

**THE EFFECT OF BOARD STRUCTURE ON THE
PERFORMANCE OF QUOTED COMPANIES AT THE
NAIROBI STOCK EXCHANGE**

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DECLARATION

This research is my own original work and has not been presented for the award of a degree in any other university.

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DEDICATION

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ABSTRACT

This study examined the effect of the Board structure on the performance of listed firms at the Nairobi Stock Exchange. It is revealed that there is no significant effect of board structure in the form of representation of executive directors, non-executive directors, or number of females on firm performance, implying that these variables cannot add potential economic value to the quoted firms in Kenya. The study also revealed that the board size has no significant effect. The study focused on the structure of the board to test the performance of listed companies at the Nairobi stock Exchange. The measures of performance employed were Tobin Q and Return on stock which was consistent with most of the earlier studies done on board and ownership structures.

Analysis of all the five sectors had mixed findings. The study determined that size of the board was only significant in the agricultural sector where the impact was negative as a predictor of Tobin Q. The number of non-executive directors had no effect in the trading sectors. However, in the industrial and allied sector the non-executive variable was excluded in the model suggesting it added no value. The number of executive directors was only significant under Tobin Q in the Industrial and Allied sector with a positive effect. These findings on the inter sector analysis are mixed suggesting that different sectors responded differently to the variables under consideration across the study period 2005-2010. It also suggests that other variables apart from the ones considered in the study had a significant effect on the performance of firms at the Nairobi Stock Exchange.

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LIST OF ABBREVIATIONS

CEO	-	Chief executive Officer
CMA	-	Capital Markets Authority
MFI	-	Micro Finance Institution
NSE	-	Nairobi Stock Exchange
ROA	-	Return on Assets
ROE	-	Return on Equity

CHAPTER ONE: INTRODUCTION

1.1 Background

Morck and Steier (2005) state that corporate governance evolved as a result of most large family owned businesses relinquishing control of their firms and entrusting their day to day activities in the hands of employed executives and professional managers. They contend that the growth has been due to the contrast between the level of trust and cooperation that exists between kin and trading families which often lacks in non-kin. For investors to trust a company enough to buy its securities, they need reassurance that the company will be run both honestly and cleverly. This is where corporate governance is critical.

The recent global financial crisis that started in 2007 has as part of its causes, a variety of corporate governance failures. Most financial institutions were deeply affected by the crisis. The Organization for Economic Cooperation and Development (2004) defines corporate governance as a set of relationships between corporate management, the board of directors, shareholders and other stakeholders. This relationship provides the platform through which corporate objectives are set, and the means of accomplishing those objectives and monitoring performance are determined.

Mudibo (2005) defines corporate governance as the system by which a corporation is directed, controlled and held to account for the manner in which power is exercised in the stewardship of its assets and resources to increase and sustain shareholder value and satisfy the needs and interests of all stakeholders. John and Senbet (1998) define corporate governance as mechanisms

by which stakeholders of corporation exercise control over corporate insiders and management such that their interests are protected.

According to Nielsen et al (2006), the structure and size of corporate boards have received much attention in the media and in the business community recently, fuelled by the prominent business failures of large companies such as Enron, Worldcom and Parmalat. The general view that board characteristics matter is reflected by an abundance of national and international guidelines for good corporate governance.

The Basel Committee (2006) states that by establishing internal mechanisms inciting corporate management to promote company's interests and facilitating effective monitoring, corporate governance systems enhance investors' protection and confidence. This contributes to the proper functioning of the market economy and the improvement of economic efficiency and growth. There is an effort to ensure enforcement of sound corporate governance standards to address the unique features of risks faced by quoted firms. Mutuku (2008) states that the added motivation for regulation of the financial sector is to maintain financial stability which is a clear public good. He concludes that these reasons drive the elaborate framework and the rigorous and intensive nature of regulation that is not the case in other trading sectors of the economy.

Rossouw (2005) has stated that there are many obstacles in Africa that frustrate the quest for good corporate governance. Most prominent on the list of obstacles are the lack of effective regulatory and institutional frameworks that can ensure the enforcement of the standards of good corporate governance. The lack of transparency and market discipline in those countries without

a sound regulatory environment also deter privately owned companies from listing on the stock exchanges that do exist.

Armstrong (2003) asserts that the need for corporate governance among listed companies and state-run enterprises are great. He states that the drive toward corporate governance has been fuelled by a number of factors. There is wide recognition that corporate governance can contribute to the economic success of corporations and to their long-term sustainability. The market discipline and transparency that can result from good corporate governance further drive the quest for good governance in Africa.

1.1.1 Board Structure

A board of directors is viewed as a team of individuals with fiduciary responsibilities of leading and directing a firm, with the primary objective of protecting the firm's shareholders' interests (Abdullah, 2004). The board size and composition of sitting directors constitute one of the most essential corporate governance practices. Corporate governance debate lies within two extreme streams of board practices, examining whether the board composition in the form of representation of outside independent directors and structural independence of the board influence the firm performance. Monitoring and advising management are the two primary functions of corporate boards of directors (Bhagat and Black, 2002).

Fama and Jensen (1983) state that non-executive directors can play an important role in the effective resolution of agency problems and their presence on the board can lead to more effective decision-making. The relationship between board size, board composition and valuation

and performance has been a continuing area of interest in the literature. Research has focused on the optimal board structure in the listed firms as a value-creating mechanism; an optimal structure is supposed to reduce agency costs caused by the separation of ownership and control (Shleifer and Vishny, 1997). Andres and Vallelado (2008) argue that a large board size should be preferred to a small size because of the possibility of specialization and diversity for more effective monitoring and advising functions.

According to Mitchell (2000) board diversity can broadly be defined as variations amongst the members of board of directors in terms of characteristics such as expertise and managerial backgrounds, personalities, learning styles, gender, age, education and values. John and Senbet (1998) assert the prominent position that board structure and organization occupy in the corporate governance, they conclude that the board of director's effectiveness in monitoring corporate management is primarily determined by its independence and size.

The impact of corporate governance on performance has captured the attention of many. Upgrading corporate board structure, in terms of both size and composition, has been one of the core issues in all corporate governance initiatives undertaken by concerned stakeholders. This is especially the case in state parastatals and listed companies in Kenya. The role of a company's board of directors has grown in the past few years, and the importance of independent directors has gained equal importance. Armstrong (2003) notes that corporate governance can contribute to the economic success of corporations and to their long-term sustainability.

It has been debated by a number of academicians such as Nyaga (2007) and Ongore (2010) that the presence of directors who are not employees of the firm may enhance the effectiveness of the board

of directors in monitoring managers, and improving firm value. The rationale behind this is that outside directors are more likely to defend the interests of outside shareholders. Fama and Jensen (1983) argue that outside directors have the incentive to act as monitors of management because they want to protect their reputations as effective, independent decision makers.

Ongore (2010) states that the board of directors acts as the intermediary between the principals and their agents, and is charged with four main responsibilities: leadership; stewardship; monitoring; and reporting back to the principals. The effectiveness of the board helps in, among other ways, monitoring and controlling managerial discretion. Bathula (2008) states that the board should not only prevent negative management practices that may lead to corporate scandals but also ensure that firms act on opportunities that enhance the value to all shareholders. The board is also tasked with the responsibility of developing and selecting creative options in the advancement of the firm core business.

There have been prominent cases of dissatisfaction amongst shareholders regarding the continued poor performance of corporations. The persistent questions that have been raised regarding the competency of the boards, corporate greed and falling shareholder value in many corporations globally has increased interest in the understanding of the boards role in monitoring firm activities (Sherman and Chagati, 1998).

There has been an increasing realization on the part of corporations that a better structured board is a source of strength in several ways such as attracting investment capital, improving valuations and share price performance, and providing better long-term shareholder returns (Carlsson, 2001).

