BOARD STRUCTURE, CHIEF EXECUTIVE TENURE, FIRMS' CHARACTERISTICS AND PERFORMANCE OF FINANCIAL INSTITUTIONS IN KENYA

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DECLARATION

This thesis is my original work, and has not, in part or in its entirety, been submitted to any University for any academic award.

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DEDICATION

To dad’s daughter Leila Naliaka and the other girls in my life; my wife Doreen and daughter Sheryl, for giving me a new purpose for living and a renewed zeal to excel.

To my beloved parents the late David Mandala and the late Mrs. Beliah Mandala, for laying the foundation and motivation for my academic advancement and outstanding achievements.

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ABBREVIATIONS AND ACRONYMS

BoD	Board of Directors
CBK	Central Bank of Kenya
CEO	Chief Executive Officer
CEOD	Chief Executive Officer Duality
CG	Corporate Governance
CMA	Capital Markets Authority
CSF	Corporate Sector Foundation
EVA	Economic Value Added
FIs	Financial Institutions
GCGF	Global Corporate Governance Forum
GEE	Generalised Estimating Equation
GLM	Generalised Linear Model
GLS	Generalized Least Squares
GSE	Ghana Stock Exchange
KCB	Kenya Commercial Bank
LTD	Limited
MVA	Market Value Added
NBK	National Bank of Kenya
NIC	National Industrial Credit Bank
NSE	Nairobi Securities Exchange
OLS	Ordinary Least Squares
PACFCG	Pan African Consultative Forum on Corporate Governance
PSI	Private Sector Initiative
ROA	Return on Assets
ROE	Return on Equity
SACCOS	Savings and Credit Co-operatives Societies.
SCs:	State Corporations
USA	United States of America

ABSTRACT

The corporate scene has witnessed boardroom tussles and corporate collapses around the globe. Kenya has not been spared by this wave of corporate scandals and collapses, and neither has the financial services' sector been spared and some firms that have been affected in Kenya include Imperial Bank, Chase Bank, Dubai Bank and National Bank of Kenya. The underlying thesis is that a crisis of governance is basically a crisis of board of directors. The decline in shareholders' wealth and most of these firm failures has been linked to the board of directors. It is against this backdrop that the general objective of the study was to determine the effect of board structure on performance of financial institutions in Kenya. Further, it specifically sought to examine the intervening influence of CEO tenure and moderating influence of firm characteristics on the association between board structure and performance. Corresponding null hypothesis were formulated in line with each of this objectives. The study was majorly anchored on agency theory and used positivistic philosophy in testing four quantitative hypotheses. Secondary data was collected from financial institutions in Kenya for a ten-year period from 2006 to 2015. The study used both a correlation descriptive research design and cross-sectional survey design. The data collected was subjected to correlation, generalized estimating equation (GEE) and regression analysis. The result produced from the data analysis models was to confirm the bi-directional association between board structure and firm performance; and to confirm that CEO tenure and firm characteristics impacted this relationship. Board structure was disaggregated into size, type, independence, activity, diversity and CEO duality. Hierarchical regression and GEE analysis were done on the variables. Tests of hypotheses were done at 95 percent confidence levels ($p<0.050$) on the independent and combined effects. The results show that, overall, board structure had an independent significant influence on performance of financial institutions. Board activity, operationalized as the number of board meeting in a year, had the strongest independent influence on performance of financial institutions followed by board type. The results are in support of the agency theory and the convergence-of-interests theory. The results further indicate that the number of board of directors' meetings which optimize firm performance is 11 to 15. In support of the convergence-of-interests theory board type, particularly board type 1 whose all directors own equity shares was found to have a significant influence on firm performance. The findings further show that CEO tenure is not a significant intervening variable in the association between board structure and firm performance of financial institutions in Kenya; Firm characteristics significantly mediate the association between board structure and performance of financial institutions; and, that board structure, CEO tenure and firm characteristics jointly have a significant effect on performance. The study has reduced the dearth of literature on board structure and performance and uncovered the importance of CEO tenure and firm characteristics on this relationship. It has contributed to existing knowledge on agency theory and convergence-of-interests theory. Formulation of managerial policy and practice that promote better governance practices and appropriate firm characteristics that improve performance of financial institutions has been enhanced.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Corporate reforms aimed at aligning the African corporate scene with international best practices have been on the rise across the continent in the past two decades. An outcome of this has been the adoption of governance reforms to harmonize the standards of governance in Africa with the international best practices. Despite this reforms the corporate scene has witnessed boardroom tussles and corporate collapses around the globe. Corporate governance reforms is a response to firm failures and corporate scandals witnessed in many parts of the globe. Examples of corporate governance failures include Commerce Bank (1991), Enron (2001), Adelphia (2002), HIH and World Com (2002) in developed economies; and in developing economies like was the case of Uchumi Supermarkets (2008), East African Portland (2014), CMC Limited (2014) and Mumias Sugar Company Limited (2012), which are all in Kenya. In Kenya, financial institutions have also had their share of difficulties, and in the last three years some of them collapsed; these have included Imperial Bank, Chase Bank, Dubai Bank, and National Bank of Kenya.

The modern business environment is characterized by uncertainty, risk and dynamism, which make it more difficult in forecasting and managing factors, which possibly can impact performance of the institutions (Sanda, Mikailu & Garba, 2005). This study argues that adoption of better corporate governance practices may be one of the best viable proposals of enhancing performance, dealing with uncertainty and risk in a modern corporate sector. Moreover, it enhances the possibility of attracting additional investment capital due to reducing risk levels. Adopting good corporate governance practices further were necessitated by the agency problems which have in

the recent past become an integral part of the modern-day corporation, due to increased practice of separating ownership and control, intensifying diversification and segmentation of the corporations, and investor emphasis on short-term performance and return outcomes (Sanda et al., 2005).

Managerial agency conflict emanating from the disintegrating ownership and control found in Jensen and Meckling, (1976) have dominated empirical studies, but the conflict is yet to be concluded. Several solutions have been suggested within the corporate governance mechanism to address this agency problem between the agents, in this case, the managers and the owners. Suggested corporate governance mechanisms include: enhanced fixed pay, enhanced bonus schemes, optimal Chief Executive Officers (CEOs) tenure, employees share options, large individual and corporate shareholder monitoring, board size and independence, and firmer rights of shareholders (Jensen & Murphy, 1990 and Demsetz & Lehn, 1985).

Empirical literature report existence of positive contemporaneous correlation between institutional performance and best corporate governance practices which further necessitate corporate governance reforms (Johl. 2015; Kajola, 2008; Barako et al., 2006; and Ongeti, 2014). The separation of shareholders and employees leads to uncertainty and risk sharing between employees and shareholders. The employee in the modern firm is the decision maker; however, they do not fully bear the consequences. The shareholders ultimately bear the residual risk. Employees are able to transfer risk or deliberately assume a smaller part of the risk, or because they are not owners invest in high-risk projects. Such actions are unfavorable to investors (agency costs) (Jensen & Meckling, 1976). The agency conflict is explained by use of asymmetries in pay

offs, information liability and horizon and expounded as separation of decision making by employees from risk taking by equity and debt holders. This leads to major governance issues and agency conflict in light of the fact that the employees do not generally carry on to the greatest interest of owners. Along these lines, structures should be set up to direct adverse activities by opportunistic managers.

Management may be insensitive to shareholders' best interest, and this explains why Herbert (1959) (quoted in Baysinger & Hoskisson, 1990) argued that managers might be 'satisfiers' instead of being 'maximisers,'. This is the case when managers are more short term oriented and interested with preserving their own continued stay instead of making efforts to create value for shareholders. Equity holders often delegate decision-making authority to Board of Directors (BoD) expecting that the BoD will exercise the delegated authority in their best interest. Institutions, whether private or public, adopt the BoD as the primary and dominant internal corporate governance mechanism (Brennan, 2006). The BoD plays a very important role of monitoring, providing strategic direction and policy and retaining key decision-making authority (Jonsson, 2005). The BoD of firms play a major role in performance enhancement as a result of responsibilities, which are legally vested and/or because of its fiduciary duty (Zahra & Pearce II, 1989). "…the board must spot the problems early and must blow the whistle" (Salmon, 1993).

Empirical evidence has concentrated on an internal corporate governance mechanism and identified members on the board with attendant board structure to be a key governance variable. Several prior empirical studies have concluded that the members of the BoD perform a major role in employee evaluation and monitoring besides reducing agency conflict between employees and

equity holders (Drakos & Bekiris, 2010 and Setia-Atmaja, Tanewski & Skully, 2009), and hence positively affecting firm performance. Other studies focus on the external governance mechanism of firm characteristics, including ownership structure, concluding that this might also affect firm performance (Piesse et. al., 2007; Dwivedi & Jain, 2005 and Demsetz & Villalonga, 2001). Moreover, the ownership structure is likely to exhibit big changes once reforms to the governance structure are undertaken.

The BoD plays a key responsibility in corporate governance through controlling the management, however, this has not been without shortcomings, the "board culture is a key element of board failure" (Jensen, 1993). Corporate scandals lead to the question of whether organizations are managed with respect to owner' interests. The BoD and the executive management have control responsibilities over the firm while the owners may not be able to offer adequate monitoring or accountability, especially in firms with wide dispersion in ownership (Jensen & Meckling, 1976). This gives rise to agency conflicts which results from separating ownership from control functions. Agency conflicts are not necessarily fully addressed effectively through structures of corporate governance hence managers may not act to maximise the wealth of equity holders without embracing necessary governance structures targeting large corporations with the aim of protecting equity holders' interests (Jensen & Meckling, 1976).

Corporate scandals, including such as the: Imperial Bank, Chase Bank, Dubai Bank, Uchumi Ltd, Mumias Sugar Company Ltd, CMC Ltd and East Africa Portland Ltd in Kenya and Enron, WorldCom and HIH, questions the ability of the BoDs in executing its monitoring role. Geneen (1984) found out that 95% of the BoD of some 500 fortune companies, were not complying with

legal requirements as expected of them. The argument in Geneen (1984) is that the BoD is a puppet of management because it is dominated by CEO. The research further documented that the board is beleaguered with the conflicts of interests. Furthermore, interests of a controlling shareholder greatly influence the Board's decisions (Jesover & Krikpatrick, 2005). This leads to a basic question of monitoring the BoD: who will monitor the monitors? The BoD and by extension the board structure thus is likely to be an important driver of firm performance. Several studies agree that equity holders monitor the BoD by exercising their ownership right to elect or dismiss members of BoDs. However, equity holders are not necessarily aware of the firm's routine internal activities.

Researchers report mixed and contradictory results about the optimal board structure (Dalton et al., 1998). However, there appears to be agreement on the important variables representing board structure and that may have an impact on the monitoring and thus performance. The debate about influence of board structure on the performance of institutions continues, given that prior research has yielded conflicting results (Dalton et al., 1998) suggesting that other factors mediate or intervene to the acceleration of the relationship. Dalton et al. (1998) identifies ownership concentration as one of the factors that are likely to mediate or intervene in the relationship. Additionally, firm characteristics and CEO tenure could be some of the factors that come into play. A number of studies have established negative relationship among the CEO turnover, CEO tenure, and firms' performance (Murphy & Zimmerman, 1993; Weisbach, 1988).

Studies have shown that firms undergoing transition in emerging economies have higher degrees of ownership concentration which are associated with the firms' corporate governance, financing, and investment policies (Shleifer & Vishny, 1997 and Dalton et al., 1998). Ownership of most firms is distributed among institutional investors and retail investors; with ownership concentrated mainly to institutional investors (Shleifer & Vishny, 1997). The ownership can be categorized into state ownership and public ownership. The type of ownership structure of a firm ultimately affects the board type categorized in this study as type 1 board, whose entire members directly own equity shares in the firm; type 2 board, where the entire board members do not hold any equity shares in the firm whose board they sit on; and type 3, which is a blend between the two extremes, where some members own equity shares and some do not hold any equity shares.

Studies have concentrated on understanding how board structure as an indicator of corporate governance affects performance of firms. The assumption is that corporate governance has the ability of influencing a firm's performance. In the management-owner conflict model, the agency conflict is often manifested in management's self-interest (Johl et al., 2015). In the controlling-minority shareholder conflict, on the other hand, shareholders with controlling power tend to employ these powers in profiting themselves without considering minority owners (Johl et al., 2015). This is usually called expropriation or private benefits of control. The main cause of these two sets of conflicts is a result of the managers on one hand and the controlling shareholders on the other hand, receiving only a portion of the firm's earnings, while they fully appropriate the resources diverted. In light of this incentive structure, insiders will usually tend to maximize their pecuniary and non-pecuniary utility even in instances where the firm as a whole will not.

Conceptualization in this study is underpinned by a number of theories including; the agency, the convergence-of-interests' theory, the entrenchment theory, the upper echelons theory and the stewardship theory. The agency theory key paradigm is the agency conflict. It is centered on the association between the owner of the firm and agent, who manages the firm on behalf of the principal. Agency theory operates from the premise that one of the parties, in this case called the principal, delegates the function of management to another called the agent. This theory envisions that as a business grows and becomes more complex and technical, to run this business, the principal being the shareholder or owner, delegates day to day running of organizations to the agents who are managers. However, the theory foresees the self-seeking interest of the managers, thus proposes the need for strict monitoring and accountability (Lim, 2010). This leads to the need for an effective BoD which should be structured in an optimal manner.

Convergence-of-interests' theory, argues that when the BoD members do not have equity ownership, they remain self-oriented but have petite power to overcome corporate controls which are designed to align their decisions to the benefit of equity holders. Entrenchment theory in contrast postulates a negative effect of board equity ownership on performance (Morck et al., 1988). Shleifer and Vishny (1997)'s findings show that ownership concentration leads to a trade-off between incentive alignment and entrenchment effects. In this context, the question of whether board structure and ownership structure negatively affect firm performance becomes an empirical problem affected by politico-regulatory and institutional factors.

Encouraging equity ownership among board members is often used to reconcile the interest of the members of the board with those of the equity holders (Teresa & Giuseppe, 2011). Convergence-of-interests theory and entrenchment theory postulate how the board of directors, acting as agents of equity holders, respond to owning equity in the firms which they serve in (Teresa & Giuseppe, 2011). A question that keeps on lingering in corporate governance cycles is why non-executive directors are not effective monitors (Mallin, 2010). The answer lies in powers and incentives of board members in performing their fiduciary responsibilities. In this study, the researcher examined different board structures to establish whether the board structure explain monitoring effectiveness.

Empirical studies provides evidence that corporate governance, firm financial decisions making processes and performance of the firms are often affected by presence of agency conflicts between employees on one hand and equity holders who are the owners of the firm on the other hand. Corporate governance enhances efficiency and effectiveness of firms through effective supervision and control; hence playing a very major role in harmonising interest of equity holders and employees to reduce agency conflicts (Shleifer & Vishny, 1997). Empirically, sound governance structure is a key prerequisite for firms in obtaining loans from investors since well-functioning corporate structures protect the equity holders' interests, enhance transparency and minimize the agency conflicts. Firms with poor structures of corporate governance practices are faced with a number of agency problems since managers of the affected firms easily obtain private benefits. Several elements of firms' board structure, ownership structure and corporate financial policies have been suggested as potential mechanisms to control for agency problems arising from dispersed ownership (Jensen, 1986). The study integrates corporate governance theories as well as

the ownership structure theories; the agency theory evaluates the role of the monitoring to reduce agency costs and conflict while ownership structure theories discuss the potential of the debt/equity mix and ownership concentration in value maximization.

Financial sector in Kenya is composed of different institutions comprising commercial banks, regulators, development banks, insurance companies and SACCO's. This leads to differences within the structure of the board and firm characteristics. Kenyan Banks which are critical players in the financial sector have been hiring chief executive officers (CEOs) at the quickest pace in the recent past, ushering in a new crop of corporate leaders in the banking industry that has maintained double-digit growth over a long period of time (Johnson, 2004). Between August 2012 and May 2013 eight banks unveiled new chief executives. These included: Ecobank, KCB, NBK, Barclays Bank, NIC Bank, Imperial Bank and Consolidated Bank. This brings to question whether the CEO tenure has an impact on performance and thus whether the growth will be sustainable in the coming years.

