample rule signaling absence of multicollinearity (Neter *et al.*, 1996). The VIF values in Table 4.6 were less than four meaning that there was no multicollinearity while for tolerance was above 0.2.

Table 4.6: Multicollinearity test

	Tolerance	VIF
MO	0.691	1.447
IO	0.638	1.568
Size	0.875	1.143
Age	0.823	1.215

Source: Researcher (2017)

4.6.5 Autocorrelation Test

A key assumption in regression is that the error terms are independent of each other. This section presents a simple test to determine whether there is autocorrelation or serial correlation. The Durbin-Watson test was used to test autocorrelation. Findings in Table 4.8 show a Durbin-Watson 2.098 which is between 1.5-2.5 indicating minimal autocorrelation which does not influence the outcome of regression results. Hence, the assumption was met.