1.1.2 The Nairobi Stock Exchange

Dealing in shares and stocks started in Kenya in the 1920s. At this time, Kenya was a British colony. Stock broking was conducted solely by Europeans in areas of specialization such as accountants, auctioneers, estate agents and lawyers who met to exchange prices over a cup of coffee. Trading took place on gentlemen's agreement in which standard commissions were charged and clients were obliged to honor their contractual commitments such as making good delivery and settling relevant cost. There was no formal market, rules or regulations to govern stock broking (Kibuthu, 2005).

The NSE has continued to increase in importance in economic growth and capital market development in Kenya and the East Africa region (Kibuthu, 2005). The NSE is an example of an emerging stock market that has been characterized by humble beginnings yet has grown considerably over time. It stands out as an average stock market with great potential for growth, one that is making considerable effort to be a more significant driver of economy in Kenya and the East African Region.

The NSE encourages the broader ownership of firms. The opportunity accorded the general public to have ownership rights over listed enterprises helps to reduce large income inequalities through the sharing of profits made by these enterprises, thereby facilitating the redistribution of wealth. The Exchange facilitates improved corporate governance because of the improvement of management standards and efficiency to meet the demands of shareholders and the NSE under its corporate governance rules.

The Capital Markets Authority (CMA) was established in 1989 as a body corporate through an Act of Parliament to regulate and oversee the orderly development of Kenya's capital markets. The mission of Capital Markets Authority is to promote the development of orderly, fair, efficient, secure, transparent and dynamic capital markets in Kenya within a framework which facilitates innovation through an effective but flexible system of regulation for the maintenance of investor confidence (Capital Markets Authority, 2003).

1.2 Research problem

Sound corporate governance through a solid board structure fosters a disciplined environment. Claessens (2003) summarizes the channels through which such an environment affects growth and development: increased access to external financing by firms, lower cost of capital and associated higher firm valuation, better operational performance through better allocation of resources and better management, reduced risk of financial crises, better relationships with all stakeholders.

Despite the growing interest in the role of board size and composition, a full review of the relevant literature concerning the impact of board structure on performance of listed firms reveals that empirical findings are mixed. Most studies done have pegged performance on accounting ratios or employed both accounting and financial performance measures, for example Ongore (2010), Zulkafli and Samad (2007) and Molonko (2004). Studies evaluating the effect of board structure on performance by Adams and Mehran (2005) report a positive impact of board size on firm performance in the US banking industry. The study, however, does not find a significant effect of the proportion of outsiders on the board on performance. Sierra, et al. (2006), in contrast, find evidence that the relative strength of the board of directors positively influences

the firm performance and negatively affects executive compensation in the US bank holding companies. A literature review of studies carried out in Kenya also has mixed findings.

Molonko (2004) found a negative board size effect in the banking industry. He reports a negative statistically insignificant effect of proportion of non-executive directors to firm performance. Nyaga (2007) found out that the proportion of external directors as a majority in manufacturing firms has a positive effect on performance compared to insider dominated boards. The two studies had inconsistent findings.

Wanjau (2007) reported a positive effect of board size on the performance of microfinance institutions in Kenya. Ngugi(2007) reported findings consistent with Wanjau (2007) while examining performance of insurance companies. The study finds a positive effect of board size on performance but no effect of external directors on performance.

There is need to further determine whether board structure affects institution performance in the Kenyan context which is an emerging economy using the current market setting. Adams and Mehran (2003) have noted that little research on the governance of the listed firms exists. Research results obtained in other regions and countries on the effect of board structure on firm performance may not be used to deduce a blanket opinion in the Kenyan context due to the market orientation and differences in firm size and economy.

This study will therefore try to answer the following research questions: To what extent does the size of the board influence the performance of listed firms? Is there a significant contribution to

performance due to the number of outside directors sitting on the board? Does this hold true for all the sectors?

1.3 Research Objectives

The general objective of the research study was to determine the effect of the board structure on the performance of the listed firms at the Nairobi Stock Exchange.

The study had three specific objectives:

1. To determine whether the size of the board affects the performance of listed firms at the Nairobi Stock Exchange.
2. To determine whether the composition of board members affects the performance of listed firms at the Nairobi Stock Exchange.
3. To determine whether the effect holds in all the trading sectors.

1.4 Value of the study

The findings of the research would be of benefit to the following stakeholders:

Public listed companies will obtain valuable information that will help them to know how they can improve their performance; this could be through the right mix of the board members. This will ensure effective governance and hence better services and leadership.

1. The research will provide information useful to investors on criteria of choosing most viable investment opportunities in listed public institutions that will guarantee safety of their investments and surety of reasonable returns.

2. To the government, the study findings may enhance the regulatory framework on control and monitoring of public institutions in general.

3. To academia, the study will also add knowledge to the area of academia and may also create gaps for further research in the area.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter will introduce the theories that further the study. Previous research work carried out in this area of study will be examined. The chapter discusses three theories in detail, namely; agency theory, stewardship theory and the stakeholder theory. The three theories further the understanding on the ideal roles of the board and relationships existing between management and the owners of the firm.

2.2 The Agency theory

Agency theory was first written by Alchian and Demsetz (1972) and further developed by Jensen and Meckling (1976). Agency theory is defined as the relationship between the principals, such as shareholders and agents such as the company executives and managers (Alchian and Demsetz, 1972). The shareholders, who are the owners or principals of the company, hire the agents to perform work. Principals delegate the day to day running of business to the directors or managers, who are the shareholder's agents (Clark, 2004). Agency theory argues that in the modern corporation, in which share ownership is widely held, managerial actions depart from those required to maximize shareholder returns (Berle and Means, 1932).

According to Fama (1980) the firm is viewed as a set of contracts among factors of production, with each factor motivated by its self-interest. The principal-agent problem arises when a principal pays an agent for performing certain acts that are useful to the principal and costly to the agent. However, there are elements of the performance that are costly to observe. Agency

theory suggests that the employees or managers in organizations can be self-interested which causes a deviation from firm core objectives.

Daily et al (2003) argues that two key factors influence the prominence of agency theory in understanding the current firm setting. First, is that the theory is a conceptually simple theory that reduces the corporation to two participants of managers and shareholders. Secondly, that agency theory suggests that employees or managers in organizations can be self-interested. According to Padilla (2000), the shareholders expect the agents to make decisions that are in their best interests. On the contrary, the agent may not necessarily make decisions in the best interests of the principals.

Bhimani (2008) introduces agency theory as a separation of ownership from control resulting in such setbacks as self interest and opportunistic behavior. The notion of problems arising from the separation of ownership and control in agency theory has been confirmed by Davis, Schoorman and Donaldson (1997). Berle and Means (1932) have stated that the separation of ownership and control in publicly held corporations induces conflicts of interest between managers and shareholders. Shareholders are mainly interested in maximizing the value of the firm, but managers' objectives may also include the increase of perquisite consumption and job security. A number of governance mechanisms may help in aligning the interests of managers with those of shareholders.

According to agency theory, the separation of ownership and control, which, is one of the key issues in the modern corporation, leads in many instances to firm managers using their firm-

specific knowledge and managerial expertise to gain an advantage over the firm's owners, who are absent from the day-to-day affairs of the firm. Since the managers are "in control" of the firm, the risk is that they will pursue actions in their own self interest, and not in the interest of the owners (Jensen and Meckling, 1976). In this context Fama and Jensen (1983) state that this is likely to occur in noncomplex organizations where specific information relevant to decisions is concentrated in one or a few agents (specific information that is costly to transfer among agents).

Agency theory identifies the board of directors as the primary internal control mechanism enabling firm principals to monitor management behavior. According to the theory, one of the main tasks of the board is to specifically carry out the monitoring function on behalf of the firm's owners, acting to remove managers who misuse firm assets and participating in the formulation of strategic decisions which have a considerable impact on shareholder investments (Waldo, 1985). There is an agency loss which is the extent to which returns to the residual claimants, the owners, fall below what they would be if the principals, the owners, exercised direct control of the corporation.