1.1.1 Board Structure

Board structures are one of the frameworks and pillars for practicing corporate governance (Semmar, 2012). They are the structures which are integral in making decisions that may have been left out in initial contracts between managers and owners (Hart, 1995). The term board structure is often used to refer to an organization's internal pattern of relationships, authority, and communication at a board level. A structure, on the other hand, is a formal facet of a framework shown by precise, impersonal tasks, rules and authority relations (Chandler, 1962; Child, 1972). The hierarchical dimensions of structure such as complexity, formalization and centralization have

received more attention than any others. Each of these dimensions is also the dominant characteristic of a well-known structural type. Different board structures exist across the globe. This has mostly been informed by political impulses, law, cultural issues (Mallin, 2010) and generally the way of doing business. However, there seems to be convergence on the need for board structures that promote transparency and accountability.

Corporate governance (CG) has gained global upsurge both in academia and the corporate level, mainly due to increased demands for better accountability and governance on every sector of the economy. Prudent CG is premised on a number of parameters, which include: transparency, accountability, fairness, and responsibility in management of the firms. Further, it's the way power is applied in administering economic and social resources for sustainable human development (Nicholson & Kiel, 2007).

The BoD is the most fundamental corporate governance structure in any organization (Lim, 2010). Board attributes or characteristics can affect strategic decisions, including resource allocation and thus affect profitability (Mallin, 2010; OECD, 1999). Besides providing strategic direction, BoD is further a provider of major monitoring function for addressing agency conflicts within the institution (Fama, 1980). The BoD alone is not an adequate remedy to all the governance issues facing corporations in modern times (Ongore, 2011). To better appreciate the corporate governance issues, firms are required to further factor risk-taking orientations of their equity holders who affect managerial decisions with regard to investments (Shleifer & Vishny, 1994).

Empirical evidence is in agreement about the important variables representing board structure. How the various variables are characterized defines how the board is structured. This includes board size, board tenure, board independence, board activity, board diversity in terms of the ratio of female to male, age, ethnicity, nationality, educational qualifications, work experience and organizational membership (Campbell & Vera, 2008), CEO duality, board busyness and board process. This study introduces a new variable the board type which denotes board member's share ownership, defined as board type one; where all board members own shares; board type 2, where all members do not own any shares and board type three where some board members own shares and others do not. The board structure has a bearing on corporate association between firm characteristics of the firm and its performance.

Board composition maybe defined as the extent to which there exists independence between members of a firm's board and its CEO (Johl et al., 2015). Different approaches have been used to capture this perspective. One considers the proportion of executive board members to total board members (Baysinger, Kosnik & Turk, 1991) while other approaches focus on the proportion of non-executive board members to total board members (Wah et al., 2015). Board process is characterized by decision-making activities among the board members of institutions. Under the principle of CEO duality, the CEO of a firm plays the dual role of CEO and chairman of the BoD. Board activity is defined as the number and frequency of board meetings. Board diversity is the ratio of male to female board members.

Studies have given attention to five key characteristics of board structure, namely, board size, board composition, board diversity, CEO duality and number of board meetings. A number of research assignments have concluded that board structure variables are exogenously determined (Eisenberg et.al., 1998), Yermack, 1996; and Jensen, 1993). Mak and Kusnadi (2002) show that the smaller the size of boards, the higher the firm value. Baysinger and Butler (1985), Mehran (1995), and Klein (1998) found that performance of firms was not significantly associated with a higher proportion of non-executive directors on the board. Vafeas (1999) as well as Adams and Ferreira (2004) concluded that regular meetings of the BoD contribute to improved firm performance. Wah et al. (2015) found that board diversity as measured by the number of female members of the BoD has a significant positive influence on institutional performance. Prior studies on CEO duality found mixed evidence. Yermack (1996) argued that performance is optimized when the chairman is separated from the CEO, while Daily and Dalton (1992) report absence of association between CEO duality and institutional performance. Several theoretical and empirical study findings agree that board structure characteristics vary according to firm characteristics (Boone, et al., 2005; Adams, 2005; Baker & Gompers, 2003; Lehn et. al., 2003; and Hartzell & Starks 2003,). Hermalin and Weisbach (2003) noted that there is lack of adequate literature on the determinants of an optimal board structure or the factors that determine an optimal board size.

1.1.2 Chief Executive Officer Tenure

Murphy and Zimmerman (1993) define chief executive officer tenure in terms of the number of years since the appointment of the CEO. They argue that longer CEO tenure could be associated with more control over the firm and greater influence on the BoD, thereby reducing the frequency of forced CEO turnover. CEO entrenchment may lead into board domination by the CEO and

makes him/her ultimately to focus on costly pet projects and make demands for salary packages for his/her own benefit without considering the owners. Long tenure creates time for the CEO to compromise controlling and incentive alignment mechanisms. Morck et al. (1988) postulate that some managers may be entrenched with low levels of ownership due to the nature of their tenure with the institution, status as founders, or their personality.

Hermalin and Weisbach (1998) have paused the question how directors can be chosen through a process partially manipulated by the CEO, yet, be effective in managing him. Weisbach (1988) results indicate that where at a minimum, about 60% of directors are independent, there is a higher probability of firing a CEO who does not add value to the firm. This in the end influences CEO tenure and so may impact the performance of the organizations. This method of firing adds value to the firm because BoD most of the time are generally slow in terminating CEO employment. Interpretation of the security market's reaction to such terminations is often a difficult task. Announcement of termination of a CEO conveys information to the market both about the actual termination or about how precisely the company performed under the terminated CEO, but there exists empirical evidence that the public believes that these firings increase organization's value. The findings show that performance improves immediately the current CEO is replaced. BoD composition plays a key role in CEO changes, and Weisbach (1988) findings show that a more independent board is more likely to make better decisions compared to decisions, which would otherwise be made by a less independent board. This study brings to question whether CEO tenure determines firm performance or firm performance determines CEO tenure. A number of studies that have attempted to answer this question have been inconclusive.

Murphy and Zimmerman (1993) and Weisbach (1988) found that CEO tenure and turnover negatively affected institutional performance. Their findings show that enhancement of firm's performance provides information regarding a CEO's ability to enhance the institutions value. Whenever organization's performance is not satisfactory, a CEO contract is more likely to be terminated since the firm's equity holders consider that he is not developing, monitoring and implementing appropriate strategies and policies that improve shareholder value. Owners of the firm's belief, regarding their CEO's ability, change through the passage of time. Hermalin and Weisbach (1998) theoretically indicate how this increasing meticulousness reduces both the emphasis placed on performance of the firm in affecting CEO termination and owners' demand for monitoring the firm's CEO.

CEOs, throughout their early periods after joining a firm, have a tendency of learning quickly and are better prepared in taking increased risks. As their tenure advances, they adopt new initiatives and broaden their knowledge and skill repertoires, and this translates to improved performance of the firm (Wu, Levitas, & Priem, 2005). During later periods, however, CEOs tend to myopically invest in obsolete paradigms, avoid risk, are stale in the saddle, and develop a tendency of adjusting less to the exterior environment, hence impairing firm's performance. Wu, Levitas, and Priem (2005) concluded that the effect of CEO turnover and tenure on firm performance taking into account the CEO's employment period can be seen as an 'inverted U'. Blackwell et al. (2007)'s finding is that the possibility of a change of CEO is inversely associated with the performance of the firm; meaning that employees of organizations with bad performance will tend to be substituted. However, Fisman et al. (2010) proposes a model where poor governance defends mediocre CEOs from dismissal, while at the same time shielding the directors. Of importance is

the observation by Brookman and Thistle (2009) that determining whether CEO tenure depends upon performance of the firm or by some other factors can be a major concern in good corporate governance. In instances where board structures operate appropriately, CEOs are more likely to be retained if they succeed while they may be substituted when the performance is below expectations. Conversely, if the board structure functions inadequately, CEOs may never be substituted even when performance is wanting. Therefore, to evaluate whether corporate governance function properly is to analyze the threat of CEO's termination, this is attributable to the fact the good governance will lead to firing of non-performing CEOs.

Prior studies have additionally examined performance of firms after CEO changes, and recommend that CEO changes lead to improved institutional performance. Denis and Denis (1995) concluded that the normal and middle industry-balanced working profit rates for resource increase over periods that begin one year earlier, and end a few years after the turnover of CEO. Denis and Denis (1995) were of the view that performance enhancements appear to be larger in instances of forced turnover than for normal retirements. Contrary to this, Huson et al. (2004) document that post-turnover performance changes when CEOs are forced out have no substantial differences compared to those changes when CEOs exit voluntarily. Turnover may similarly be explained by other administrative attributes; hence firms with higher institutional possession tend to have bigger post-turnover execution change. The resulting performance differences are more noteworthy when incoming CEOs are recruited from outside the institution than when they are recruited from within the firm (Huson et al., 2004).

The impact of CEO tenure on institutional performance is an unpredictable wonder which goes past the basic and direct impacts (Simsek, 2007). It is important to investigate basic systems to obtain a comprehensive perspective of the causal linkages between CEO turnover, tenure and firm performance (Simsek, 2007). Nevertheless, even after several calls (Simsek, 2007), available knowledge of the intermediate factors that drive the impact of CEO turnover and tenure on institutional performance is still limited.

1.1.3 Firm Characteristics

Firm characteristics entail structure, market and capital-related variables that describe various aspects of the firm. Structure-related variables include firm size, ownership and firm age (Wallace et al., 2004). Market-related include industry type, market uncertainty and environment. Capital-related variables entail liquidity and capital intensity. Structural variables are thought to be stable and constant over time (Wallace et al., 2004). Firm characteristics have also been described as the institution's demographic and managerial variables, which in turn comprises part of the institution's internal environment. In an institution specific context, the institution's abilities and limitations greatly affect the choices of the organization's strategy and ability to implement the strategy.

Furthermore, firm characteristics, including age, size, stock exchange listing, nature of institution, whether multinational or local, leverage, quality of auditing, asset structure, family control, and fund availability have been established to influence performance of the institutions (Wahab et al., 2004). This could be attributed to operational efficiency, regulatory requirements and external support. Wallace et al., (1994) contend that firm's age positively affects the institutions

performance. They define age as the years the firm under consideration has been operating since its establishment. Size, on the other hand, is defined in terms of the amount of assets a firm holds. Leverage conversely, is explained as the ratio of firm's debt to assets. Leverage forces managers to generate and pay cash, since interest payments are compulsory.

Studies demonstrate that as a firm ages over time its productivity improves, (Adusei, 2011) because it is considered that as a firm grows it becomes better acquainted with its clients (Petersen and Rajan, 1997) and its reliability on payment of debt is known to the providers of equity and debt (Niskanen and Niskanen, 2006). Furthermore, effectiveness improves as the firm continues to grow (Adusei, 2011). This may be further related to learning impact and diversification of operations. Adusei (2011), however, finds a critical connection between firm size and profitability.

The ownership structure within the firm is an aspect of firm characteristics that also influences the board structure. The ownership structure is discussed in terms of ownership identity and concentration. Ownership identity refers to the actual identities of the owners while ownership concentration is the percentage and numbers of shareholding by these shareholders (Ongore, 2011). Depending on the ownership orientation, these owners may allow the boards to be appointed to undertake oversight and all the other corporate governance practices. However, other stake holders will from time to time create a parallel structure to further supervise, monitor and regulate management as well as the board. Empirical evidence agrees that block equity holders are motivated to undertake their monitoring role more actively and will thus put in place strict monitoring processes and policies.

The firm’s size is defined by its asset's position, infrastructure and human capital resource management. Adusei (2011) found a positive relationship among firm size and performance. The firm’s size has also been associated with the industry-sunk costs, concentration, vertical integration, and overall profitability. Large firm size leads to high operating leverage. Adusei (2011) study concluded that large micro finance institutions tend to be more efficient in terms of average total cost per borrower and have better non -performing loan ratios. Adusei (2011) further demonstrates that bigger micro finance institutions are linked to best operating ratios making them more efficient. Similarly, larger firms have been found to have improved return on assets (ROA), operational self-sufficiency and return on equity (ROE). Small firms are disadvantaged in competition with larger firms in addition to difficulties in accessing finance, thereby negatively affecting their growth potential. Based on the above arguments, size of the firm is expected to be an integral predictor of its performance.

Selected studies agree that state corporations perform poorly especially where state ownership leads to bureaucracy and ineffectiveness hence affecting performance negatively (Ongore, 2011). Shleifer and Vishny (1994) and Stulz (1988) argue that state corporations are political firms with the public as the owners, however, the public does not have any direct claim on the firm’s residual income. Political manipulation, multiple reporting structures and poor human-resource policies have also been blamed for the bad performance of the state corporations (Ongeti, 2014).

1.1.4 Firm Performance

Firm performance is an imperative idea that describes whether organizational resources are employed to achieve the corporate strategy. Excellent firm performance keeps the organization a float and brings about better vision for future opportunities (Hoskisson et al., 1994). Institutional performance relates to its efficiency, effectiveness, financial viability and relevance. Effectiveness brings out the peculiar abilities which organizations must embrace in ensuring attainment of their missions. Efficiency is described as the unit cost of output, which is much less than the input leaving no alternative option through which the input can be reduced for the same amount of output (Machuki & Aosa, 2011). Financial viability, on the other hand, has been defined as a firm's ability to harness its financial resources, which are its inflow of financial resources that must be greater than the outflow. Relevance is the ability of a firm to develop in ways that consolidate their strengths. Ricardo et al. (2001) defined performance as the ability of a firm to maximize strengths to overcome its weaknesses, and to neutralize its threats and take advantages of opportunities.

Performance measurement is characterized by dimension difficulties. While performance is a critical variable for this study, researchers have yet to agree on all the dimensions of performance. It appears that no single variable can effectively influence a firm's performance (Awino, 2011). Performance measures are many and varied with some schools of thought advocating for financial performance measures and others for the non-financial performance measures. Not a single measure of performance can completely explain all aspects of the term due to organizational objectives and contextual factors (Snow & Hambrick, 1980). This may be partly because of the definition of performance, which includes both efficiency-related measures, relating to the input/output models and effectiveness-related measures, dealing with issues such as business

growth, employee satisfaction, commitment, and turnover (Machuki & Aosa, 2011; Mayer & Schoorman, 1992). Sometimes, performance is conceptually confused with productivity. Productivity is defined as a ratio which depicts the volume of work completed within a defined period of time. Performance is therefore, broader, and productivity is one of its indicators (Ricardo, 2001).

Firm performance usually represents the quality of the firm's on-going co-alignment with the environment. It can be represented by a number of variables including growth, profitability, survival and by other non-financial indicators. Firm performance may include indicators in multiple levels of analysis depending on the context (Kaplan & Norton, 1992). While it is often described in reference to a particular point in time, it may also need to factor in development, change over time and reflect different time scales. Miller and Shamsie (1996) were of the view that the static efficiency may contribute to maladjustment in the long run and that short-period misfit could be required to attain long-term dynamic fit. Due to this, firm performance may particularly need to address conflicting short-term as well as long-run alignments. It, therefore, needs to reflect both quality of the firm's exploitation of current resources and its ability to generate new ones.

Firm performance may also be said to be a multi-dimensional construct (Chakravathy, 1986). A single index may not give a detailed understanding of relationship compared to the particular construct of interest. Different performance measures exist including both long-term market performance measures and non-market-oriented measures, also called short-term measures. Studies document several measures that have been used to varying extent, including market value

added (MVA), return on assets (ROA), economic value added (EVA), free cash flow enhancement, earnings per share (EPS) enhancement, asset enhancement, dividend enhancement, and revenue enhancement (Abdullah, 2004). Dehaene et al. (2001) adopted return on equity (ROE) and return on assets (ROA) as measures of firms' performance and concluded that this was effective in providing adequate performance information while Chen et al. (2005) suggested that market-related measures were better and thus used the market-to-book ratio in their study of firms in Hong Kong. Judge et al. (2003) used several indicators, which included both quantitative and qualitative measures such as profitability, customer satisfaction, product/service quality, capacity optimization and business process enhancement in assessment of institutional performance. Firm performance remains a challenging concept both in terms of how it should be defined and measured because of its multifaceted and multidimensional nature. Most studies of firm performance posit that performance is a dependent variable and sought to identify variables that explain variation in terms of performance.