Jensen and Meckling (1976) showed how investors in publicly traded corporations incur costs in monitoring and bonding managers in best serving shareholders. They define agency costs as all costs incurred in monitoring management (the agent); bonding the agent to the principal (stockholder/'residual claimant'); and residual losses. A basic conclusion of agency theory is that the value of a firm cannot be maximized because managers possess discretions which allow them to expropriate value to themselves. The board composition in the form of representation of

outside independent directors is able to provide important monitoring functions in an attempt to resolve the agency conflict between management and shareholders (Bathala and Rao, 1995).

2.3 The Stewardship Theory

In the stewardship model, 'managers are good stewards of the corporations and diligently work to attain high levels of corporate profit and shareholders returns' (Donaldson & Davis 1994). This theory suggests that the power of the executives and best stewardship role can only be exercised when the role of the CEO and Chairperson of the board is combined, (Ong and Lee, 2000).

Agyris (1973) argues agency theory looks at an employee or people as an economic being, which suppresses an individual's own aspirations. However, stewardship theory recognizes the importance of structures that empower the steward and offers maximum autonomy built on trust. This can minimize the costs aimed at monitoring and controlling behaviors which is more pronounced in agency theory. Stewardship theory suggests unifying the role of the CEO and the chairman so as to reduce agency costs and to have greater role as stewards in the organization.

2.4 The Stakeholder Theory

Clarkson (1994) states: "'The firm" is a system of stake holders operating within the larger system of the host society that provides the necessary legal and market infrastructure for the firm's activities. This theory is regarded as the most fundamental challenge to the principal-agent model since it emphasizes that the purpose of the firm should be defined broader than the mere maximization of shareholder welfare. Thus, corporate governance should refer to the design of institutions to make managers internalize all stakeholders' welfare. The purpose of the firm is to create wealth or value for its stake holders by converting their stakes into goods and services'.

Stakeholder theory can be defined as any group or individual who can affect or is affected by the achievement of the organization's objectives. Unlike agency theory in which the managers are working and serving for the stakeholders, stakeholder theorists suggest that managers in organizations have a network of relationships to serve – this include the suppliers, employees and business partners. Freeman (1999) has argued that this group of network is important other than owner-manager-employee relationship as in agency theory.

2.5 Firm Performance

There is a lot of literature on the measurement of performance. Jeon and Miller (2006) define performance as profitability and productivity. In addition, performance may also refer to the development of the share price, profitability or the present valuation of a company (Melvin and Hirt 2005). Several measures of performance are available, including measures such as Return on Stocks capital which comprises of the return in the form of dividends to the shareholders (dividend yield) and the appreciation or depreciation in the market price of the stock (capital gains/losses).

Measuring firm performance using accounting ratios (conventional measures) is also common in the corporate governance literature, in particular, return on capital employed, return on assets and return on equity. Similarly, economic value added can be used as an alternative to purely accounting-based methods to determine shareholder value by evaluating the profitability of the firm after the total cost of capital, both debt and equity, are taken into account. Mishra and Nielsen (2000) use conventional performance measures to assess bank performance.

Studies that combine banks with other industries use ROA and ROE widely to assess bank performance. Choi and Hasan (2005) in their study on the relationship between board structure and bank performance in Korea use the conventional performance measures. For profitability, the measurements that are used include return on assets (ROA), return on equity (ROE) and capital asset ratio, liquidity ratios and ratios measuring credit risk (Yeh, 1996).

2.6 Board Composition

According to Mitchell (2000) board composition is the unique mix in terms of characteristics possessed by the individuals that comprise the board. This could be in terms of education background, age, beliefs, professional experience, expertise and gender. Armstrong (2003) notes the prominence of the right composition of board members in aligning the board interests to that of the shareholders. Fama and Jensen (1983) have stated that the right composition creates a positive tension in the board between executive and non-executive board members that effectively leads to better performance and optimal decision making.

Rashid et al. (2010) states that corporate governance convention adopted by most countries requires executive and non-executive directors to work together in fulfilling the organization objectives. It is assumed that boards without non-executive directors suffer from lack of independence and merely act as a rubber stamp, are dominated by the CEO and plagued by conflicts of interest.

Baysinger and Butler (1985) have stated that there is a positive effect in performance when outside directors are appointed into boards. The view is that they may effectively influence the board's decision and ultimately increase firm value. It is also recognized that independent directors share the responsibility to monitor a firm's financial performance. Inso doing, they have authority to question problems of information asymmetry.

Mitchell (2000) has argued that the addition of women to a board of directors may diversify the sociological perceptions and understandings of a board of directors in the decision making process. Using the case of South Africa she states that their presence may enhance the direction and activities adopted by a company in an uncertain and dynamic business environment. This ultimately assists in facilitating strategic change, increases financial performance and provides greater idea innovation.

2.7 Empirical Studies

Bathala and Rao (1995) argue that the role of outside board members is less critical for firms with higher proportion of inside ownership. They find an inverse effect of the proportion of outside board members to inside ownership of equity of 261 US listed firms on performance which suggests that higher proportions of insider ownership held by inside board members help to closely align the managerial and shareholder interests, thus, reduce the need for intense monitoring from external board members.

An empirical study of board size effects on performance done by Yermack (1996) analyzed a panel of 452 large US firms in the period from 1984 to 1991. Using a fixed effects approach, he shows that there is a negative and significant board size effect on Tobin's Q and that smaller

boards fire CEOs more frequently. The negative board size effect on performance has been confirmed in a number of studies on large publicly traded US firms.

Eisenberg et al. (1998) studied board size effects by including small and medium-sized closely held corporations. Their sample consisted of almost 900 small and medium-sized closely held corporations in Finland. Most of the firms had from three to seven directors on the board. A significant negative board size effect was found even for these small closely held corporations. Moreover, the estimated effect on performance was large: According to their most conservative estimates, an increase in board size that is from 3 to 4 directors would lower the returns on assets by approximately 11 percentage points on average at the sample mean of 13 percent.

Yermack (1996) and Eisenberg et al. (1998) have reported a positive effect of board size on the total assets of the firm. These results imply larger companies have larger boards. As the firm gets larger, the number and complexity of its operations increases, requiring therefore more directors to rely on. A meta-analysis carried out in 1998 of 54 studies of the relationship between board composition and firm financial performance could not find any link (Dalton et. al 1998). A meta-analysis carried out in 2000 of 59 studies of this relationship (Rhoades et. al 2000) could find only a very small link between board composition and firm performance.

Liang and Li (1999) examine the effect of board structure on firm performance in sample of 228 small private firms in Shanghai, China. Because of the nature of their relatively small size in terms of market, operations and private ownership, board structure of such firms is believed to be, ex ante, firm performance-enhancing, and the structure/performance relationship is easier to

identify. Empirical findings indicate that most of the private firms adopt an insider dominated board structure, but the presence of outside directors is positively influential to higher return on investment. Duality of titles and board size does not matter in firm performance.

Dehaene *et al.* (2001) found that the percentage of outside directors positively affects the performance of Belgian firms. Connelly and Limpaphayom (2004) find that board composition has a positive effect on profitability and a negative relation with the risk-taking behavior of life insurance firms in Thailand.