Ocasio (1994) and Hoskisson et al. (1994) found that accounting-based financial measures and market-based measures, including combinations of both have been relied upon in most studies which focus on the association between corporate governance and institutional performance. Accounting based institutional performance indicators rely on accounting ratios that do not incorporate the stock market variables while measures that are based on market variables include the Tobins Q and return on the market which incorporate the stock price. Accounting measures despite having been criticized many times have been relied on by many studies. The criticism emanates from the fact that such measures (1) can aid in creative accounting through, manipulating accounting results; (2) may likely devalue assets; (3) generate biases as a result of accounting

policies and methods adopted by the firm; and (4) lack standardization in financial reporting as some jurisdictions have not adopted international financial reporting standards. Furthermore, interpretation of accounting measures is subjective in case of cross cutting industry participation by the various firms (Nayyar, 1992) or where the firm's ownership structures are varied.

Market-based measures have several benefits. Risk adjusted performance measurement is reflected in these indicators; they are not negatively impacted upon by cross cutting industry or multinational contexts (Nayyar, 1992). Deckop (1987) concludes that the main reason for this is that market-based performance indicators are in control over external forces and not within the management's control. However, literature does not document any consensus on the efficacy of dependence on either accounting-based indicators or market-based indicators; many studies have resorted to use a mix of the financial performance measures.

1.1.5 Financial Institutions in Kenya

Financial institutions are corporations providing services such as financial intermediation in an economy. Three major types of financial institutions operate in Kenya. These include: Depository institutions which are deposit-taking entities. These depository institutions receive and manage deposits and offer loans. Depository institutions include commercial banks, building societies, trust institutions, and mortgage loan companies; Contractual institutions, including insurance and pension funds; and investment firms, including investment banks, underwriters and brokerage firms. There are many financial institutions in Kenya, varied in accordance with the number and type of the institutions. The monetary market is well developed with many financial intermediaries providing depository and payments services and loan facilities to their clients (Johnson, 2004).

These financial institutions in Kenya comprise government-owned regulators, Nairobi Securities Exchange and Money and Capital market among others. They deal with a wide array of financial instruments, which are available in other international financial centres.

The banking sector is the key player in the financial sector. The Central Bank of Kenya which plays a regulatory and monitoring role of the commercial banks is at the apex of the banking industry. The financial sector is a pyramid of financial activity comprising; five regulators, 43 commercial banks, 10 investment banks, two development banks, one mortgage finance company, 41 insurance companies, nine deposit taking micro-finance institutions, and 3,887 Savings and Credit Co-operatives Societies (SACCOs) (http://www.centralbank.go.ke). 31 of the commercial banks have local ownership while 12 are mainly foreign owned. The Government of Kenya (GoK) also has a substantial stake in a number of the commercial banks. The rests of locally owned commercial banks in Kenya are largely owned by families. The main role of commercial banks in Kenya includes accepting deposits from individual clients through which they make a profit by offering loans from the deposits at an interest. The CBK regulates commercial banks through the Banking Act, the Central Bank Act and the Companies' Act, which espouses a number of guidelines, including restrictions on the banks' operations, financial reporting, governance and minimum capital requirements, including reserve requirements.

The financial sector regulation in Kenya has adopted the institutional or silo system for regulation; that is, different sectors of financial institutions are regulated by distinct regulatory institutions. Regulation is therefore based on the institution being regulated contrary to the nature of business being transacted. This largely government-controlled regulatory framework is as a result of what

has been described as a piece-meal restructuring and continuing progression that has happened over time. The Central Bank of Kenya (CBK) regulates all commercial banks throughout the country excluding Kenya Post Office Savings Bank (KPOSB) whose regulation is by the National Treasury (Okiro & Ndungu, 2013). A number of government departments and ministries regulate different Development Finance Institutions (DFIs). For example, the Industrial Development Bank (IDB) is regulated by the National Treasury, Industrial and Commercial Development Corporation (ICDC) is regulated by the Ministry of Trade, and the Agricultural Finance Corporation (AFC) is regulated by the Ministry of Agriculture. The CMA regulates the securities' markets while the Retirement Benefits Authority (RBA) is charged with regulating the pension sector. The insurance industry is under the regulation of the Insurance Regulatory Authority (IRA). The Sacco Societies Regulatory Authority (SSRA) is responsible for regulating all savings and credit co-operative societies.

Commercial banks have made significant investments in distribution channels in the past ten years and embraced mobile and internet banking to reach customers, most of whom were unbanked and capture network effects (Okiro & Ndungu, 2013). It has been shown that within the years 2005 and 2014, several banks multiplied access points by nearly tripling branches and more than quadrupling access to ATMs (Okiro & Ndungu, 2013). Amendment of the Banking Act in 2009 permitted banks to recruit third parties as outlets for certain banking services. These led commercial banks to follow in building agent networks of their own. By 2009, total number of 8,809 agents representing five banks, were providing services. By 2014, this number increased to 35,789 agents representing 16 commercial banks (Okiro & Ndungu, 2013). Further legislative reforms in 2012 also allowed micro finance banks to provide agent banking services and since then, three of them have embraced agency banking (CBK, 2010).

Seventeen (17) financial institutions have been closed after undergoing receivership in the last ten years. Currently, four banks are still under receivership, one of them having gone under receivership in 2013, two in 2015 and one in 2016. These banks are Euro Bank Limited, Dubai Bank Kenya Limited, Imperial Bank and Chase Bank. The major causes of failures of local banks have been associated with massive accumulation of bad debts due to fraudulent activities or imprudent lending, including insider lending to companies associated with politicians and BoD members. Adverse selection problems regarding prospective borrowers, poor management and inadequate capitalization have further contributed to fragility of the financial institutions. Other reasons the institutions have failed include non-performing loans and poor management practices, diverse socio-economic, management, business and political factors besides poor lending policies and management.

Financial institutions in Kenya are important for economic growth and development. They play a number of roles that would ensure micro and macro-economic growth and development. Generally, the assumption has been that the board dynamics of non-financial firms equally work for financial institutions. There is growing recognition that financial institutions board dynamics is different due to the broader responsibilities on directors and the regulatory regimes. Therefore, governance cannot be generalized across all companies. Furthermore, extant literature has provided evidence that corporate governance in itself is not static, but rather dynamic and emergent. It is on this basis that their performance continues to be a key concern to the management practitioners and researchers. The choice of the optimal board structure would be a panacea to the improvement of strategic choices yielding better performance (Kajola, 2004). In the years 2012 and 2013 alone, Kenyan Banks, being the most critical player in the financial sector, unveiled new

chief executives and thereby raised several questions about CEO tenure. These further caused researchers as well as practitioners to raise questions relating to the effect of CEO tenure on performance and whether the CEO turnover would sustain growth over the years ahead.

1.2 Research Problem

The influence of board structure on institutional performance is critical to the development of effective corporate management and public regulatory policies. Therefore, a board structure is relevant when it positively impacts on the institutions performance. This suggests that firms must deliberate on the type of board structure that fit their firm. However, empirical research on the impact of the board structure on firm's performance has been done but with mixed and varied findings. The findings of empirical studies regarding the effect of board structure on institutional performance range from positive (Johl. 2015; Kajola, 2008; Barako et al., 2006; Ongeti, 2014; Chung & Pruitt, 1996; Anthony et al., 2002; Jackling & Johl, 2009; Letting et al., 2012; and Kamaara et al., 2013), to negative (Demetz & Villalonga, 2001; Morck et al., 1988; Gurusamy, 2017, Yermack, 1996; Hermalin & Weisbach, 2003; and Adusei, 2011) to mixed (Dalton & Daily, 1999; Johnson, Daily and Ellstrand, 1996; and Ongore & K'Obonyo, 2011). Mixed findings about the impact of board of directors' structure on performance of institutions shown in prior work may point toward the possibility, that other factors such as CEO tenure and firm characteristics along with board structure explain performance. Note that most research on corporate governance has been undertaken within developed economies; hence limited research exists in developing economies.

Nevertheless, even with boards and board structures in place, the upsurge of boardroom tussles and corporate collapses has been witnessed in both developed economies like was the case of Commerce Bank (1991), Enron (2001), Adelphia (2002), HIH and World Com (2002); and in developing economies like was the case of Uchumi Supermarkets, East African Portland, CMC and Mumias Sugar Company Limited, which are all in Kenya. In Kenya, financial institutions have also had their share of difficulties, and between the years 2014 and 2016 a number of them collapsed; these included Imperial Bank, Chase Bank, Dubai Bank, and National Bank of Kenya. In all of these, the members of the respective boards have been widely blamed for the firms' failures. Most of the fraud-related cases that have led to the failure of major corporates have been attributed to the BoD and management. Based on this observation, stakeholders question the ability of members of the board to effectively monitor management of firms. The various reforms and standards developed both in Kenya, and at the global level (such as the Sarbanes-Oxley Act in the United States) meant to enhance corporate governance is a response to board failures.

Despite the importance of the subject on the influence of board structure on institutional performance, limited empirical research exists in developing economies. The problem is further compounded by the fact that despite the importance of financial institutions on the economy the few existing studies have been contextualized in non-financial institutions. Such studies include a study by Letting et al., (2012) who studied board diversity and performance of companies listed on the Nairobi Securities Exchange (NSE). Main limitation in the research was that only one board structure variable was studied and contextually the research was limited to firms listed and trading at the NSE. Similarly, Ongeti, (2014) studied the association among organizational resources, corporate governance structures and performance of State Corporations, the board structure variables were however limited to board size and composition; Kamaara et al., (2013) established

that board characteristics influenced performance of Kenyan state corporations; however, this study did not focus on the role of ownership and other structures such as the board on performance. The study was also limited to commercial state corporations. This notwithstanding, the studies on corporate governance structures in Kenya have concentrated on the influence of a single structure such as the board (Letting et al., 2012; Kamaara et al., 2013) or ownership (Mangunyi, 2011; Ongore & K'Obonyo, 2011) on performance.

In view of the above it can be noted that empirical studies that have been conceptualized along the influence of either the CEO tenure and or firm characteristics regarding the impact of board structure on performance in developing countries are rare. Prior research within the field of corporate governance has focused on its best practices among developed countries (e.g., Dahya and McConnell, 2007; Wintoki et al. 2012). Of importance is that a number of institutional factors regarding developing countries are quite different and therefore, this study shifts to a new setting, and examines the impact board structure, CEO tenure and firm characteristics, on firm performance in a developing economy.

Prior empirical research on board structure and institutional performance have demonstrated that the relationship is quite equivocal and does not reveal any conclusive relationship (Dalton & Daily, 1999). Board structure variables studied include size, diversity, CEO duality, busyness and composition among others. However, no evidence has been found that board type as defined in this study has been used as a variable. The question remains as to the casual relationship between these variables. There is a need to depart from traditional board structure variables and attempt

construction of a new, comprehensive theoretical model, which would cover all the emerging issues in board structure and close the gap.

Methodological issues may arise regarding studies on board structure and performance. Previous studies have focused on statistical methods that do not enable the study to establish whether, board structure affects performance or performance affects board structure (Onwuegbuzie, Johnson & Coluns, 2009). The researcher holds that there was lack of empirical studies done to establish the association between board structure, CEO tenure, firm characteristics and performance of financial institutions in Kenya. This study, therefore, sought to reduce this gap using data from the financial institutions in the country. More specifically, this study sought to find responses to the research questions: Does board structure affect performance of financial institutions in Kenya? What is the intervening and moderating influence of CEO tenure and firm characteristics on the association among board structure and performance of financial institutions in Kenya? What if the joint influence of board structure, CEO tenure and firm characteristics on performance of FIs in Kenya?

1.3 Research Objectives

The general objective of this research was to determine whether a relationship exists among board structure, CEO tenure, firm characteristics and performance of financial institutions in Kenya.

The specific objectives were;

i) To determine the effect of board structure on performance of financial institutions in Kenya.

ii) To establish the intervening effect of CEO tenure on the relationship between board structure and performance of financial institutions in Kenya.

iii) To find out the moderating effect of firm characteristics on the relationship between board structure and performance of financial institutions in Kenya.

iv) To ascertain the joint effect of board structure, CEO tenure and firm characteristics on performance of financial institutions in Kenya.

1.4 Value of the Study

The research was expected to minimize the dearth of literature on board structure among developing economies at large but Kenya in particular. It has contributed significant knowledge both for the academics and/or practitioners. The study has made several contributions to the theory and practice of finance. The study provides information to potential and current scholars on impact of board structure, CEO tenure and firm characteristics to financial institutions (FIs) performance in Kenya. The FIs regulators are in a position to come up with necessary policies and procedures that promote better governance practices and relevant firm characteristics that improve performance of financial institutions. The government can put in place a conducive environment and an appropriate regulatory framework.

This study has helped add to the empirical grounding of agency theory. Various other issues regarding this theory have been brought out. The theory posits that performance is enhanced when corporate governance structures are put in place. The findings indicate that the association between the board structure and performance of institutions is enhanced with introduction of various corporate governance mechanisms. These same results do not support the postulations of the stewardship theory which argues for managers being left on their own to run the organizations. The association among board structure, CEO tenure, firm characteristics and performance has also

received significant input both conceptually and empirically. Previous scanty empirical literature existed linking the three concepts. Scholars and researchers can refer to this thesis for future studies.

The study has also contributed to policy formulation and development in Kenya. Policy makers will benefit in understanding how institutional forces in the Kenyan context affects firm performance and hence be guided in formulation of reforms in the financial institutions sector. Investors who intend to venture into the financial sector in Kenya will benefit from the study and be able to formulate optimal policies, this also clears their confidence regarding their choices of investment. Due to many complexities in today's world economy and the changing corporate governance scene, there has been an increasing need to change the way organizations conduct their businesses to achieve higher-performance levels.

1.5 Organization of the Thesis

This thesis is organized in terms of six chapters. Chapter one introduces the study followed by a brief discussion of the study variables, theoretical underpinnings and the context. The chapter also provides the explanation to the research problem from the known issues before delving in conceptual, contextual and methodological gaps. It gives a brief synopsis of all the concepts of this study, namely board structure, chief executive tenure, firm characteristic and firm performance. The chapter also describes the context of the study which is the financial institutions' sector in Kenya. It provides an overview of the sector, including the regulations and provides the current state of affairs. The chapter equally covers, the study objectives and the value of the study.

Chapter two of this thesis is literature review. The chapter presents theoretical, conceptual and empirical review. A theoretical and empirical framework is provided, which includes a review and a critique with the aim of identifying research gaps in the area. The section reviews the arguments put forward and its subsequent investigation on; how feasible the theory is in the face of the empirical evidence; how successful are the theoretical constructs and how much further are we now in understanding the impact of board structures, CEO tenure and firm characteristics on firm performance. At the end, the chapter contains a conceptual model together with the conceptual hypotheses.

Chapter three of the study elaborates on the research methodology of the study. It describes the philosophy guiding the study, the research design, population of the study and methods of data collection. This chapter equally demonstrates the operationalization and measurement of study variables together with the data analysis techniques used in the study.

Chapter four presents the results of data analysis and interpretation of the results. It begins with a description of the study variables and the results of the descriptive statistics. The results of the descriptive statistics presented include the mean scores, one-sample t-tests, coefficients of variations and significance tests. Results of the tests of statistical assumptions, normality tests and correlation analysis carried out on the data are presented in this chapter too.

The content of Chapter five includes test of hypotheses, including subsequent discussions. Here findings of tests on the hypotheses tested using simple and hierarchical regression analyses, and GEE are juxtaposed with interpretations. The discussions of the results are along the objectives,

hypotheses, theory and previous conceptual as well as empirical studies. The discussions are based on extant literature and theoretical postulations.

Finally, chapter six contains the summary, conclusion and recommendations of the study. In the chapter, implications of the study for theory, policy, managerial practice as well as methodology are presented. These are linked to the key findings. Conceptual, contextual and methodological limitations of the study together with recommendations for future study concludes this chapter.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter reviews theoretical as well as empirical research studies undertaken within the area of study. A theoretical and empirical framework is provided, which includes a review and a critique with the aim of identifying research gaps in the area. The section reviews the arguments put forward and its subsequent investigation on; how feasible the theory is in the face of the empirical evidence; how successful are the theoretical constructs and how much further are we now in understanding the influence of board structure, CEO tenure and firm characteristics on institutional performance.

2.2 Theoretical Review

Scholars and governance practitioners agree that there is a more "varied and complex" association between board structure and performance than can be dealt with any governance theory (Nicholson& Kiel, 2007). Neither the general model nor the linkage between the two variables can be fully explained by a single theory. The conceptualization in this study is supported by the agency, the upper echelon, the convergence of interests, the entrenchment and stewardship theories.

2.2.1 Agency Theory

The starting point for any corporate governance debate is the principal-agent theory (Anthony & Biekpe, 2002). "Modern society and private property" by Berle and Means (1932), a classical research, is the theoretical basis of most research studies in governance. The agency theory describes the most relevant agency issues in today's institutions. Modern companies suffer from control and ownership separation, as they are managed by professionals who are not owners. Jensen and Meckling's (1976) fundamental work advanced the theory of the firm that explained conflicts of interest among the stakeholders that includes equity holders, executives and debt holders. Empirically and theoretically, the theory of the firm has been developed to enable a thorough examination of the issues caused by the divergence of interests among the business management and equity holders.

This view is consistent with the principle-agent paradigm. To this end, ensuring, management considers shareholder interests of reducing costs related with the agent's conflict is a key issue. Consequently, managers are faced with a number of issues: first, is how to select the appropriate professionals (managers). Second, is a moral hazard problem, which allows managers proper incentives to make efforts and decisions that are aligned with equity holders' interests (Antonio and Biekpe, 2002).

Agency theory postulates that shareholders appoint management to run their firm. Agency relationship is an arrangement where a principal appoints an agent to act on his or her behalf (Jensen and Meckling, 1976). The decision-making authority is delegated to the agent by the principal. The agency theorists assumes that the BoD, in exercising its corporate governance

mandate, evaluate and monitor the management and the firm. Corporate governance addresses the problems that the agency theory creates (Mallin, 2010, Fama and Jensen, 1983).

Owners gathering resources for the production process must face the decision between managing their own organizations and recruitment of agents. The agents with the necessary skills and experience are the managers. The inability to perfectly control all actions of an agent and ensure that he makes decisions with respect to his wellbeing and that of the principal is in fact, the genesis of these agency problems. Ensuring the agent represents the interests of the principal is the only way to arise from such a problem. Managers share in a fraction of the benefits of achieving their goals, yet they are wholly liable for failure to reach these goals. Jensen and Meckling (1976) argue that reducing inefficiency is a result of more managerial incentives to take decisions that maximize the value of the firm.

The agency theory further justifies the propensity of advice dominated by outsider-dominated boards (Eisenhardt, 1989, and Jensen &Meckling, 1976). Given that contemporary firms have separated ownership and control, it creates the moral hazard problems between management and the owners. There is a likelihood that the former may exploit the information they have for their own selfish reasons that may result in damage of the owner's interests. In addition, the theory is in support of separating positions of the board chairperson and CEO or that agency costs become enhanced. This is especially if the chairman is under the control of the CEO. In such circumstances, the company is subject to financial and market control (Balta, 2008). A key limitation of applying agency theory to corporate governance is that the organization is only seen through the goal of the

owners. Therefore, other subjects are excluded in view of the organization's operation and management.

The agency theory presumes that a well-developed market for corporate control is non-existent. This leads to market failures, moral hazards, non-existence of markets, incomplete contracts, asymmetric information, and adverse selection among others (Bonazzi & Islam, 2007). Several mechanisms have been proposed by governance proponents, including institutional monitoring, prudent market competition, employee compensation, better debt management, the development of an effective BoD, and stakeholder engagement (Ongeti, 2014; Wah et al., 2015). The effective development of the board members still remains a significant and viable option in realizing an optimal mechanism for corporate governance.

Jensen and Meckling (1976) theory of ownership structure integrate three theories: agency theory, property rights theory, and finance theory. These theories illustrate that the agency's costs are generated from the "separation and control"; and are advanced to investigate the nature of agency costs generated by the existence of debt and external capital. They conclude that agency costs are as real as any other cost due to separating control from ownership. This theory helps to determine the variables to the study, firm characteristics and board structure due to the theory’s support of lean boards dominated by independent directors. The theory is also relevant from the aspect of property rights within the company. The theory leads to the need to study separation of control of property and ownership and creates a conflict that can be managed through board structure.

2.2.2 Convergence-of-interests Theory

Agency conflict can be resolved by promoting equity ownership among the directors in an attempt to align their interests with those of equity holders. The theory of convergence of interests postulates that in cases where the BoD does not have share ownership, they become self-sufficient, but possess little power to maneuver controls that have been put in place. Hence, this guarantees that equity holders' interests are considered. Mechanism of the corporate governance in this case includes the existence of independent members of the board who have shown to cause less manipulation of fraud and earnings (Klein, 2002; Beasley et al., 2000). Increased share ownership by directors compels them to keep the equity holders' interests in mind when making decisions (Beasley, 1996; Jensen & Meckling, 1976).

Managers who are equity holders are more likely to take steps that will lead to the alignment of their interests with those of equity holders. Increasing the decision-making quality improves harmonization of actual cash flows with profits, i.e. increasing the quality of earnings. Executives become more aware, engage in less fraud, and get less motivated to deliberately manipulate profits to improve performance from what it is. In short, when employees have share ownership, they behave like unique owners; every action they undertake against the interest of company ends up hurting them. At this point, governance mechanism wouldn't be needed (Teresa & Giuseppe, 2011). This theory helps the researcher to develop the board type as a fundamental feature of the board's structure variable and using postulations of the theory proceeds to categorize it into three types.

2.2.3 Entrenchment Theory

Morck et al. (1988), contrary to the theory of convergence of interests, developed entrenchment theory that alludes to a negative relationship among performance and board share ownership. “Entrenchment theory” says that higher levels of ownership reduce institutional performance. This agrees with the logic that maximizing market share and technology leadership rather than maximizing profits is attributed to managers who own significant levels of shares. The involvement of the board members also has a negative effect on the company value (Dwivedi & Jain, 2005).

Entrenchment theory has similar conclusions regardless of the number of shares held by managers. However, one would expect that at low levels of share ownership, employees do not consider equity holders’ interests because they lack the power to subvert the governance arrangements. With high levels of shares ownership, executives or directors being large shareholders too have no motivation to subvert governance arrangements meant to safeguard shareholder interests; as such, inadequate actions may be damaging themselves. It is, in essence, the average range of the equity holding that tends to differ. When managers or principal altogether gets a relatively high share of equity (but not the extreme levels of ownership that aligns their interests with shareholders), it is still debatable whether they can maneuver controls (Fama & Jensen, 1983). This theory helps the researcher to develop the board type as a fundamental feature of the board's structure variable.

The entrenched executives might advance their own selfish interests without major fears of dismissal or sanctions; since they could "shut up" (Morck et al., 1988). Previously, other research studies have documented that this phenomenon may occur at relatively low levels of absolute

ownership (Morck et al., 1988). If the degree of integration exists, it should reflect on poor quality of income. The poor quality of profits shows that managers may intentionally manipulate profits, exclude and commit bad decisions, or carry out fraudulent activities that reduce profits. All of these activities imply that actual cash flows vary from the benefit projects should provide as cash flows. In cases where the theory is aligned, a strategy for the institutions could include providing equity ownership to the employees and members of the board, which would enhance control measures within the depth range. Therefore, it is important to know where there might be thresholds inside as well as outside the range and whether the governance mechanisms can overcome the integration process.

2.2.4 Stewardship Theory

In stewardship theory, it is argued that agents are motivated by both individual goals and the principal's interest, but the principal interests dominate (Davis et al., 1997; Donaldson & Davis, 1991). This theory, therefore, shows that independent external board members are not necessarily motivated by their own goals and thus exclude them from being agents, but makes them the best managers of their companies (Davis et al., 1997). This theory, however, supports the principle of CEO's duality. Only when there is CEO duality can the power of executives, and the best management duty be exercised (Donaldson & Davis, 1991). It also explains the importance of internal directors. The proponents of the theory believe that CEO-chairperson duality leads to strengthened leadership coupled up with internal effectiveness. The firm will have one voice speaking on its behalf and disagreements between the CEO, and the board's chairpersons are avoided (Davis, Schoorman & Donaldson, 1997). Stewardship theorists agreed with this conclusion calling it CEO duality and stating that it improved organizational leadership efficacy.

This is, however, in contrast to agency theorists, who are in support of separating the CEO and Chairman roles in order to promote proper checks on management. Various studies have concluded that the association among CEO-chairperson duality and performance of a firm is disputed and ambiguous.

Stewardship theory states that the board's key function is to basically advise and put managerial steps in place in order to discipline and monitor the management, a vision that is considered diametrically opposed to agency theory. This theory states that the association between board of directors' composition, and institutional performance is possibly due to advice provided by external directors instead of its monitoring and control activities (Anderson & Reeb, 2004). The theory is important for this study as it shows the value of board structure and ensures that managerial behavior is aligned with principal's interests and therefore, enhances performance. Through the theory, CEO duality is identified as one of the variables of board structure in order to empirically test its impact on performance. The theory also further guides the conceptualization of CEO tenure as having a likely significant intervening effect of the association between board structure and institutional performance.

2.2.5 The Upper Echelons Theory

CEO tenure, which is the moderating variable of this study, is anchored on this theory. The theory was developed by Hambrick and Mason (1984). The theory posits that institutional performance and strategic choices are partially provided and influenced by top management demographics. It suggests that decisions by management do not always follow rational reasons, but are largely affected by the natural limits of executives as human beings (Nielsen, 2010).

The upper echelon's theory suggests that senior management demographics includes age, education, functional background, and financial position. Other researchers also included tenure (Nielson & Nielsen, 2013) and gender (Marimuthu & Kolandaisamy, 2009) as part of the demographic elements of senior management. Therefore, the study is based upon the fact that the CEO is part of the upper echelon; his mandate will influence his strategic choices and, consequently, the performance of the institution. The theory developed the proposition that the long-term CEO seemed to lean towards the status quo and would be reluctant to implement change strategies (Michael & Hambrick, 1992, and Nielsen, 2010). An institution that has a CEO with diverse tenure, benefits from the different experiences and perspectives brought by the individual CEO and this positively impacts the institution's performance.

Supporters of the upper echelon's theory postulate that companies with younger managers were more prone to higher-risk strategies than older managers and that organizations with younger managers might experience growth and profitability. This position has been supported by other researchers who argue that younger managers tend to be related to organizational performance since they were ready to change (Hambrick 2007). An organization that has a managing director with different holding benefits from the different experiences and perspectives brought by the single CEO, and this have a positive impact on performance.

The theory provides a platform for the investigation into the role of CEOs, their tenure and firm performance. In this study the theory is relied on to formulate one of the research hypothesis that the CEO's tenure might intervene in the association between board structure and institutions' performance. Apparently, testing these theories still require empirical data, especially in different

contexts (Nielsen, 2010). The importance of top management as posed by theory implies that the CEO's combination of tenure with other variables for this study is needed to prove the basis of this theory. This theory has guided the conceptualization of the influence of CEO tenure on the relationship between board structure and performance of financial institutions in Kenya.

2.3 Empirical Literature Review

The relationship among the study variables is reviewed in this section. A description and critique of the objectives, methodology, and findings is undertaken for each empirical study reviewed.

2.3.1 Board Structure and Firm Performance

It is possible that the board structure and performance of firms may influence each other. That is, both forces work simultaneously, implying that firm performance and board structure are endogenously determined. Prior research into the association among board structure and institutional performance has generated mixed results and conclusions (Dalton et al., 1998). Additionally, empirical evidence with regard to the effect of board structure on institutional performance is vague. This may be because the board structure and performance are endogenously determined, and the relationship may be intertemporal as a result of financial reporting at intervals and unchangeable terms of the board. Dalton et al. (1998) found no support for the hypothesis that performance of a firm is significantly influenced by board structure.

Wallace et al. (2004) developed a theory of intertemporal endogeneity of board composition and firm performance using data from US mutual funds. Their study was centred on closed-end mutual fund firms, and they found minimal support for intertemporal endogeneity. The evidence that firm

performance is affected by board composition is weak. This is because it is dependent on factors like definitions of performance, board composition and the statistical model used. They, however, found significant proof that previous performance affects board composition of the firm concerning the definition of board structure. The methodology used in the study is causality tests in panel regressions of three years of data from more than one hundred mutual fund firms. Dalton et.al. (1998) on the other hand analyzed larger than one hundred and thirty samples, and the results yielded a positive association among institutional performance and number of board members. The study carried out by Yermack (1996) further provided proof that boards with fewer members resulted in better institutional performance. This results show that intertemporal endogeneity applies to various issues in a firm.

GIM, (2003) researched on the effect of corporate governance on institutional performance. The study sampled US firms that went through mergers and acquisitions. This was to find out whether corporate governance provisions explained compulsory CEO termination, after value-reducing acquisitions. GIM (2003) modelled a governance index which was employed in the study of the impact of a number of board structure variables on institutional performance. They concluded that based on risk adjustment, strong shareholder rights improved performance of the stock of a firm and vice versa. Corporate governance promoters often cite this result in support of good governance (as measured by GIM, 2003) positively affecting firm performance. Their results showed that managers of organizations that have boards that are staggered over time are not easily substituted by the acquisition's market than are managers of organizations with board members who are elected every year. Although GIM (2003) reviews board structure, their study is limited

by the fact that an important aspect of the board structure being the three board types as defined in this study is ignored.

The association among board structure and institutional performance has been studied by several scholars (Bhagat & Black, 2002). Close focus has been on CEO duality and board independence (Zahra & Pearce, 1989). Many scholars have made conclusions that CEO duality is disadvantageous to firms as it's equated to somebody sitting an exam and marking their own paper. Separation of these two roles results into proper monitoring of the board's activities; availability of an advisor to the CEO and non-interference of members of the board on corporate management (Baysinger & Hoskisson, 1990; Fama & Jensen, 1983). On the contrary, some believe that CEO-chairperson duality leads to strengthened leadership coupled up with internal effectiveness. The firm will have one voice speaking on its behalf and disagreements between the CEO, and the board's chairs are avoided (Davis, Schoorman & Donaldson, 1997; Donaldson & Davis, 1991). Stewardship theorists agreed with this conclusion calling it CEO duality and stating that it improved organizational leadership efficacy. Agency theorists, however, are in support of separating the CEO and Chairman roles to promote proper checks on management. Various studies have concluded that the association among CEO-chairperson duality and performance of a firm is uncertain and ambiguous.

The proposition of outside-inside directors is the other aspect of board structure that has been researched by several scholars. Some scholars are of the opinion that outsiders will consider diversity when making decisions and be more impartial (Jones & Goldberg, 1982). Those of the contrary opinion argue that outsiders lack the necessary prowess and time to discharge their duties

properly. Therefore, the conclusions are also still quite vague. Lorsch and MacIver (1989); Mizruchi (1983); Zahra and Pearce (1989) are in support of boards incorporating a great number of outsiders; Ezzamel and Watson (1993) concluded that outsiders improve the performance of a firm. Baysinger and Butler (1985) conducted a study on more than 250 firms in the US and concluded that institutional performance was higher when the board had more outsiders. More scholars have concluded that there is a positive association among institutional performance and independence of the board (Pearce and Zahra, 1991; Rosenstein and Wyatt, 1990; Schellenger et. al., 1989).

In Kenya a study by Ongeti (2014) on organizational resources, corporate governance structures and performance of Kenyan State corporations, concluded that overall, there is a considerable relationship between organizational resources and institutional performance and that while moderation of either ownership or board structures did not occur, the introduction of these two corporate governance structures independently strengthened the relationship between resources and performance. The study was, however, limited to State corporations and the corporate governance variables used were not exhaustive.

Conger et al. (1998) in their study concluded that board efficacy is significantly dependent on board meetings for improvement. Similarly, Vafeas (1999) viewed strength of the board activity as a significant value-relevant board attribute. They made conclusions that the frequency of board meetings and discussion of different issues raised against the firm, strongly influences the effectiveness of the board. Conscientious boards can improve the level of supervision, resulting in better firm performance. For a board to be diligent; however, board meeting is not the only

important aspect; other aspects are rather important; such as readiness prior to meetings, being alert during the meeting, contributing to the discussions and following up to ensure that the matters discussed are acted upon. Despite these assertions, the association among board activity intensity and institutional performance is vague. Even so, many studies asserted that shareholders find importance in the board meetings with emphasis on the frequency of these board meetings. For instance, Zahra and Pearce (1989) speculated that the productive meetings are crucial for the BoD to discharge its duties properly. Similarly, Vafeas (1999) argued that increased board meeting map the intensity of board activity and concluded a significant association among BoD meetings and institutional performance.