Adams and Mehran (2003) examined the influence of board size on firm performance using a sample of 35 large publicly-traded US bank holding companies (BHCs) during 1959-1999. Contrary to the evidence for nonfinancial firms, they concluded that banking firms with larger boards do not under perform their peers in terms of Tobin's Q and that, as a result, constraints on board size in the banking industry may be counter-productive. In contrast to the findings, Belkhir (2006) studied a sample of 260 US bank and savings-and-loan holding companies for 2002, inferring that internal corporate governance mechanisms (i.e., manager and block-holder ownership, proportion of outside directors, CEO-Chairman duality, board size) are, to a considerable degree, endogenously determined but they exert a non-significant impact upon banks' performance. Using two-stage least squares regressions; he presented evidence of interdependencies between board and ownership structures. The results suggest that banks substitute between governance mechanisms that align the interests of managers and shareholders. Banks with higher insider ownership rely less on outside directors' representation on their boards, are less likely to have a CEO who is also the chairman of the board, and have larger boards. In addition, banks with larger boards rely more on outside directors' representation on their boards. These

findings suggest that cross-sectional OLS regressions of bank performance on single governance mechanisms may be misleading. Belkhir (2006) finds statistically significant influence on performance from insider ownership and blockholder ownership when using OLS regressions. However, these statistically significant effects disappear when the simultaneous equations framework is used.

Zulkafli and Samad (2007) analyzed a sample of 107 listed banks in the nine countries of Asian emerging markets (Malaysia, Thailand, Philippines, Indonesia, Korea, Singapore, Hong Kong, Taiwan, India), also deducing that board size does not significantly affect performance measures, such as the Tobin's Q and ROA.

Studies have been carried out on the role of ownership structure (Morck et al., 1988) and board structure such as Baysinger and Butler, (1985) and Bhagat and Black, (2002) in monitoring management and so improving firm performance in empirical corporate governance literature. Underlying these studies on the effect of ownership and board structure on performance is the assumption that there is an optimal ownership and board structure which is common to all firms, and that firms which diverge from the optimal level of these characteristics will experience lower performance.

Arslan et al (2010) studied the effect on corporate performance, namely the accounting and the stock market performance, and the board independence, separation of the tasks of management and chairman, board ownership and the board size in Turkey. They built their analyses on a total of 999 observations of Turkish non-financial listed firms for the period between 1995 and 2006. They conducted the analyses through logistic methodology by eliminating shadow variables.

Their findings indicated that, while board ownership does not have any impact on the accounting performance, it had a fairly positive influence on the stock market performance of firms during the crisis period. Similarly, the situation when the CEO of a firm is also the chairman of the board is not found to have any impact on the corporate performance of firms, although its negative impact is observed during the crisis period. Moreover, board independence is found not to have effect on accounting performance, yet the stock market perceives board independence positively both in general and in the crisis periods.

Rashid et. al (2010) examined the influence of corporate board composition in the form of representation of outside independent directors on firm economic performance in Bangladesh. The study incorporated Tobin Q and ROA as performance measures. The study covered 247 firms for the period 2005 to 2009 using a linear regression analysis to test variables such as board composition, percentage of shares owned by directors and board size. Their results reveal that outside (independent) directors cannot add potential value to the firm's economic performance in Bangladesh. The study also reveals that the board size has a significant negative influence on firm performance under accounting based performance measures (ROA), implying that there are information asymmetries between outside independent and other directors.

Pathan (2010) used a panel of 212 large U.S bank holding companies over the period 1997-2004 to examine whether board structure (board size, composition and gender diversity) in banks influence performance. The results show a negative effect of board size on performance of banks. The study also found some negative effect of board independence on performance of banks. However, the study findings support a positive effect of gender diversity on bank

performance. The study shows that Sarbanes-Oxley Act of 2002 has had an impact on the board structure and performance. Specifically the negative effect of bank board size on performance is more pronounced in the post-sox period.

Molonko (2004) examined the effects of between board characteristics and board compensation in determining firm profitability in the banking industry in Kenya. The study used a sample of 30 banks for the period between 1999-2003. The study sought to explore whether board size, proportion of non-executive directors, CEO duality and board total compensation affected performance in terms of ROA, ROE and profit before tax. Board compensation and firm size were found to be positively and significantly influential to bank profitability. The effects of board size and proportion of non-executive directors were found to be negative and statistically insignificant. The negative effect indicated that board structure had not contributed to the reduction of agency costs in the banking industry in Kenya.

Muriithi (2004) investigated the effects of corporate governance mechanisms on performance of Kenya publicly quoted firms. 44 companies quoted on the NSE in the period between 1999 and 2003 were analyzed. The major findings were that the average board size of Kenyan listed firms was 8 and non-executive directors held a significantly larger percentage of seats, 76%. In addition 0.13% of the sample population had CEO duality. No measure of firm performance, ROA, ROE or Tobin's q, was significantly affected with the percentage of non-executive board members.

A study by Mululu (2005) examined the effect of board activity on firm performance. The study using secondary data from 48 quoted companies in the NSE from 1998-2003, established that board activity as measured by the frequency of board meetings is influenced by factors such as board size, the number and percentage of shares held by officers and directors; the number of executive and independent directors. The study also established that the number of board meetings decrease with the board size. This is consistent with the notion that the monitoring role of external board members is less critical for firms with higher proportions of inside ownership and the higher inside ownership helps align the interests of managers to those of shareholders.

Wanjau (2007) set to investigate the effect of corporate governance on the performance of Micro Finance Institutions in Kenya. The population was made up of 15 micro finance institutions actively involved in MFI business. The study found out that there exists an effect between different aspects of corporate governance and firm performance, specifically, the size of the board was found to positively affect the turnover or disbursements. This means that large boards translate to higher turnover for MFI's. 70% of MFI's had boards consisting of up to 10 members while 30% had over 10 members in their boards. The study found a negative effect of board structure on turnover or disbursements specifically CEO duality.

Nyaga (2007) tried to determine the effects of frequency of board meetings on performance for manufacturing firms listed in the NSE between 1996-2006 and to determine the effect of board composition on firm performance in manufacturing firms. The study analyzed 18 manufacturing companies and found that the frequency of board meetings had a perfect linear effect on performance measures. These findings were consistent with earlier findings of Mululu (2005).

Firms with more frequent board meetings exhibited improved performance. Firms with external directors as majority in proportion to the total board exhibited improved performance than firms with mixed boards or insider dominated boards which is inconsistent with the findings of Muriithi (2004) and Molonko (2004).

Ngugi (2007) investigated whether corporate governance affects performance of insurance companies in Kenya. 33 insurance companies were examined to establish the effects of corporate governance on performance. The characteristics looked at were board size, external board members, individual and family shareholding, insider shareholding and institutional shareholding. The study found evidence that the size of the board and insider holding on one hand have an effect on performance but did not find any evidence that the external board, individual shareholding and institutional shareholding have any influence on performance.

Ongore (2010) investigated the effects of ownership structure on performance of listed companies in Kenya. Ownership structure was measured in terms of percentage of shares held by the top five shareholders and ownership identity. Measures of performance used were ROA, ROE and Dividend Yield. The study analyzed 42 companies for the period 2006 and 2008. The study concluded that ownership concentration and government ownership have a significant negative effect on firm performance. Foreign ownership, diffuse ownership, corporation ownership, and manager ownership were found to have significant positive effect on firm performance.

2.8 Summary

The findings of the literature reviewed have mixed results. While some find a positive impact of board structure on firm performance others do not. For example Dehaene et. al (2001) in their study found that the percentage of outside directors positively impacted the performance of Belgian firms, However, Belkhir (2006) contradicts these findings in his study of block holder ownership and insider ownership in US bank holding firms. Eisenberg et. al (1998) present their findings stating that there is a significant but negative board size effect to Tobin Q as a performance measure. Zulkafli and Samad (2007) however report that board size is not significant when regressed against performance measures such as Tobin Q and ROA.