Lipton and Lorsch (1992) and Byrne (1996) recommended that the more frequent a board meets, the higher the likelihood of performing its duties diligently to protect equity holders' interests. In this study, it was stated that "the common problem for directors is lack of time to perform their roles." Additionally, Beasley et al. (2000) observed that fraud records increased at firms that have fewer numbers of audit committee meetings.

Berle and Means (1932) studied the association among a firm's performance and ownership, recommending that organizations going public should separate ownership from control. Fama and Jensen, 1983 supported this view stating that ownership separation improves professionalism through management proficiency and firm-specific knowledge. This view is, however, opposed by the agency theory which reveals that separating ownership from control generates conflict of interests (Berle & Means, 1932), which results in take-over by the managers (Fama, 1980; Shleifer & Vishny, 1997). While shareholders are concerned with increasing the profitability of the

organization, management may only be considering how to develop their personal wealth and prestige. Agency costs result from the different interests of shareholders and management thus requiring monitoring mechanisms by the board of directors (Fama & Jensen, 1983). The agency theory suggests that one effective method of minimizing potential conflicts between the shareholders, and management is by ensuring that their interests are aligned together as close as possible through increasing the shareholding of the managers within the firm (Jensen & Meckling, 1976). Having directors owning a substantial number of shares in the firm would probably lead to reduced agency costs and better checks on managers (Elson, 1996).

Empirically, many studies indicate that when directors own shares, it increases the performance of the firm (Jensen & Murphy, 1990; Chung & Pruitt, 1996; Palia & Lichtenberg, 1999). Brickley et al. (1988) argued that management and ownership of shares by the board motivate effective running of the firm and proper checks on managers. However, other researchers have not been obvious in stating the relation between managers owning shares and performance of a firm. De Angelo and De Angelo (1985) agreed with the agency theory stating that if managers own substantial shares in the firm, it will make it difficult to change management and thus result in agency conflict. Morck et al. (1988) and Shleifer and Vishny (1997) foresee the possibility of managers taking advantage of the corporate for their own benefit. Becht et al., (2005) concluded that allowing CEOs to own shares will cause them to take advantage of their positions in benefiting financially at the expense of other equity holders. Other researchers have argued that share ownership by management is endogenic (Demsetz & Lehn, 1985; Loderer & Martin, 1997; Cho, 1998).

Various studies about the size of the board have produced equivocal results (Johl. 2015; Kajola, 2008; Barako et al., 2006). Most studies debating, from several viewpoints, do not agree on whether the board is desired to be of a large size or small size (Jensen 1993). Some scholars are in support of boards comprised of few individuals arguing that it increases performance of a firm (e.g., Lipton & Lorsch, 1992; Jensen 1993; Yermack, 1996) however, others support the notion that big boards are more ideal because they positively impact on performance (Pfeffer, 1972; Klein, 1998; Adam & Mehran, 2003; Anderson et al., 2004; Coles et al., 2008). For example; Lipton and Lorsch (1992) argued for smaller boards claiming that they would help the firm to avoid social loafing and free-riding. Jensen (1993) added that smaller boards usually eased co-ordination, cohesiveness and communication. This matches O'Reilly et al. (1989) view, which declared that with the increase in board size, the effectiveness of interpersonal communication decreases, and coordination problems seem to be obvious, which would most probably develop factions and conflicts. Furthermore, earlier studies; Yermack (1996) and Eisenberg et al. (1998) concluded that small boards resulted in increased firm performance.

Larger boards were deemed efficient because of its association with proper monitoring of the management activities and advisory role to the CEO (Adam & Mehran, 2003; Klein, 1998; Pfeffer, 1972). Anderson et al., 2004; Coles et al., 2008). Klein (1998) argued that increased complexity of an organization increases the CEO's need for advice. Furthermore, the agency theory supports larger boards for their monitoring effectiveness that is developed by limiting the CEO's hold across the board and shielding shareholders from exploitation (Singh & Harianto, 1989).

Numerous explanations have been put forth to explain the contradictory association among board structure and firms' performance. To begin with, which board structure results in which performance level has not been clearly established (Johnson, Daily & Ellstrand, 1996; Zahra & Pearce, 1989). Dalton and Daily (1999) established that several decades of studies aimed at linking board structure and performance of a firm have been inconclusive.

2.3.2 Board Structure, CEO Tenure and Firm Performance

Very early in their term, CEOs are more open to learning; this builds their prowess as they learn to take risks. Their skills develop quite fast, and this translates to improved institutional performance (Wu, Levitas, & Priem, 2005). Later own as their tenure progresses, they become risk averse and stick to outdated decisions as they play safe. This negatively affects the performance of the organization (Miller, 1991; Levinthal & March, 1993). The relationship between the CEOs term and institutional performance can be illustrated as an 'inverted U'. Current research has shown that the effect of CEO tenure on the performance of the organization is much more than a direct impact (Simsek, 2007; Souder, Simsek, & Johnson, 2012).

Studies indicate that imposing CEO term period and forced exit has a negative impact on the performance of the organization (Parrino (1997). The effectiveness of BoD as far as monitoring the CEOs is concerned, however, continues to be controversial. Weisbach (1988), for example, established that only 7.1% of organizations in the bottom ten percentile in terms of earnings had changed their CEOs in a span of two years. Various researchers indicate that a weakness in BoD is the reason for existence of a weak relationship between CEO turnover and institutional performance, especially when it becomes difficult to change the CEO (e.g., Morck, Shleifer &

Vishny, 1988). Low CEO turnover can also be attributed to the fact that it takes a while before the board can fully understand the skills and abilities of the CEO which are affected by board structure.

High level management turnover will have an effect on the institutional performance. Replacing a CEO is only beneficial if the new entrant makes strategic decisions that will increase stock value. Studies have been done on organizations to establish suitability of the CEO's replacement. Other studies have focused on whether it was a wise decision to replace the CEO by evaluating the change in performance resulting from the replacement. Replacement of high level management will bring out the differences between the new and old members, and this may negatively impact performance to the firm (Glunk & Heijltjes, 2003).

Bonazzi and Islam (2007) came up with a model to explain how the board can efficiently keep a check on the CEOs. The model establishes the appropriate level of checks on the CEOs that will optimize institutional performance and lead the directors. One downside of the model is that it is centered on board monitoring. Determining the rate at which ineffective manager's exit the firm is a way of gauging corporate governance. When gauging corporate governance, performance is an important variable because institutional performance affects market value and shareholders' value. This variable is also critical given that investors and regulatory authorities use it to deduce the effectiveness of a CEO.

Numerous theories argue in support of changing the management team if a firm is not profitable. The upper-echelon theory argues in favor of demographic diversity of managers as it leads to positive overall employee diversity, and a firm will benefit from aligning its resources with the CEO's potential. Dependency theory argues that a manager becomes a resource to a firm when he positively affects the organization behavior and its profitability. Exchange-based power argues in favor of debt capital as a resource, and it can affect the behavior and change of high-level managers (Davis & Cobb, 2010). Agency and efficiency theories support the change of underperforming managers.

Profitability of a firm is the total revenue less the cost incurred to get that revenue. The top management are paid large sums of money which is the agency cost that they must account for by undertaking value adding projects in the organization (Bebchuk & Grinstein, 2005). It is not however clear as to whether the managers at the top and the board are penalized as a result of poor performance especially among developing economies such as Kenya.

One of the studies which categorized firms as per their profitability percentages concluded that high profitability does not necessarily result in a CEO not leaving. However, the firms with low profitability were characterized by high turnover of the CEOs. Decline in profitability causes insignificant changes in the turnover and does not support laying off the managers who are not performing well (Dimopoulos & Wagner, 2010). Research has shown that in an ideal situation where corporate governance was effective management would be replaced right after poor performance is noted (Mnzava, 2013; and Wermers, Wu & Zechner, 2008).

Muravyev, et. al., (2009) concluded that there is an inverse association among the prior institutional performance of Ukrainian firms and the probability of management turnover. Although directors plus the CEO should be held accountable for low profitability according to certain authorities, sometimes managers exit the firm due to financial crisis like the most recent US financial crisis (Eisfeldt & Kuhnen, 2013; Goldman, 2009; Berman, 2008). However, in some instances, a CEO may continue staying in office despite continued poor performance thus requiring presidential intervention like in the case of General Motors (Grand Rapid Press, 2009).

In a number of cases, it has not been easy to solve governance issues without management turnover even though profitability would increase if the managers were replaced (Fidrmuc & Fidrmuc, 2007). The weak relationship between profitability of a firm and turnover of managers is vague due to laws that are not stringent, regulations that are not strong enough and nascent capital markets (Strenger, et. al., 2012). Maury (2006) concluded that institutions with single tier structure of the board are less likely to change underperforming CEOs than those with two-tier structure of the board in Finland. Decreased share prices lead to higher board turnover.

2.3.3 Board Structure, Firm Characteristics and Performance

Several scholars have researched the impact of equity ownership on the profitability of an institution. Morck et al. (1988), McConnell and Servaes (1990), give a non-linear significant association among equity ownership by management and profitability. McConnell and Servaes (1990) concluded that there exists a positive association among profitability and the percentage of internal and external ownership respectively. On the contrary, Demetz and Villalonga (2001), and

Morck et al. (1988) failed to find out any significant impact of ownership by management on profitability.

Empirical research has significantly focused on the association among ownership structure and institutional performance (Jiang, 2004; Karaca & Ekşi, 2012). One characteristic of the modern firm is that ownership, and control has been separated (Uwuigbe & Olusanmi, 2012). The structure of ownership is used to reduce the disclosure of uneven information between the insiders and outsiders within stock markets (Wahla et al., 2012). Furthermore, Fama and Jensen (1983) and Jensen and Meckling (1976) concluded that the diffusion of ownership significantly affects maximization of profits in an organization since control enables management to put in an extra effort for their own benefit. Demsetz (1983) also argued that ownership structure is an internal aspect that optimizes performance and firm's value.

Ownership structure may be clustered into two; widely-held firms whose shareholders have no significant control rights, and closely-held firms whose owners take part in the direct management and control (Haslindar & Fazilah, 2011). Widely-held firms lead to the need to appoint a BoD with the role of monitoring the management. This therefore is of importance to this study because of implications it has to the board structure. Resource dependency theory argues that depending on the concentration of ownership of a firm, it may present an opportunity to agree with or challenge management (Pfeffer & Slanick, 1979). Berle and Means (1932) proved the existence of a positive correlation among concentration of ownership and profitability. Other scholars found no association between these variables (Demsetz & Lehn, 1985; Demsetz, 1983). The value of concentration of ownership, however, should not be overlooked as Shleifer and Vishny (1997)

have argued that the concentration of ownership in conjunction with protection by the law forms a key characteristic that explains corporate governance. The agency theory supports level of ownership as an element of prudent corporate governance (Siala et al., 2009). Nevertheless, high level concentration of ownership allows for control of stockholders and management thus avoiding takeover from minority equity holders (La Porta, Lopez-De-Silanes & Shleifer, 1999; Morck et al., 1988; Shleifer & Vishny 1997).

The efficient monitoring hypothesis supports high level ownership concentration as it empowers holders of large shares to monitor management at minimal cost (Hu & Izumida, 2008). Additionally, large equityholders in an organization are ready to actively participate in decision making at the corporate level since they benefit from monitoring. They monitor and intervene through unofficial talks with managers to official proxies (Shleifer & Vishny, 1997; Grossman & Hart, 1995). Owner controlled firms outperform manager controlled ones (Gugler, 1999). The empirical evidence confirms the hypothesis that large equity holders are active monitors in organizations and that direct equity holder checks help boost the entire institutional performance. The shortfall of these findings is that most of them are based in USA and the UK; studies from other countries indicate otherwise. Thonet and Poensgen (1979), on a study on manufacturers in Germany concluded that firms controlled by managers outperformed those controlled by the owners.

Prowse (1992) failed to find any relationship among ownership concentration and performance in Japan. Ongore and K'Obonyo (2011) recorded mixed results on implications associated with ownership identity and manager's discretion effects on the firm's performance. They recorded that

state-owned firms had poor stewardship, while foreign, insider, diverse and institutional ownership produced best results. All in all, when there are differences among management and shareholders, corporate governance resolves them by use ownership structure (Hu & Izumida, 2008).

In Nigeria, Kajola (2008) explained the association among four corporate governance mechanisms. Their study included an organizational characteristic variable and two firm performance measures. The variables were: size of the board, composition, duality and audit committees. The performance measures used were: return on equity and profitability of more than 20 Nigerian firms. Using panel methodology and OLS approximation method, the conclusion was that there is a positively significant relationship among ROE and size of the board and duality. Therefore, board size should be restricted, and the CEO should not also hold the position of the board chairman. One limitation of the study is that it does not give a significant association between the two profitability variables and board composition and audit committee.

Barako et al. (2006) posit that an organization's size has a positively significant link with profitability. Cooke (1989) states that larger firms with good financial performance signal to the market by disclosing more information in the annual financial statements that enhances the confidence among the investors. Larger firms have higher agency costs than smaller ones (Jensen & Meckling, 1976) and as a result are more visible than the smaller firms and therefore, expose them to the public interest. Wallace et al. (1994) contend that there exists a positive link between financial performance and the age of the firm.

Perrini, Rossi and Rovetta (2008) in their study, tested two aspects of the real estate firm structure: ownership percentages of five major shareholders (ownership concentration) and employer participation model to verify their impact on the institution's performance. Managerial ownership was taken as the title of ownership of corporate board members, managing director, and senior management. It was discovered that ownership concentration and managerial ownership show positive and negative effects on Tobin's Q and the valuation of their respective firms. Anderson and Reeb (2003) concluded that in the US, family – owned firms outperform those not owned by families.

2.3.4 Board Structure, CEO Tenure, Firm Characteristics and Performance

Ongore (2011) indicates that the board of directors only cannot be a solution for all governance problems. His argument was that ideal corporate governance structures should pay inordinate attention to essential aspects of governance like ownership structure, aspects that most boards tend to ignore. The risk-taking orientations of their equity holders directly influence the investment decisions that are made by management (Shleifer & Vishny, 1994). Organizational characteristics, including structures of ownership manifest themselves in governance of organizations differently.

The empirical literature on the variables of the study, board structure, CEO tenure, firms' characteristics and firms' performance as conceptualized in this study are rare. Studies that have looked at the variables' direct relationships have reported inconclusive results (Gompers et al., 2003, Black et al., 2003, Klapper and Love, 2002 and Yermack, 1996). The scholars did not record any significant association among the "best practices" in corporate governance and profitability.

Additionally, Coles et al. (2008) argued that board structure is not relevant in the study of CEO and organizational profitability.

Coles et al. (2008) studied the association among governance including board structure and institutional performance. He concluded that there exists a positive association among concentration of ownership and performance. Further research on the CEO's compensation, term in the office, and profitability association include the studies of Jensen and Murphy (1990) and Dalton et al. (1998). These scholars concluded that board composition, board members' financial skills, and CEO duality, are the main components of corporate governance. Johl et al. (2015) noted that a corporate governance framework incorporates ownership concentration, directors' equity ownership, board structure, CEO tenure, and directors' remuneration.

2.4 Research Gaps

Research on board of directors has traditionally centered on the association among board structure and institutional performance. Empirical research studies have however shown that the association is equivocal. Over the years, these studies do not reveal a decisive association among these two variables (Dalton & Daily 1999). Consequently, exploration for new areas of research on BoDs is much needed, this conclusion is in agreement with conclusions by Johnson, Daily & Ellstrand, 1996. The results indicate that there could be a missing link. This could be the board process. Board process is defined as the decision-making activities of the board (Zahra & Pearce, 1989). Anderson and Anthony (1988) noted that board process refers to the healthy and occasionally rigorous discussion on corporate matters and problems so that conclusions can be reached and supported.

Board structure variables which have been studied, include board size, CEO duality, board busyness, and board composition among others. However, no evidence has been found that board type has been widely used as a variable. A research gap exists as to how board members with a financial stake in the firm are likely to impact on financial performance. The question remains as to the casual relationship between these variables. There is need to depart from traditional board structure variables and attempt construction of a new, comprehensive theoretical model, which would cover all of the emerging issues in the board structure and close the gap.

Further research should introduce an integrative conceptual model between board structure and board performance, with board process as an intervening variable. Only recently has literature on the board process have become available. The reason for insufficient empirical work on board processes is possibly due to the difficulty of gaining access to boards (Zahra & Pearce, 1989). Contrary to this, the researcher believes that such a limitation should not excuse lack of development of a working model for conceptual analysis.

The studies reviewed presented mixed findings on the association among board structure variables and institutional performance. While several scholars found a positive association among the variables and performance, others were of the contrary opinion. This could be linked to the variety of methodologies and definitions of variables used in the studies and contextual aspects that were omitted by the models used. Most of these studies were carried out in various nations and different administrations. Several studies reviewed focused on the direct association among single variables or a set of variables and institutional performance. Therefore, testing of relations and interaction of variables has been overlooked. Causal linkage among variables was also not established

including the joint effect on institutional performance. Furthermore, issues regarding implementation and evaluative context of the firm have been ignored. The literature reviewed has equally not evaluated the concepts in the manner proposed in the current study.

Table 2.1 Summary of Research Gaps

Author(s)	**Focus of the Study**	**Findings**	**Research Gaps**	**Bridging the gaps in the proposed study**
Daily and Dalton (1993)	To establish the effect of CEO duality on profitability of institutions.	No relationship with financial performance	The study used ROA,ROE, P/E ratio as the performance indicators	Sales growth has been introduced as a performance indicator.
Vance (1995)	To examine the influence of Insiders vs Outsiders on performance of firms	Executive directors' representation had a positive relationship with financial performance	The study only focused on two board structure variables	The study focuses on a number of board structure variables.
Anthony et al. (2002)	To examine the influence of size of the board, independence and CEO duality on institutional performance operationalized by ROA, Tobin's q and Growth in revenue of non-financial listed firms on the GSE.	The governance structures studied impacts profitability of Ghanaian Organizations.	The commercial banks and other financial institutions were not included in the research consistent with other studies because of their huge debt structures.	The study focused on the financial institutions.
Bonazzi and Islam (2007)	To design a model to find a solution for an on-going problem in financial economics: how can CEOs be efficiently supervised by the members of the board?	The design of the model focused on identifying an optimal level of control and monitoring, which maximizes equity share value, to guide the board of directors.	The model was limited as it does not speak to the input of other board members and it focused mainly on the monitoring function, despite the fact that the boards also play vital responsibilities.	The effect of individual governance variables were studied.
Benjamin Ehikioya (2007)	To determine the association among	Ownership concentration positively affects	The research relied a lot on publicly accessible data for	The study included non-listed firms to get more insights into

	corporate governance structure and profitability of Nigerian institutions	performance. Although the findings lack evidence of influence of board independence on profitability, there is significant evidence to prove the fact that CEO duality unfavourably affects profitability.	a sample of more than 100Nigerian listed organizations from 1998 to 2002 and focused on corporate governance variables	the variables. The study introduces board type as a new variable for board structure and measures CEO tenure
Jackling and Johl (2009)	To examine the association among internal governance structures and profitability of Indian companies.	The research findings are in support for facets of agency theory as a higher ratio of non-executive directors increased profitability	The study adopted an exploratory design.	The study adopts a multiple regression analysis.
Tatyana Sokolyk (2010)	To investigate the influence of governance provisions on forced CEO turnover following value-reducing acquisitions.	Corporate governance provisions do not impact on the possibility of forced CEO turnover following acquisition decisions	The effect of the CEO tenure is not considered	CEO tenure was studied alongside the turnover.
Afzalur Rashid (2011)	This research set out to examine if board independence and effect of Independence of board structure on profitability of organizations in Bangladesh.	The finding of the research is in support of the agency theory, but negates the stewardship theory suggesting that the non-executive directors and combined leadership role do not increase profitability	The data was obtained from the observation of different corporations while ignoring underlying organizational differences.	The study focused on a specific industry the financial services sector.
Michael Adusei (2011)	To determine the association among board structure and	The results indicate that reduced board size enhances performance and composition of the board has	The study focuses only on two board variables	The effect of many variables was studied

	profitability of Ghanaian banks	an insignificant negative correlation with profitability		
Teresa and Joseph (2011)	To test empirically the relationship between board equity ownership and CG on earnings quality of for-profit corporations.	The conclusions are in support of the entrenchment theory. Both independent and insider BoD become entrenched, negatively affecting earnings quality and the strength of the governance structure.	The effect of individual governance variables on earnings quality is not identified.	The effect of individual governance variables was studied.
Letting et al. (2012)	Diversity of the board and profitability of firms in NSE	The findings provide evidence of a weak positive association among profitability and diversity of the board	The study was limited to firms listed at the NSE and only to members of the Board.	The study included CEO tenure and be contextualized in FIs including non-listed firms.
Kamaara et al. (2013)	The relationship between BoD characteristics and performance of commercial SCs in Kenya	There is a strong association among board composition/characteristics and profitability of commercial SCs in Kenya.	The study was limited to only commercial SCs in Kenya and studied BoD characteristics only	The study included CEO tenure and be contextualized in FIs including Commercial and nonprofit making.
Akbah Ahsan (2015)	The role of CG mechanisms in firm profitability optimization in Pakistan	Corporate governance positively and significantly contributes towards performance	The study was limited to developing a conceptual model	The study undertook an empirical analysis
Bhatt R. R. and Bhattacharya S. (2015)	Structure of the board and performance of Indian IT firms.	The study, after controlling for firm-specific factors, shows that larger sizes of the board positively influenced firm performance. The research failed to find any association among the	The study ignored intervening and moderating effects of any other variables	The study included CEO tenure and firm characteristics as intervening and moderating variables.

		number of board meetings and firm performance. However, attendance at other events by the board of directors was found to be positively related to firm performance.		
Johl S.K, Kaur S., and Cooper B.J. (2015)	Determine the effect of board characteristics on profitability. Specifically, the study tests the effects of board meeting, board composition, size of the board and directors accounting expertise on firm profitability.	Concluded that board independence has no effect on profitability. Whereas size of the board and its financial expertise positively affect profitability. Board diligence i.e. meetings positively affect profitability.	The study ignored intervening and moderating effects of any other variables	The study included CEO tenure and firm characteristics as intervening and moderating variables.
Wah K. K., Shafie M. Z., Kamilah A. (2015)	Determine the effect of corporate governance practices on profitability of an institution	The result showed that board size has significantly weak negative relationship with ROA, but it was found to be insignificant to ROE. The other finding indicated that there was no significant association among board independence and performance.	The study ignored intervening and moderating effects of any other variables	The study included CEO tenure and firm characteristics as intervening and moderating variables.
Zona Fabio (2016).	Agency models in different stages of CEO tenure: The influence of managerial share options and composition of the	Combining the two agency models of limited competence and managerial opportunism, the findings indicate that governance exert divergent effects, in	The study is limited to US firms where corporate governance is well developed	The study used data from a developing country, Kenya to determine how profitability is affected by structure of the board

	board on R&D investment.	early vs. later stages of CEO tenure. Early in CEO tenure, R&D investment is reduced by stock options and board independence, whereas in later stages these effects reverse: R&D investment is enhanced by stock options and board independence.		
Gurusamy Palaniappan (2017)	To examine Board Characteristics, Audit Committee and Ownership Structure effect on Performance of institutions	Board size has a significant positive influence on profitability measures, ROA and ROE but the negative and not significant impact in case of Tobin's Q. Audit committee independence is significant and negatively affected by ROE. The same promoters' shareholding is negatively and significantly associated with all the financial measures and there is a significant negative association among institutional shareholding and profitability (Tobin's Q and ROA)	The study ignored intervening and moderating effects of any other variables	The study included CEO tenure and firm characteristics as intervening and moderating variables.

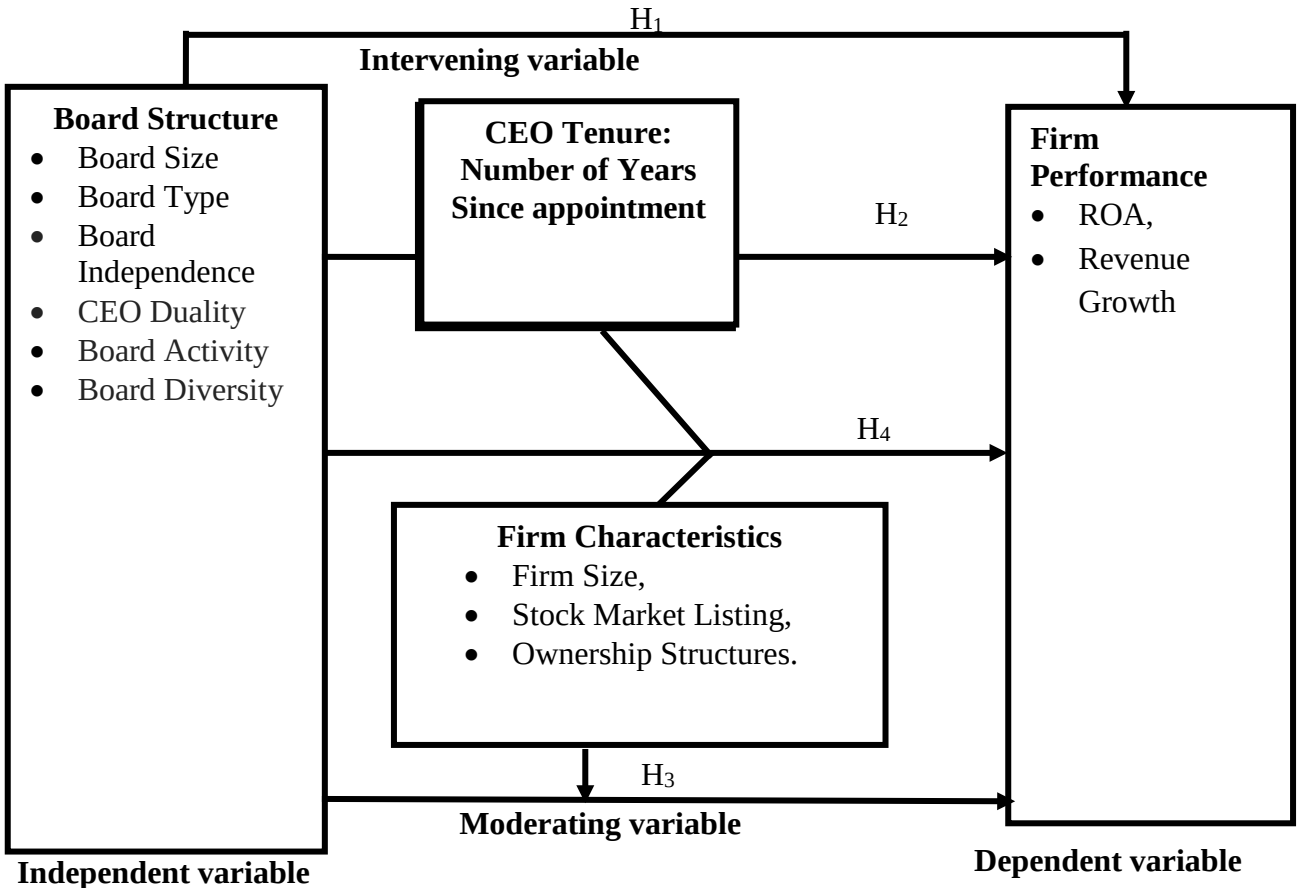
Author, 2017

2.5 Conceptual Framework

The conceptual model has integrated the theories of agency, entrenchment and convergence of interests to present a conceptualised interaction among board structure (independent variables), and institutional performance (dependent variables). Discussion of the dependent, independent, moderating and intervening variables is undertaken followed by the conceptual model and the research hypotheses. The model further conceptualizes CEO tenure as intervening with firm characteristics moderating in the relationship. This position is depicted in hypothesis two and three in the diagram. Finally, the model tests the joint effect of the three variables on performance in hypothesis four. This proposition has not been tested in previous empirical research studies to the best knowledge of the researcher. The model postulates that since the ownership is separated from control, the agent could be motivated by selfish reasons. The structure of the board and its effectiveness provides essential controlling functions in an effort to address the agency conflict that exists among the management and equity holders. These relationships are captured in the schematic conceptual model Figure 2.1 depicting the conceptual framework for this study.

The research has been carried out within the confines of the agency and stewardship theories. Empirical evidence points towards the fact that equity share ownership by board members brings about independent advice ignored by the stewardship theory (Nicholson & Kiel, 2007). Likewise, in agreement with the agency theory, the research puts forth an argument that not owning equity shares negatively impacts the performance of institutions. This diminishes the monitoring role of the BoD as a result of lack of self-interest, and this consequently may lead to a negative impact on performance of the institutions.

Figure 2.1: Conceptual Model



Author, 2017

2.6 Hypothesis of the Study

The research sought to study the mediating influence of the CEO tenure on the association among board structure and performance of financial institutions and the moderating effect of firm characteristics on the association among board structure and firm performance by testing four null hypotheses. The first hypotheses (H1) is generated from the first direct relationship based on objective one including six sub hypotheses that are drawn from the individual board structure variables. The second hypothesis is on the intervening role of CEO tenure, the third hypothesis is on the moderating role of firm characteristics while the last is to determine the combined influence of board structure, CEO tenure and firm characteristics on performance of financial institutions in Kenya. From the above conceptual model, the following four hypotheses and six sub hypotheses were formulated and tested:

H_{o1}: There is no significant effect of board structure on performance of financial institutions in Kenya.

H_{o2}: There is no significant intervention effect of CEO tenure in the relationship between board structure and performance of financial institutions in Kenya.

H_{o3}: There is no significant moderation effect of firm characteristics in the relationship between board structure and performance of financial institutions in Kenya.

H_{o4}: There is no significant joint effect of board structure, CEO tenure and firm characteristics on performance of financial institutions in Kenya.

Hypothesis one was further disintegrated into the following sub hypothesis;

H_{o11}: There is no significant effect of board size on performance of financial institutions in Kenya.

H_{o12}: There is no significant effect of board type on performance of financial institutions in Kenya.

H_{o13}: There is no significant effect of board composition on performance of financial institutions in Kenya.

H_{o14}: There is no significant effect of CEO duality on performance of financial institutions in Kenya.

H_{o15}: There is no significant effect of board activity on performance of financial institutions in Kenya.

H_{o16}: There is no significant effect of board diversity on performance of financial institutions in Kenya.

2.7 Chapter Summary

This chapter was devoted to a detailed theoretical and empirical review. The chapter provided a detailed description of various theories that guided the study. They formed the foundation of the study. The main theories anchoring the study were identified. Later, the chapter delved in a pairwise empirical review, assessing the conceptual relationship of the study variables. The pairwise reviews carried out included; the board structure and performance, board structure, CEO tenure and performance, as well as board structure, CEO tenure, firm characteristics and performance. This yielded to exposition of gaps from previous studies along theoretical, conceptual and methodological spheres. A summary of some of the previous studies and gaps were tabulated. A conceptual framework demonstrating the relationship among the variables of this study was then schematized along arguments in literature and hypotheses generated.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter details out the research methodology which was adopted by the study. Specifically, it presents the philosophy adopted by the research, research design, population and sample description, collection of data, reliability considerations, variables definition, operationalization and data analysis.

3.2 Research Philosophy

Research philosophy is the fundamental belief on the way data about a phenomenon must be collected, summarized and analyzed based on a researcher's assumptions about the world and the nature of the knowledge. It has implications on what, how and why research will be carried out (Carson et al., 2001). Paradigms represent alternative philosophical orientations to knowledge and its justification. The nature of knowledge contains important assumptions in which researchers view the world (Saunders et al., 2007). Knowledge is a set of beliefs about specific segment of reality or phenomenon (Mugenda & Mugenda, 2003). This leads to what is reality (ontology) and how knowledge about reality can be availed (epistemology). Ontology deals with different views about reality and hence it influences the way knowledge is constructed. Epistemology is the study of theories of knowledge. Epistemology helps to understand what it means to know and how one comes to a state of knowledge and complete knowledge about a given phenomenon (Mugenda & Mugenda, 2003).