Diverse samples have also been used in the studies. While some have incorporated financial institutions, others have not applied the same. Wanjau (2007) sampled micro finance institutions in his study to investigate the influence of corporate governance on performance, Nyaga (2007) on the other hand used manufacturing firms listed at the Nairobi Stock Exchange to determine the relationship between performance and annual number of meeting conducted by the board. Ongore (2010) tried to determine the effect of ownership structures on the performance of listed firms at the Nairobi Stock Exchange. The study found that Ownership Concentration and Government Ownership have significant negative relationships with firm performance This left a gap in the studies to determine whether the Kenyan context would finally come to the same deductions and whether consistency in findings could be achieved on board structure-performance relationship in the current Kenyan context.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter identifies the research study, the population and the sample used in the study. The modes of data collection and analysis methods employed in the study are also discussed. This chapter will elaborate on the process of determining the impact of board composition and structure and testing the extent of correlation of the two variables in order to make deductions on the study.

3.2 Research Design

The study design is causal in nature. Regression analysis is a statistical tool that is important in causal study. It attempts to establish the functional relationship between variables and thereby provide a mechanism for prediction. Gupta (2009) states that regression analysis provides estimates of values of the dependent variable from values of the independent variables. Regression analysis is also useful in obtaining a measure of the error involved in using the regression line as a basis for prediction.

3.3 The Population

The study population consisted of all the 57 firms listed at the Nairobi Stock Exchange as at December 2010. A census survey was conducted of all listed firms in all the traded segments in the Nairobi Stock Exchange over the five year period 2005 to 2010. The five segments are agricultural segment, finance and investment, commercial & services, industrial & allied, and the alternative investment segment. The census study was consistent with studies done by Ongore (2010), and Mululu (2005).

3.4 Data Collection

The data collected was of secondary nature. This was obtained from the annual financial reports of the respective firms. The data requirements included the board members' characteristics (gender, number of members, number of non-executive directors and number of executive board members), the average prior period share price at beginning and close, and the dividends declared.

3.5 Data Analysis

Two measures of performance were considered. Returns on stock and Tobin q were regressed against the independent variables board size and composition. The multiple linear regression model was applied on firm performance measure, dividend yield or capital gain, upon the variables for the five year period. Consistent with other studies such as Bhagat and Black (2002), Liang and Li (1999) and Arslan et al (2010) the period between 2005 to 2010 was considered viable to come up with conclusive findings.

3.5.1 Return on Stock

Dependent variable of the study was corporate financial performance which was represented by

$k = \text{dividend yield} + \text{capital gains}$.

$$\text{Dividend Yield} = \frac{D}{P}$$

D= Dividends for the period

P= Initial Price for the period

The formula for the dividend yield was used to calculate the percentage return on a stock based solely on dividends. The formula for dividend yield may be of greater interest to investors who rely on dividends from their investments. The dividend yield formula can be used by investors who are looking for increasing or declining trends of the dividend yield. However, a lower dividend yield does not imply lower dividends as the price could have substantially increased. The dividends paid for a company can be found on the financial statement, which can then be used to calculate dividend yield (Pandey, 2008).

$$\text{Capital Gains Yield} = \frac{P1 - P0}{P0}$$

Po= Initial Stock Price

P1= Stock Price after 1st period

The formula for the capital gains yield was used to calculate the return on a stock based solely on the appreciation of the stock. The formula for capital gains yield does not include dividends paid on the stock, which can be found using the dividend yield. The capital gains yield formula uses the rate of change formula. Calculating the capital gains yield is effectively calculating the rate of change of the stock price. The rate of change can be found by subtracting an ending amount from the original amount then dividing it by the original amount. The capital gains yield will equal a company's total stock return if a company does not pay dividends. The capital gains yield and dividend yield is combined to calculate the total stock return (Drake, 2007).

$$Re = \frac{D1}{P0} + \frac{P1 - P0}{P0}$$

3.5.2 Tobin Q

Tobin q is the ratio of the fair value of assets owned by a firm (the fair value of its outstanding stock and debt) to the replacement cost of the firm's assets (Tobin, 1969). If a firm is worth more than its value based on what it would cost to rebuild, then excess profits are being earned. These profits are above and beyond the level that is necessary to keep the firm in the industry. The formula is:

$$\text{Tobin Q} = \frac{(\text{Equity Market Value} + \text{Liabilities Book Value})}{(\text{Equity Book Value} + \text{Liabilities Book value})}$$

The studied variables were board size and board composition. To analyze the relationships, the general model was used to determine which variables were determinants related to quoted firm performance. Thus, the following general model was examined:

$$\text{FIRM PERFORMANCE} = \beta_1 \text{BOARD SIZE} + \beta_2 \text{NON -EXECUTIVE BOARD MEMBERS} + \beta_3 \text{WOMEN ON BOARD} + \beta_4 \text{EXECUTIVE BOARD MEMBERS}$$

The above model was presented in terms of a regression model as follows:

$$Y = \alpha + \beta_1 \text{BOARD SIZE} + \beta_2 \text{NON -EXECUTIVE BOARD MEMBERS} + \beta_3 \text{WOMEN ON BOARD} + \beta_4 \text{EXECUTIVE BOARD MEMBERS} + \varepsilon$$

...where Y was corporate financial performance measured as Tobin q and return on shareholder investments in terms of dividends and anticipated capital gains"; $\beta_1, \beta_2, \beta_3$ and β_4 are coefficients of the variables and ε the error term.

Women representation on the boards was measured as the number of female directors on the boards of companies listed on the Nairobi Stock Exchange. This approach was consistent with previous research that has defined the relationship between gender diversity on the board of directors and company performance, for example, Mitchell (2000).

CHAPTER FOUR: DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

This chapter analyses the data collected based on the research objectives. The objectives of this study were to determine whether the size of the board affects the performance of listed firms at the Nairobi Stock Exchange. The second objective was to determine whether the composition of board members affects the performance of listed firms at the Nairobi Stock Exchange and determine whether the effects hold in all the trading sectors. The analysis was based on secondary data obtained from the NSE 2009 and 2010 handbooks. The total population of the study was the 57 listed firms as at December 2010. The study managed to collect information for 38 out of the 57 listed firms (67%) which was considered adequate. Information collected comprised of board size, board composition, dividends issued, share prices and market capitalization. Data analysis was based on multiple regression with dependent variables being return on stock and Tobin's q. The board structure was operationalised to include variables such as board size, number of females, executive and non-executive board members.

4.2 Descriptive Statistics on Board Structure and performance

The descriptive statistics of the data collected on performance and board structure are in Table 4.1 below. The results show that the mean number of the females sitting on boards is 0.81. This is very low and is also depicted in the mean number of females in the sectors; financial sector has a mean of 1.4. The other sectors had a mean of less than 1, Industrial and allied 0.44, commercial and services 0.78, alternative investment 0.89 and agricultural 0.28. As per Table 4.1, average firm performance is 0.18 ranging from negative 1.35 to 3.45 under the Return on Stock

performance measure, and 20.16 ranging from 1.0 to 102 under Tobin's Q performance measure. The average board size is found to be approximately 9 directors, ranging from a minimum of 4 directors to a maximum of 14 directors.

Table 4.1 Descriptive statistics of Board Structure and Performance

	N	Minimum	Maximum	Mean		Std. Deviation
	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic
Females	228	0	4	.81	.069	1.036
Boardsize	228	4	14	8.85	.139	2.094
Non-executive	228	2	11	6.30	.135	2.043
Executive	228	0	12	2.63	.100	1.513
Returnonstock	228	-1.3539	3.4479	.179573	.0456248	.6889191
TobinQ	228	1.0	102.0	20.163	1.3863	20.9324
Valid N (listwise)	228					

The analysis was grouped into three headings according to the research objectives.

4.3 Effect of board structure on performance

The following hypothesis test applied to all the sectors:

Ho = None of the independent variables are predictors of the dependent variable

Ha = At least one of the independent variables are predictors of the dependent variable

A p-value greater than 0.05 indicated that the null hypothesis should be accepted meaning that none of the independent variables are strong predictors of the dependent variable. The variables number of females, number of non-executive directors and number of executive directors had a very weak non significant effect except for non-executive directors under Tobin Q which had a p-value of 0.03. The number of non-executive directors had a negative effect of 0.441. The change in number of executive directors therefore has a negative effect on the Tobin Q of listed firms in Kenya.