There are two main epistemological research philosophies that underpin research in social sciences (Mugenda & Mugenda, 2003). These are positivism and interpretivism. Positivism is

premised on the assumption that the data collector is independent of what is observed, and measurement should be through objective criterion rather than being inferred subjectively (Mugenda & Mugenda, 2003). It is based on real facts, neutrality, measurement and validity of results.

Positivists use existing theory to develop hypotheses which are tested and confirmed, whole or part or refuted, thus informing and guiding further development of theory which may be tested by further research. Phenomenology which is the other epistemological philosophy is perceptional as it looks at the qualities and phenomena that are subjective. It focuses on the immediate experience and starts from the known to the unknown (Nachmias & Nachmias, 2004; Saunders et al., 2007; Mugenda, 2008).

Positivism, upon which this research was anchored believe in the fact that reality is stable and can be observed and defined from an objective perspective without interfering with the phenomena being studied. It is based on real facts, neutrality of the researcher, objective measurements and validity of results. Saunders, Lewis and Thornhill (2007) pointed out that positivism adopts a natural science stance where phenomena objectively measured lead to the production of credible data. Hatch and Cunliffe (2006) relate this to the organizational context, stating that positivists assume that what truly happens in organizations can only be discovered through categorization and scientific measurement of the behavior of people and systems and that the finding is truly representative of the reality.

In Business research interpretivism, critical and positivism are the dominant approaches. The study adopted a positivism philosophy which is associated with quantitative research. This follows scientific method, objectivity, deductive (hypothetico-deductive method) to make

models upon which decisions about ‘reality’ are made (Stiles, 2003). It was along these postulations that formulation of hypotheses was undertaken and thus was largely quantitatively inclined. The hypotheses were tested and confirmed or refuted. The researcher was neutral and external as posited by proponents of positivism. The positivistic research philosophy was applicable in this research since the phenomenon of board structure, institutional performance, firm characteristics and CEO tenure are objective in nature and can be scientifically analysed. The study sought to objectively establish facts by empirically establishing relationships among the variables.

3.3 Research Design

Research studies can be categorized into different categories, depending on the amount of control the researcher maintains on the course of the study (Mugenda & Mugenda, 2003). There are three general types of research, namely: exploration research design; descriptive research design; and the causal research design. The study was aimed at determining how the board's structure intervened by CEO’s tenure and moderated by firm's characteristics affects firm's performance. To achieve this goal, a descriptive cross-sectional survey provided the researcher with the opportunity to collect data on population characteristics and quantitatively verify the hypotheses to establish their relationship.

Descriptive research generally refers to the description of a population relative to important variables. The key objectives of the descriptive designs are descriptions of phenomena or characteristics associated with a population in question, estimates of the proportions of a population that has these characteristics and the discovery of associations between different variables. Descriptive designs involve three main methods, namely investigative studies describing the status quo, correlation studies investigating the relationship between variables

and development studies that seek to determine changes over time. Descriptive designs can also be categorized as transverse, which involves extracting a sample of elements of the population of interest and measuring the characteristics of the elements only once or longitudinally, in which the members of the sample were measured repeatedly over time (Sekaran, 1992).

The study was therefore, also a descriptive correlational survey. Descriptive correlational research design is used to describe relationships, as they exist, between specific variables. A correlational study is an investigation to find out the relationship between variables associated with a problem. Using data from a developing country, Kenya, the research has determined the association among four variables, including board structure, CEO tenure, firm characteristics and institutional performance. This enabled this research to be described as a correlation study (observational) that extends to cause and effect. It can also be described as a confirmation inquiry to test a priori hypothesis (Creswell, 2012).

The choice was guided by the main aim of the research that was to establish the relationship, scope of study, method of analysis and the nature of the variables in the study. This involved collecting data to evaluate hypothetical relationships among board structure, CEO tenure, firm characteristics and performance. This study sought to establish interrelationships between the variables, the intermediate effect and the moderating effect among the variables of the financial institutions in Kenya. A cross-poll was chosen to allow data collection in many organizations for a period of ten years. This research design proved to be the most appropriate taking into account the scope of the study, the nature of the data being collected and the method of analysis to be performed (Cooper and Schindler 2006). Other researchers (Ongore, 2008; Leaving et al,

2012; Irungu, 2007; Machuki, 2011; Gachunga, 2010; Awino, 2011; Awino & Mutua, 2014) successfully used the same design for similar studies.

3.4 Population of the Study

The population of this research was 3989 financial institutions in Kenya comprising of five regulators, 43 commercial banks, 10 Investment banks, two development banks and one mortgage finance company, 41 insurance companies, nine deposit taking micro-finance institutions, and 3,887 Sacco's (http://www.centralbank.go.ke).

3.5 Sampling and Sample of the Study

Yamane (1967) developed a simplified formula that computes sample sizes (Equation 1 as shown below). By using Yamane's formula of sample size with an error term of 10% and with a confidence coefficient of 90% the computation from a population of 3989 came up with a sample size of 98 FIs, consisting of three regulators, 30 commercial banks, two Investment Banks, 30 Insurance Companies, one mortgage finance company, one deposit taking MFI and 31 Saccos. The formula was applied to the population in each strata so as to determine the sample size for each of the strata.

$$n = \frac{N}{1 + N(e)^2}$$

Equation 1.

Where n denotes the sample size, N denotes the population size, and e denotes the level of precision.

The study followed the simple stratified random sampling in obtaining viable set of data sets. The two main reasons for using a stratified sampling design was to make sure that all groups represented in the population were sufficiently embodied in the sample, and also enhance efficiency by achieving more control on the sample composition. Table 3.1 presents a summary of the population and sample sizes.

Table 3.1: Summary of the Study population and Sample

Financial Institutions	**Population N**	**Sample n**	**Sample %**
Regulators	5	3	60
Commercial Banks	43	30	70
Investment Banks	10	2	20
Development Banks and Mortgage Finance Companies	3	2	70
Insurance Companies	41	30	73
Saccos	3,887	31	8
Total	3,989	98	25

(http://www.centralbank.go.ke) and Author, 2017

3.6 Data Collection

The research objectives point to the positivistic dimension of this study and therefore implied that appropriate procedures for the sourcing of quantitative data needed to be planned and executed. Quantitative data was collected for this research from secondary sources. The research used data that was accessed from the annual financial reports and websites of the financial institutions sampled to obtain data to measure the variables. The data required was collected for a ten-year period from 2006 to 2015 for the institutions that were sampled from the financial sector in Kenya, through data collection sheets provided as appendix I. The data collection technique used relied heavily on an examination of the annual financial reports and company website databases. The data were collected using a structured data collection sheet along the operational indicators of the study variables. Where the required data had not been

provided through the annual reports and company website, the data was collected from the head of finance. This was administered either through face to face, telephone or drop and pick.

3.7 Reliability and Validity Considerations

Reliability is a measure of the degree to which research instruments yields consistent results after repeated trials (Mugenda, 2008). Cooper and Schindler (2003) also in agreement argues that a research is reliable only to the extent to which it provides consistent findings (assuming that there are no real changes in what is measured or the circumstances surrounding the measurement). Several measures were carried out with the aim of ensuring the reliability of this study which included interpreting unpublished and the published secondary data sources correctly; identifying suitable techniques for drawing the samples; analysing data according to appropriate statistical conventions and risk-adjusted performance measures. The study adopted the test-retest reliability, parallel-form reliability and Cronbach's alpha coefficient at a limit of 0.5 to determine various aspects of reliability. Cronbach's alpha coefficient is used for multi-scaled items and measures the extent of correlation of all items in the measure if they are expected to assess the same concept (Kerlinger, 1986).

According to Kerlinger (1986) validity can be disintegrated into internal and external validity. Internal validity is defined as the capability of the research design to unequivocally test the hypothesis of the research. An internally valid design takes into account all the factors, including those that had not been directly specified in the theory to be tested, which possess the likelihood that they might have an impact on the outcome of the hypothesis tests. It assures that these factors do not confound the findings. External validity conversely, refers to how the research can be generalized, that is, the ability of its inferences to be validly extended from the

specific environment in which the study is carried out to comparable “real world” circumstances.

Secondary data has its own constraints, in fact it is gullible to postulate that this type of data is free from mistakes and errors (Maxwell, 1996). A researcher relying on secondary data should therefore be concerned about the validity, reliability, standing of data and information, and the source of data biasness. Validity issues should be dealt with since as it increases the legitimacy of the conclusions drawn thereafter from an analysis of the data is brought to question (Maxwell, 1996).

Construct validity try to find consensus among the perceptions conveyed by the study (constructs) and precise quantifying techniques that the researcher chooses to adopt. Construct validity involves the identification of data constructs which if manipulated precisely captures the concepts of performance, board structure, firm characteristics and CEO tenure. Literature review enabled the researcher to attain this in addition to adopting standard definitions of these variables in empirical studies. Content validity concerns was solved through this method (Maxwell, 1996).

Prior theoretical and empirical research studies in the area informed the choice of study variables to ensure that they are adequate to test the study hypothesis. A pilot study involving three financial institutions was done to test and if need be refine the data collection instrument. To increase likelihood of external validity, the sample was stratified by selected variables (Maxwell, 1996).

3.8 Operationalization and Measurement of Variables

Operationalization is the process of developing operational definitions of the variables that are contained within a quantitative research study. An operational definition provides an explicit specification of the variable in such a way that its measurement becomes possible (Sekaran, 1992). The variables in this study, namely firm performance, board structure, CEO tenure and firm characteristics were operationalized in accordance with previous studies.

3.8.1 Dependent Variable: Firm Performance

Empirical evidence provides several measures of performance and the study adopted canonical correlation to select measures of performance to be used in further analysis. Tobin's Q and ROA are the two most widely adopted performance indicators in most governance research. Most studies have therefore, tried to adopt a blend of both the market and accounting measures. However, in emerging markets, most companies are not listed on the securities market and, thus, the market values and Tobin's Qs of these firms are not available.

Empirical evidence in most cases use security market returns and profitability accounting ratios to distinguish non-performing institutions from those whose performance is good (Faleye et al., 2011). This choice of performance variables is derived from the main aim that institutions exist to benefit equity holders, and this ultimately leads to the rationalization of the choice of market values as a superior measure of institutional performance. Other studies, however, use profitability and security market return as a means of measuring institutional performance (Jung et al., 2014). The company annual financial reports are regarded as useful in directing and monitoring the decisions of members of the board and other employees. The study therefore used ROA and Revenue Growth Rate to measure performance. Consistent

with Rashid and Lodh (2008), the research computed ROA using EBIT as scaled by book value of total assets.

3.8.2 Independent Variable: Board Structure

The study used multi variables to represent board structure. This comprised of size, composition, activity, diversity, CEO Duality, and type. Board size was adopted because it has several consequences of how the board functions and hence performance of the organizations (Coles et. al., 2008). Board size was defined as the number of board members. Large BODs are presumed as having board members possessing varied educational qualifications and work experience and skills in addition to possessing numerous viewpoints that enhances the quality of decision making by the management. CEO domination of the members of the board is decreased and thus members of the board can exercise their authority in managing the institution in a better manner (Zahra & Pearce, 1989). However, larger boards, usually exhibit more agency conflicts and hence are not in a position to act meritoriously in monitoring the employees (Hermalin & Weisbach, 2000).

Board independence also referred to as composition (BDCOM) in this research referred to the ratio of outsiders or independent members of the BoD, who are not involved in the operations of the institutions, in line with the study by Johl et al (2015). CEO duality is where the board chairperson occupies the CEO position too. In line with several studies including Daily and Dalton (1994) CEO duality was a binary and described as a variable of the CEO duality, which was equal to zero if the CEO position was held by same person as the chairman, otherwise one. The study also introduced three other variables; the board activity, which was measured with the number of board meetings in a year; board diversity being the ratio of female board

members; and board type, defined as type 1, 2 and 3 denoting whether the board members own equity shares or not as explained in chapter 1 as they are also likely to impact performance.

3.8.3 Moderating Variable: Firm Characteristics

Drawing from a review of related literature (Afzalur, 2011), firm characteristics was included as the moderating variable for this study. Three measures were adopted to denote firm characteristics. In line with the literature (Afzalur, 2011), the size of a firm was adopted as the moderating variable because size leads to economies of scale and thus better performance. The size of the firm (SIZE) was operationalized by natural logarithm of total assets in this study. Stock market listing was adopted as the second measure. Listed firms should have some operational advantages and better governance thus better performance (Afzalur, 2011). Consistent with Elsayed (2007), this study also considered ownership structure as a moderating variable so as to determine the influence of ownership structure on board structure and performance of organizations. Ownership structure was operationalised by checking whether a firm is state owned or privately owned.

3.8.4 Intervening Variable: CEO Tenure

Sometimes variables exist in a cause-effect chain, for instance, the association among an independent and dependent variable may not be obvious or direct unless some other variable (intervening) change. The study adopted CEO tenure as the intervening variable, this was defined as the number of years since the CEO appointment. Table 3.2 provides detailed variable definition and operationalization. Empirically, CEO tenure explains the nature and degree of the relationship among board structure and organizational performance. This is consistent with Murphy and Zimmerman (1993) in their study on CEO tenure and institutional performance.

Table 3.2: Operationalization of Variables

Variable	Type of Variable	Indicator	Operationalization	Literature
Board Structure	Independent	Board Size (BS)	The natural logarithm of the total number of the members of the board-NBM	Coles et al, 2008 Zahra and Pearce, 1989
		Board Composition (BC)	Ratio of non-executive board members to the total members of the board-NIDOB	Kamaara, Gachunga and Waititu (2013); Rechner and Dalton, 1989; Johl et.al (2015).
		CEO Duality (CEOD)	Dummy: Value zero (0) where CEO duality exists & one (1) for otherwise. -CEOCP	Daily and Dalton (1994).
		Board Activity (BA)	Number of meetings and other activities-NBMeet	Letting, Aosa and Machuki (2012)
		Board Diversity (BD)	Proportion of female members of the board to the total board members -NfmDOB	Letting, Aosa and Machuki (2012)
		Board Type (BT)	Type 1, 2 and 3 as defined in the study-NDOES-PDTEH	(Teresa & Joseph, 2011).
Firm Performance	Dependent	Return on Assets (ROA)	EBIT/TA	Rashid and Lodh (2008)
		Revenue Growth Rate (RGR)	(Current Revenue - previous year's revenue)/ previous year's revenue	
CEO Tenure (CEOT)	Intervening	Years	Number of years since appointment of a CEO-NYSCEOA	Murphy and Zimmerman (1993)
Firm Characteristics	Moderating	Firm Size 1	The natural logarithm of total assets	Barako et al., 2006
		Listed firms (LIS)	Dummy: 1: if institution is listed on NSE; = 0: Otherwise	Letting, Aosa and Machuki (2012)
		Ownership structures (OWN)	Dummy: 1: if firm is state owned; = 0: otherwise	Elsayed (2007); Ongeti (2014)

Author, 2017

3.9 Data Analysis

Once data were collected, they were prepared, analysed, organized and used to report the findings as well as results of tests of hypotheses. In getting the data ready for analysis, data editing, standardization, coding and categorization was undertaken. Descriptive statistics which included measures of central tendency were computed. Standard deviation was equally used to explore dispersion in the underlying data. In addition, coefficient of variation, kurtosis and skewness were also computed, for the purpose of confirming normality of the data. All the variables of the research were described, and the salient characteristics of the data collected provided, this enabled the researcher to conduct further data analyses (Mugenda & Mugenda, 2003).

Moderated and stepwise regression models and correlation analysis were adopted to investigate the association among board structure, CEO tenure, firm characteristics, and institutional performance using ROA initially and then Sales growth. Some variables were denoted in logarithm form since they are measured in millions while others were denoted as rates where the values were also high and the rest as absolute numbers. The usage of logarithm was to enhance standardization of values in the model.

Correlation analysis was adopted in measuring how strong the association among the variables of the study was; board structure and performance; CEO tenure and performance; institutional characteristics and performance; as well as the relationship among all the variables taken together. Pearson's product moment coefficient of correction (R), was used to quantify the nature and magnitude of association among the variables. Simple, Multivariate and hierarchical stepwise regression analysis were used to test the hypotheses at 95 percent level of confidence. Correlation analysis helped in establishing the suitability of the data for

regression analysis by ensuring that the dependent and independent variables have a statistically significant relationship while at the same time controlling for multicollinearity problem which occurs if any two independent variables are highly correlated (Cooper & Schindler, 2003). Since the scale of most of the data collected was interval or ratio, the nature and magnitude of the relationships among the various variables of the study and testing of the hypothesized relationships was done through the Pearson's Product Moment Correlation.