4.3.1 Effect of board structure on performance of Ind. and Allied Sector

From the table, it is evident that the p values were greater than 0.05 for females, board size and executive directors. Non-executive directors was excluded from the analysis since it had no values in the regression model. The findings indicate that none of the independent variables were predictors of the return on stock in the industrial and allied sector. However, the p value was less than 0.05 for no. of females, board size and executive board members indicating that the three were predictors of Tobin Q. The number of female directors had a moderate positive effect to Tobin Q at 0.515 while the size of the board had a weak negative effect at 0.351. The number of executives had a positive effect at 0.381.

Table 4.2 Effect of board structure on performance of Ind. and Allied Sector

	Return on stock	Tobin Q
Constant (β_0)	-0.122	0.015
No of females (β_1)	0.079	0.000
Board size (β_2)	0.114	0.012
Non executive (β_3)	-	-
Executive (β_4)	-0.096	0.000
p value	0.136	0.000
R value	0.268	0.522

4.3.2 Effect of board structure on performance of Financial Sector

From the table, it is evident that the p values were greater than 0.05 indicating that none of the independent variables were statistically significant predictors to the return on stock and Tobin Q in the financial sector.

Table 4.3: Effect of Board structure on Performance of Financial sector

	Return on stock	Tobin Q
Constant (β_0)	0.333	0.219
No of females (β_1)	0.443	0.053
Board size (β_2)	0.540	0.253
Non executive (β_3)	0.829	0.145
Executive (β_4)	0.931	0.874
p value	0.781	0.098
R value	0.167	0.344

4.3.3 Effect of board structure on performance of Comm. and Service Sector

From the table 4.4, it is evident that the p values were greater than 0.05 for all the variables. The variables were not statistically significant under Tobin Q and return on stock indicating that none of the independent variables were strong predictors of the performance in the commercial and services sector.

Table 4.4: Effect of Board structure on Performance of Commercial & Service sector

	Return on stock	Tobin Q
Constant (β_0)	0.365	0.219
No of females (β_1)	0.582	0.053
Board size (β_2)	-	0.253
Non executive (β_3)	0.616	0.145
Executive (β_4)	0.921	0.874
p value	0.873	0.098
R value	0.134	0.344

4.3.4 Effect of board structure on performance of Alternative Investment

Sector

The alternative investments sector had only the variable no of females registering statistical significance ($p < 0.05$). However, there existed a strong positive effect on performance at 0.628 on Tobin Q.

Table 4.5: Effect of board structure on performance of Alternative Investment sector

	Return on stock	Tobin Q
Constant (β_0)	0.985	0.000
No of females (β_1)	0.576	0.018
Board size (β_2)	0.362	0.383
Non executive (β_3)	0.477	0.453
Executive (β_4)	0.244	0.868
p value	0.805	0.03
R value	0.256	0.601

4.3.5 Effect of board structure on performance of Agricultural Sector

The agricultural sector had p - values greater than 0.05 under return on stock and Tobin Q. this indicated that all the independent variables were not statistically significant predictors of the performance under return on stock and Tobin q.

Table 4.6 Effect of board structure on performance of Agricultural Sector

	Return on stock	Tobin Q
Constant (β_0)	0.684	0.000
No of females (β_1)	0.815	0.628
Board size (β_2)	0.602	0.865
Non executive (β_3)	0.620	0.467
Executive (β_4)	0.607	0.194
p value	0.967	0.004
R value	0.181	0.774

4.4 Effect of board structure on performance of Listed firms in the NSE

The table below presents the summary results of the board structure and size against firm performance under different performance measures. Column (a) and (b) represents the coefficients of performance measures under return on stock and Tobin Q respectively. The p-values are presented in parentheses.

Table 4.7 Board Structure and firm performance under different performance measures

	Dependent Variables	
	(a) Return on Stock	(b) Tobin Q
Intercept	0.258	18.957
BFEMALE	-0.091 (-1.207)	0.087 (-1.178)
BSIZE	-0.154 (-0.734)	0.329 (-1.613)
NONEXECUTIVE	0.182 (-0.874)	-0.441 (-2.179)
EXECUTIVE	0.027 (-0.196)	-0.023 (-0.173)
Adjusted R2	-0.001	0.054
F-Statistic	0.94	4.246

at 5% level of significance

4.4.1 Effect of board size on Return on stock

The following hypothesis applied to all the listed firms in the NSE

Hypothesis:

Ho = Board size is not a predictor of return on stock

Ha = Board size is a predictor of return on stock

A t-value of greater than 0.05 indicates that the null hypothesis holds or is maintained. This means that the board size is not a predictor of the return. From table 4.7 above it can be seen that the p-values are greater than 0.05 hence board size is not a strong predictor of the return on equity on all the firms listed on the stock exchange. The R- value indicates the proportion of changes in return on stock influenced by the board size. There is no statistically significant effect of board size on return on stock. This means, increases or decreases in board size cannot add potential economic value to the listed firms in Kenya.

4.4.2 Effect of board size on Tobin Q

The following hypothesis applied to all the listed firms in the NSE

Hypothesis:

Ho = Board size is not a predictor of Tobin q

Ha = Board size is a predictor of Tobin q

A p-value of greater than 0.05 indicates that the null hypothesis should be accepted. This means that the board size is not a predictor of the Tobin q. From table 4.2 above it can be seen that the p-values are greater than 0.05 hence board size is not a strong predictor of the Tobin q on all the firms listed on the stock exchange. This means, increases or decreases in board size do not significantly affect the firm performance in Tobin Q.

It is also noted from the above table that none of the variables under study are predictors of performance under return on stock or Tobin Q. This means other variables apart from the ones considered under study affect performance of listed firms.

CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

The effect of corporate governance on performance has captured the attention of many. Upgrading corporate board structure, in terms of both size and composition, has been one of the core issues in all corporate governance initiatives undertaken by concerned stakeholders. This is especially the case in state parastatals and listed companies in Kenya.

Prominent cases of dissatisfaction amongst shareholders regarding the continued poor performance of corporations and the persistent questions that have been raised regarding the competency of the boards, corporate greed and falling shareholder value in many corporations globally has increased interest in the understanding of the boards role in monitoring firm activities. The NSE encourages the broader ownership of firms. The opportunity accorded the general public to have ownership rights over listed enterprises helps to reduce large income inequalities through the sharing of profits made by these enterprises, thereby facilitating the redistribution of wealth. Sound corporate governance through a solid board structure fosters a disciplined environment.

The objectives of this study were to determine whether the size and composition of the board of directors affects the performance of listed firms at the Nairobi Stock Exchange and determine whether the effects hold in all the trading sectors. This chapter gives a summary of the discussions, conclusions and recommendations drawn after analyzing data.

5.2 Summary

The first objective of the study was to determine whether the size of the board affects the performance of listed firms at the Nairobi Stock Exchange. The study revealed that the size of the board of directors had no significant influence on the return on equity in all the listed companies. The p-values were 0.568 under return on stock and 0.403 under Tobin Q. All these values were greater than 0.05 indicating that board size was not a statistically significant predictor of the performance in all the firms listed. These findings are consistent with the studies of Zulkafli and Samad (2007) but contradict the findings of Wanjau (2007) and Ngugi (2007) who found a positive effect of board size to performance.

The second objective of the study was to determine whether the structure of the board affects the performance of listed firms in each sector at the Nairobi Stock Exchange. The structure of board members was analyzed in terms of size of the board, number of females, number of executive members and number of non-executive members. The structure of the board for listed firms was found to have no significant effect on performance measured by return on stock and Tobin Q the findings were consistent with the findings of Molonko (2004) who determined that board structure was statistically insignificant in predicting performance measured by ROE and ROA.

The p-values in the industrial and allied sector on effects on the return on stock for the variables females, board size, number of non-executive directors and number of executive directors were; 0.443, 0.540, 0.829, and 0.931 respectively. All the variables except number of females, number of executive directors and size of the board had p-valueless than 0.05 under Tobin Q. Number of executive directors had a weak positive effect to Tobin Q at 0.381. The size of the board had a negative effect at 0.351 while number of females on board had a positive influence at 0.515.

In the financial sector the p-values for return on stock and Tobin Q for the variables females, board size, number of non-executive directors and number of executive directors were all greater than 0.05. It was clear that board structure had no significant impact to the return on stock or Tobin Q in the financial sector.

The commercial and service sector revealed p-values greater than 0.05 for all the variables considered. This indicated that none of the board structure variables were predictors of the return and Tobin Q in this sector. The alternative investments sector had only number of females having a significant effect on Tobin Q as a performance measure.

The agricultural sector had all variables reporting p-values greater than 0.05 indicating that all the independent variables were not predictors of the return on stock or Tobin Q.

The third objective was to assess whether the effects were holding for all trading sectors in the NSE. Analysis of all the five sectors revealed that size of the board is only significant in the industrial and allied sector albeit with a negative effect on Tobin Q. The number of executive directors is only significant under Tobin Q in the Industrial and Allied sector with a positive effect. These findings on the inter sector analysis are mixed suggesting that different sectors responded differently to the variables under consideration across the study period covered.

5.3 Conclusion

Based on the findings, it can be concluded that the size of the board of directors has no positive effects on the performance of the firms listed in the NSE. It can also be concluded that number of non-executive directors has no effect on performance (Tobin Q and Return on Stock) of the trading sectors in the NSE. The number of executive directors has a significant effect on performance (Tobin Q) of Industrial and Allied sector. Board size has a negative significant

effect on performance of the industrial and allied sector suggesting that fewer board members may be desirable in this sector.

5.4 Recommendations

The study revealed that there were no major gaps in the effects of board size and composition on the performance of all the listed firms in the NSE. There were also no significant effects noted on the performance of these firms as a result of the size and composition of the board of directors. This shows that factors other than the board size and composition contributed more to the performance of the listed firms in the NSE. It would be useful to find out what these factors are especially in terms of policies passed by the board and how the policies are actually implemented. The quality of the board members may also contribute to their effectiveness. The board members' experience, expertise and knowledge of the nature of business will also be important considerations. In this era of transparency and accountability, it is important to hold the board members accountable for their actions and only those who improve performance can have their terms renewed. Specific targets could be set for them and performance measured against these targets.

5.5 Limitations of the study

The study was limited to the firms listed in the NSE in Kenya. The study managed to collect information for 38 out of the 57 listed firms (67%). Some had either been suspended or de-listed over the period under study. In some sectors information on the board composition was missing from the NSE handbook resulting in some sectors not giving a complete analysis.

5.6 Suggestions for further research

The study was conducted on the listed firms in NSE only. The findings can be verified by conducting the same study on other major parastatals and companies that are not listed on the NSE. The study findings are according to the NSE handbook information which may or may not be completely accurate. The study can be conducted to find out other factors that may influence the performance of the listed firms other than board size and number of board meetings in a year, institutional investor shareholding, and CEO compensation.

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APPENDICES

Table 4.8 Coefficients for performance of Industrial and Allied Sector under Tobin Q

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	37.166	14.897		2.495	.015
females	26.919	6.982	.515	3.856	.000
Boardsize	-4.913	1.901	-.351	-2.584	.012
executive	7.430	1.975	.381	3.763	.000

a. Dependent Variable: Tobin Q

Table 4.9 Coefficients for performance of Alternative Investment Sector under Tobin Q

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	71.015	16.458		4.315	.000
females	6.982	2.734	.628	2.554	.018
boardsize	-4.815	5.409	-.642	-.890	.383
nonexecutive	-5.138	6.732	-.305	-.763	.453
executive	.897	5.332	.087	.168	.868

a. Dependent Variable: tobinQ

Table 4.10 Board Structure and Performance of Companies Studied

period n	2005						2006					
Name of Co./ Sectors in NSE	F	ΣB	NE	E	RO	TQ	F	ΣB	NE	E	RO	TQ
Industrial & Allied												
ARM	0	8	6	2	1.68	7.9	0	9	6	3	1.13	16.5
Bamburi	1	6	5	1	0.53	27.9	0	5	4	1	0.58	42.9
BAT	1	12	9	3	0.08	20.4	1	12	9	3	0.02	19.6
Crown Berger	0	7	4	3	0.29	7.0	0	8	5	3	0.29	8.7
E.A Cables	0	6	4	2	1.78	27.3	0	6	4	2	-0.64	95.0
E.A Portland	0	9	7	2	1.09	19.2	0	9	7	2	0.39	26.4
EABL	1	11	7	4	-0.32	74.2	1	11	9	2	-0.03	69.2
Sameer Africa	0	7	5	2	0.76	4.3	0	7	5	2	0.13	4.8
Kenol	1	9	3	6	1.54	75.0	1	9	3	6	-0.16	102.0
Mumias	0	11	10	1	1.87	12.2	1	11	10	1	1.60	30.9
KP&LC	2	10	9	1	0.27	5.5	1	12	9	3	0.54	8.4
Total	0	8	3	5	-0.54	8.1	0	8	3	5	-0.09	6.9
Unga	0	8	6	2	0.34	3.9	0	8	7	1	-0.07	3.6
Financial												
BBK	4	10	7	3	0.39	20.0	3	10	6	4	-0.70	7.6
CFC Stanbic BK	0	9	7	2	0.31	11.5	0	9	7	2	0.21	11.3
DTK	0	10	8	2	0.18	7.9	1	10	8	2	1.28	17.6
Housing Fnc KE	2	8	6	2	0.64	26.0	2	7	5	2	2.44	26.0
Centum	3	9	8	12	0.04	13.3	1	9	8	1	0.56	19.9
SCBK	2	11	5	6	0.20	26.6	3	12	7	5	0.54	39.0
Panafric	0	10	8	2	0.96	7.9	0	10	8	2	1.32	18.1
NIC	0	10	7	3	0.05	9.6	0	10	6	4	1.09	19.4
KCB	2	12	9	3	0.80	21.2	2	12	9	3	1.19	44.7
NBK	1	12	9	3	0.52	5.6	1	10	7	3	1.02	11.3
Jubilee	0	11	6	5	0.50	1.7	0	8	7	1	2.94	6.4
Comm & Serv												
Car& Gen	0	7	5	2	0.98	9.3	0	7	5	2	0.58	23.4
CMC	0	10	7	3	-0.11	5.8	0	10	7	3	1.57	9.0
KQ	0	9	7	2	1.63	4.7	0	9	7	2	3.45	20.6
Marshalls	0	9	6	3	-0.14	3.0	0	9	6	3	0.07	3.0
NMG	0	12	9	3	0.15	37.9	0	12	9	3	0.71	62.3
SG	2	8	5	3	-0.07	8.0	2	8	5	3	0.65	13.3
TPS	2	10	8	2	0.72	16.1	2	10	8	2	0.08	17.2
Alt Inv												
Eaagads	0	7	5	2	0.00	2.8	0	7	5	2	2.13	4.8

Express Kenya	0	5	5	1	0.77	13.6	0	4	3	1	0.79	41.4
Kapchorua tea	2	8	5	3	0.05	19.7	2	8	5	5	0.51	29.5
Limuru Tea	0	7	4	3	-0.01	17.3	1	9	6	3	0.04	17.5
Agricultural												
Kakuzi	0	7	2	5	0.21	9.5	0	7	4	3	-0.12	8.4
Rea Vipingo	1	6	5	1	1.24	36.0	0	5	4	1	0.28	38.0
Sasini	0	11	10	1	0.59	6.5	0	9	7	2	0.72	11.0

period n	2007						2008					
Name of Co./ Sectors in NSE	F	ΣB	NE	E	RO	TQ	F	ΣB	NE	E	RO	TQ
Industrial & Allied												
ARM	0	9	6	3	0.14	18.5	0	8	5	3	-0.01	18.0
Bamburi	0	5	4	1	-0.06	39.1	0	5	4	1	-0.16	32.8
BAT	1	12	7	5	-0.21	13.8	0	11	7	4	0.06	13.0
Crown Berger	0	7	4	3	0.18	10.0	0	7	4	3	-1.02	4.9
E.A Cables	0	6	5	1	-0.11	82.3	0	7	5	2	-0.58	51.7
E.A Portland	1	9	7	2	-0.15	21.8	0	9	5	4	-0.38	15.7
EABL	1	11	8	3	0.16	76.4	1	11	8	3	0.28	98.8
Sameer Africa	0	7	5	2	-0.50	2.4	0	7	5	2	-1.02	1.2
Kenol	1	9	3	6	-0.05	95.0	1	9	3	6	-0.44	94.0
Mumias	1	11	10	1	-0.55	13.3	2	12	11	1	-1.08	6.3
KP&LC	1	12	9	3	0.25	10.3	1	12	9	3	0.04	10.4
Total	0	8	3	5	0.04	6.7	0	8	3	5	0.02	6.3
Unga	0	8	7	1	-0.18	2.9	1	9	6	3	-0.08	2.7
Financial												
BBK	2	9	7	2	0.05	7.8	3	9	6	3	-0.54	5.0
CFC Stanbic BK	0	9	7	2	0.47	8.4	0	10	6	4	-1.14	11.3
DTK	1	10	7	3	0.32	22.6	1	10	8	2	-0.36	16.0
Housing Fnc KE	4	9	8	1	-0.04	24.0	3	12	8	4	-1.35	23.0
Centum	1	9	8	1	-0.73	5.3	1	9	8	1	-0.05	5.0
SCBK	3	11	6	5	0.05	39.0	3	11	6	5	-0.24	30.1
Panafric	1	8	7	1	0.10	19.6	1	7	6	1	-0.60	12.2
NIC	0	10	6	4	-0.38	12.3	0	10	6	4	-0.43	8.5
KCB	2	12	9	3	-0.88	51.6	3	11	9	2	-0.18	4.6
NBK	1	10	7	3	-0.19	9.1	1	13	9	4	-0.09	8.3
Jubilee	0	8	7	1	-0.33	40.2	0	8	7	1	-0.71	22.9

Comm & Serv												
Car& Gen	0	7	6	1	0.27	30.1	0	4	4	0	-0.25	36.9
CMC	0	10	7	3	-0.87	11.3	0	10	7	3	0.21	8.9
KQ	0	10	8	2	-0.08	18.6	0	10	8	2	-0.81	10.2
Marshalls	0	9	6	3	0.67	4.8	0	7	5	2	-0.27	3.7
NMG	1	11	9	2	0.08	64.8	1	13	10	3	-1.25	28.6
SG	3	10	6	4	-0.13	11.4	3	9	6	3	0.12	10.0
TPS	2	10	8	2	-0.33	11.3	1	10	9	1	-0.07	10.5
Alt Inv												
Eaagads	0	7	5	2	-0.13	4.9	0	7	5	2	-0.23	2.6
Express Kenya	0	7	6	1	0.03	35.8	0	5	4	1	-0.88	29.0
Kapchorua tea	3	10	6	4	-0.25	22.0	3	9	6	3	-0.47	14.7
Limuru Tea	1	9	5	4	0.09	18.7	1	9	5	4	-0.20	15.2
Agricultural												
Kakuzi	0	7	3	4	-0.14	6.6	0	6	3	3	-0.55	4.6
Rea Vipingo	0	5	4	1	-0.20	33.0	0	5	4	1	-0.14	15.0
Sasini	1	11	10	1	-0.68	3.5	1	9	8	1	-1.26	1.5

period n Name of Co./ Sectors in NSE	2009						2010					
	F	ΣB	NE	E	RO	TQ	F	ΣB	NE	E	RO	TQ
Industrial & Allied												
ARM	0	7	4	3	0.24	21.9	0	7	4	3	0.66	35.8
Bamburi	0	5	3	2	0.01	31.0	0	5	4	1	0.25	37.2
BAT	0	10	7	3	0.47	17.7	0	10	7	3	0.59	26.8
Crown Berger	0	5	2	3	0.02	4.8	0	5	2	3	0.55	7.1
E.A Cables	0	7	5	2	-0.19	39.8	0	6	4	2	-0.15	31.8
E.A Portland	0	9	5	4	-0.10	13.8	0	9	5	4	0.64	22.7
EABL	1	13	7	6	-0.23	72.0	2	11	8	3	0.31	89.7
Sameer Africa	0	7	5	2	-0.08	1.0	0	7	5	2	0.54	1.5
Kenol	1	9	3	6	-0.19	79.0	1	9	3	6	-0.79	96.0
Mumias	1	12	11	1	-0.50	3.0	1	12	11	1	1.21	6.4
KP&LC	1	10	9	1	-0.28	7.1	1	10	9	1	0.42	9.7
Total	0	8	3	5	-0.04	5.8	0	8	3	5	0.01	5.7
Unga	1	9	6	3	-0.26	2.0	1	9	6	3	0.10	2.0

Financial												
BBK	2	9	7	2	-0.06	4.5	2	9	7	2	0.51	6.2
CFC Stanbic BK	0	10	6	4	-0.25	8.4	3	10	9	1	0.03	14.0
DTK	1	11	9	2	0.04	16.1	1	11	9	2	0.95	30.4
Housing Fnc KE	2	11	8	3	-0.05	27.0	2	11	8	3	0.51	23.0
Centum	2	9	8	1	-0.59	2.0	1	9	8	1	0.52	3.1
SCBK	3	10	5	6	0.08	29.9	3	10	5	6	0.69	47.6
Panafric	1	7	6	1	-0.25	8.8	2	9	8	1	0.52	12.7
NIC	0	10	6	4	-0.27	6.1	0	10	6	4	0.49	9.8
KCB	3	11	9	2	-0.09	4.1	3	11	9	2	0.12	4.3
NBK	1	12	9	3	-0.09	7.5	1	12	9	3	0.01	7.5
Jubilee	0	8	7	1	-0.03	21.2	0	8	7	1	0.65	33.5
Comm & Serv												
Car& Gen	0	4	4	0	-0.05	20.0	0	4	4	0	0.14	25.6
CMC	0	10	7	3	-0.45	8.3	0	10	7	3	0.32	9.2
KQ	0	10	8	2	-0.60	3.9	0	8	6	2	2.09	11.8
Marshalls	0	7	5	2	0.27	4.8	0	7	5	2	-0.21	3.8
NMG	1	13	10	3	-0.14	23.5	3	14	10	4	0.48	33.3
SG	3	9	6	3	-0.23	7.6	3	9	5	4	0.22	9.1
TPS	1	10	9	1	-0.11	9.0	3	11	10	1	0.55	13.6
Alt Inv												
Eaagads	0	7	5	2	-0.01	1.6	0	7	5	2	0.97	1.6
Express Kenya	0	4	4	0	-0.38	28.6	0	5	4	1	-0.03	55.1
Kapchorua tea	3	9	6	3	-0.01	13.3	3	9	5	4	1.24	28.3
Limuru Tea	1	9	6	3	0.02	15.2	1	9	5	4	0.01	15.0
Agricultural												
Kakuzi	0	6	3	4	0.49	6.3	0	6	3	3	1.65	16.1
Rea Vipingo	0	5	3	2	-0.32	22.0	0	5	4	1	0.68	15.0
Sasini	1	9	8	1	-0.17	1.2	1	9	8	1	1.28	2.7