The model tested hypothesis 1 together with the sub hypotheses as follows;

$$ROA_{i,t}=\alpha+\beta_1 BS_{i,t}+\beta_2 BC_{i,t}+\beta_3 CEOD_{i,t}+\beta_4 BA_{i,t}+\beta_5 BD_{i,t}+\beta_6 BT_{i,t}+\varepsilon_{i,t} \quad \text{3.1.1}$$

$$RGR_{i,t}=\alpha+\beta_1 BS_{i,t}+\beta_2 BC_{i,t}+\beta_3 CEOD_{i,t}+\beta_4 BA_{i,t}+\beta_5 BD_{i,t}+\beta_6 BT_{i,t}+\varepsilon_{i,t} \quad \text{3.1.2}$$

$$ROA_{i,t}=\alpha+\beta_1 BS_{i,t}+\varepsilon_{i,t} \quad \text{3.1.3}$$

$$RGR_{i,t}=\alpha+\beta_1 BS_{i,t}+\varepsilon_{i,t} \quad \text{3.1.4}$$

$$ROA_{i,t}=\alpha+\beta_1 BC_{i,t}+\varepsilon_{i,t} \quad \text{3.1.5}$$

$$RGR_{i,t}=\alpha+\beta_1 BC_{i,t}+\varepsilon_{i,t} \quad \text{3.1.6}$$

$$ROA_{i,t}=\alpha+\beta_1 CEOD_{i,t}+\varepsilon_{i,t} \quad \text{3.1.7}$$

$$RGR_{i,t}=\alpha+\beta_1 CEOD_{i,t}+\varepsilon_{i,t} \quad \text{3.1.8}$$

$$ROA_{i,t}=\alpha+\beta_1 BA_{i,t}+\varepsilon_{i,t} \quad \text{3.1.9}$$

$$RGR_{i,t}=\alpha+\beta_1 BA_{i,t}+\varepsilon_{i,t} \quad \text{3.1.10}$$

$$ROA_{i,t}=\alpha+\beta_1 BD_{i,t}+\varepsilon_{i,t} \quad \text{3.1.11}$$

$$RGR_{i,t}=\alpha+\beta_1 BD_{i,t}+\varepsilon_{i,t} \quad \text{3.1.12}$$

$$ROA_{i,t}=\alpha+\beta_1 BT_{i,t}+\varepsilon_{i,t} \quad \text{3.1.13}$$

$$RGR_{i,t}=\alpha+\beta_1 BT_{i,t}+\varepsilon_{i,t} \quad \text{3.1.14}$$

Where, ROA is Return on assets.

Board Structure is represented by; BS which is Board Size; BC is Board Composition; CEOD is Chief Executive Officer Duality; BA is Board Activity; BD is Board Diversity; and BT is Board Type.

RGR is Revenue Growth Rate

The model tests hypothesis two as follows;

$$ROA_{i,t}=\alpha+\beta_1 BS_{i,t}++\beta_2 BC_{i,t}+\beta_3 CEOD_{i,t}+\beta_4 BA_{i,t}+\beta_5 BD_{i,t}+\beta_6 BT_{i,t}+\beta_7 CEOT_{i,tt}+\varepsilon_{i,t} \quad \textbf{3.1.15}$$

$$RGR_{i,t}=\alpha+\beta_1 BS_{i,t}++\beta_2 BC_{i,t}+\beta_3 CEOD_{i,t}+\beta_4 BA_{i,t}+\beta_5 BD_{i,t}+\beta_6 BT_{i,t}+\beta_7 CEOT_{i,t}+\varepsilon_{i,t} \quad \textbf{3.1.16}$$

Where, CEOT is Chief Executive Officer Tenure while the rest are as defined in Hypothesis one above.

The model tested hypothesis three as follows;

$$ROA_{i,t}=\alpha+\beta_1 BS_{i,t}++\beta_2 BC_{i,t}+\beta_3 CEOD_{i,t}+\beta_4 BA_{i,t}+\beta_5 BD_{,t}+\beta_6 BT_{i,t}+\beta_7 SIZE1_{i,tt}+\beta_8 LIS_{i,t}+\beta_9 OWN_{i,t}+{}_{i,t} \quad \textbf{3.1.17}$$

$$RGR_{i,}=\alpha+\beta_1 BS_{i,t}++\beta_2 BC_{i,t}+\beta_3 CEOD_{i,t}+\beta_4 BA_{i,t}+\beta_5 BD_{i,t}+\beta_6 BT_{i,t}+\beta_7 SIZE1_{i,tt}+\beta_9 LIS_{i,t}+\beta_{10} OWN_{i,t}+{}_{i,t} \quad \textbf{3.1.18}$$

Where, Firm Characteristics is represented by SIZE, LIS and OWN being Firm Size, Stock exchange listing and Ownership Structure respectively. The other variables are as defined in hypothesis one above.

The model tested hypothesis four as follows;

$$ROA_{i,t}=\alpha+\beta_1 BS_{i,t}++\beta_2 BC_{i,t}+\beta_3 CEOD_{i,t}+\beta_4 BA_{i,t}+\beta_5 BD_{i,t}+\beta_6 BT_{i,t}+\beta_7 CEOT_{i,tt}+\beta_8 SIZE1_{i,tt}+\beta_9 LIS_{i,t}+\beta_{10} OWN_{i,t}+{}_{i,t} \quad \textbf{3.1.19}$$

$$RGR_{i,}=\alpha+\beta_1 BS_{i,t}++\beta_2 BC_{i,t}+\beta_3 CEOD_{i,t}+\beta_4 BA_{i,t}+\beta_5 BD_{i,t}+\beta_6 BT_{i,t}+\beta_7 CEOT_{i,tt}+\beta_8 SIZE1_{i,tt}+\beta_9 LIS_{i,t}+\beta_{10} OWN_{i,t}+{}_{i,t} \quad \textbf{3.1.20}$$

Where, the variables are operationalized and defined as per table 3.2 above.

α denotes the intercept, β denotes the regression coefficient and ε denotes the error term

Multiple regression analysis was used in analysis of the collected data. Parametric and non-parametric methodologies were used. Non-parametric (or non-distribution) inferential statistical methods are mathematical procedures to test statistical hypothesis which, unlike parametric statistics, do not make any assumptions about the probability distributions of the assessed variables. Tests of goodness of fit including the adjusted coefficient of determination ($\bar{R}^2$), t-tests, standard error of estimate (S_e) and ANOVA were also done. The regression was performed in the form of a panel; several panel regression options, fixed effects, random effects, ordinary least squares (OLS), generalized least squares (GLS), and dynamic panel were performed. Because OLS makes no use of the information contained in the unequal variability exhibited by the predictor and to ensure that the analysis produces the best linear estimators GLS was also used. The General Estimation Equation (GEE) procedure was used to extend the generalized linear model (GLM) to allow for repeat measurements. This allowed analysis of the variables of the study over the ten-year period in the research.

Multiple linear regression hierarchy model was adopted to evaluate the nature of the association among variables based on the hypothesis of the study with a level of significance of 5%. In this method, each independent, moderating and intervening variable was analysed one at a time and its value evaluated. The coefficient of determination (R^2) which provide the portion of variance in the dependent variable explained through the predictor variables was calculated. Variables are only retained in the model if the addition enhances value to the model, but all other constructs within the model are then re-tested to determine whether they are still contributing

to the success of the model. Variables are removed in case they no longer contribute significantly to the model. The technique ensures that only minimum possible set of predictors are part of the model (Sekaran, 1992). Statman (2000) used similar analysis in their study. Reliability tests on the regression models were then calculated to establish the strength of the association among the variables. These tests included multicollinearity tests, adjusted coefficient of determination (adjusted R2), F-tests and t tests. The F statistic and *p*-value were used to establish the robustness and significance of the overall model. The *t* statistic and *p*-value were used to establish the individual significance of the study variables. In both cases if the p-value was less than 0.05 the null hypothesis would be rejected and if the p-value was greater than 0.05 the null hypothesis would not be rejected. Table 3.3 summarizes the statistical tests of the hypotheses in the study.

This study followed four steps to test the mediating effects of firm characteristics on the association among board structure and performance in line with the process advocated by Baron and Kenny (1986). In step one of the mediation model, regression was performed to evaluate the association among firm performance (dependent variable) and board structure (independent variable) while ignoring firm characteristics (the mediator).

In the second step of the mediation analysis, regression was performed to assess the association among CEO tenure (intervening variable) and board structure (independent variable) ignoring the dependent variable (firm performance). In the third step of the mediation analysis, regression was performed to assess the association among CEO tenure (intervening variable) and firm performance (dependent variable) while ignoring the independent variable (board structure). The fourth step of the mediation analysis was carried out to assess the association among firm performance (dependent variable), CEO tenure (intervening variable) and board structure (independent variable). Mediation (intervention) occurs if board structure predicts firm performance, board

structure predicts firm characteristics, firm characteristics predicts firm performance and still board structure predicts firm performance when firm characteristics is in the model.

3.10 Diagnostic Tests

Several diagnostics data tests such as normality, independence, linearity, multicollinearity and homogeneity were performed to determine the suitability of the data analysis method chosen prior to commencing data analysis. Normality test of the data was established using Anderson-Darling test and Q-Q plots. Linearity was tested using ANOVA. Independence was evaluated using the Durbin-Watson test. Multicollinearity between variables was tested using Variance Inflation Factors (VIF). Homogeneity of study variables was tested using Levene test.

Anderson-Darling test was adopted in testing for normality, this normally has the ability to detect deviation from normality attributed to either skewness (asymmetry) or kurtosis or both. Their statistics range between zero and one, and the values above 0.05 provides evidence that the data is normal (Razali & Wah, 2011). Normality test explores in detail what it means for data to be normally distributed in normal distribution, but in general it means that the graph of the data has the shape of a bell curve. Such data is symmetric around its mean and has kurtosis equal to zero.

Linearity was tested using ANOVA that calculates the linear and nonlinear elements of a pair of variables. Nonlinearity is significant if the F value for the nonlinear element is less than 0.05. The independence of error terms, that indicates that the data is independent, was evaluated using the Durbin-Watson test, whose statistics range between zero and four. Independent observations are confirmed if the values lie between 1.5 and 2.5. Homoscedasticity was tested using the homogeneity test of Levene's variance. If Levene's statistic is significant at $\alpha = 0.05$,

the data sets do not have the same variances. Levene test measures whether the variance between dependent and independent variables is the same. Therefore, it is a check if the spread of the scores (reflected in variance) in the variables is roughly the same. Variance Inflation Factors (VIF) and tolerance, which is a reciprocal of VIF were used in testing for multicollinearity. This is a condition where predictors in multiple regression are correlated to a great extent, making it difficult to determine the actual contribution of their predictors to variance in the dependent variable. Multicollinearity intake has a maximum VIF value of 10 (Garson, 2012).

The performed diagnostic tests are based on a series of assumptions. If the criteria for the test were not met, the investigator included information with regard to the violation of the assumption in the analysis of the findings and designed an appropriate analysis for the data. Nevertheless, agreement exists among researchers that violations of the assumptions do not severely upset the possibilities required to enable statistical based decision-making, particularly where the number of cases per cell is the same (Horton, 1978).

Table 3.3: Summary of Research Objectives, Hypotheses, Analytical Methods, Statistical tests and Interpretation of Results

Objective	**Hypothesis**	**Type of Analysis**	**Interpretation**
To determine the influence of board structure on performance of financial institutions in Kenya.	**H_{o1}**: Board structure does not significantly affect performance of financial institutions in Kenya. Ho11: There is no significant effect of board size on performance of financial institutions in Kenya. Ho12: There is no significant effect of board type on performance of financial institutions in Kenya. Ho13: There is no significant effect of board composition on performance of financial institutions in Kenya. Ho14: There is no significant effect of CEO duality on performance of financial institutions in Kenya. Ho15: There is no significant effect of board activity on performance of financial institutions in Kenya. Ho16: There is no significant effect of board diversity on performance of financial institutions in Kenya.	• Stepwise regression analysis • Hierarchical regression analysis • Pearson correlation coefficient • Goodness of fit tests (e.g. T-test)	• Relationship exists if at least one of the regression coefficients is significant. • Pearson correlation coefficient is significant
		• Engle-Granger • OLS Regression • Unit root tests • GEE	• Co integrated series share a common stochastic trend. If non-stationary series *x* and *y* are both integrated of same order and there is a linear combination of them that is stationary, they are called co integrated series.

To determine the intervening influence of CEO tenure on the relationship among board structure and performance of financial institutions in Kenya.	**H_{o2}**: CEO tenure does not significantly intervene in the relationship between board structure and performance of financial institutions in Kenya.	• Stepwise regression analysis • Pearson correlation coefficient • Goodness of fit tests (e.g. T-test) • Hierarchical regression analysis	• Relationship exists if Pearson correlation coefficient is significant
To examine the moderating influence of firm characteristics on the association among board structure and performance of financial institutions in Kenya.	**H_{o3}**: Firm characteristics does not significantly moderate the relationship between board structure and performance of financial institutions in Kenya.	• Baron and Kenny Approach • Stepwise regression analysis • Pearson correlation coefficient • Goodness of fit tests (e.g. T-test) • Engle-Granger • Hierarchical regression analysis	• Relationship exists if at least one of the regression coefficients is significant. • Pearson correlation coefficient is significant • Co integrated series share a common stochastic trend. If non-stationary series *x* and *y* are both integrated of same order and there is a linear combination of them that is stationary, they are called co integrated series.
To ascertain the joint effect of board structure, CEO tenure and firm characteristics on performance of financial institutions in Kenya.	**H_{o4}**: There is no significant joint effect of board structure, CEO tenure and firm characteristics on performance of financial institutions in Kenya.	• Stepwise regression analysis • Pearson correlation coefficient • Goodness of fit tests (e.g. T-test) • Hierarchical regression analysis	• Relationship exists if at least one of the regression coefficients is significant. • Pearson correlation coefficient is significant

Author, 2017

3.11 Chapter Summary

This chapter focussed on the research methodology used in this research. The chapter presented the research philosophy and elaborated on the positivistic approach that the study employed. Further the chapter explained that this study used both a correlational descriptive survey research design and cross-sectional survey design. Correlational descriptive research design is used to describe relationships, as they exist, between specific variables. A correlational study is an inquiry to know the relationship between variables associated with a problem. The choice was guided by the purpose of the study which was to examine the association and the nature among the various variables in the study. The population of the study was equally described. The chapter further focused on the operationalization of study variables giving a detailed description of how the concepts were disaggregated for measurement. All the variables of the study were operationalized along evidence in literature. This operationalization has been presented in Table 3.2. Table 3.3 presents the summary of objectives, hypotheses, summarizes the sample statistic and interpretation of results. The next chapter (Chapter Four) presents preliminary data analysis and findings.

CHAPTER FOUR

DESCRIPTIVE DATA ANALYSIS AND FINDINGS

4.1 Introduction

The broad objective of this research was to determine whether board structure, affects performance of financial institutions in Kenya and whether there exists intervening and mediating influence of the CEO tenure and firm characteristics on this relationship. To achieve this objective, four specific objectives were set, and corresponding hypotheses formulated. The specific objectives included; to examine the influence of board structure on performance of financial institutions in Kenya; to determine the intervening influence of CEO tenure on the association among board structure and performance of financial sector firms in Kenya; to examine the moderating effect of firm characteristics on the association among board structure and performance of financial institutions in Kenya; and to ascertain the joint effect of board structure, CEO tenure and firm characteristics on performance of financial institutions in Kenya.

The chapter presents preliminary findings of the study on the basis of which further analyses will be undertaken to test the study hypotheses. It lays focus on various tests of data that were gathered as well as the manifestations of the research variables among the studied organizations. Using descriptive and inferential statistics, this chapter provides the premise on which further statistical operations and analyses will be carried out to test the study hypotheses. Chapter four is presented as follows: In section 4.2, the preliminary description of the data, performance and board structure variable indicators are presented; in section 4 .3, the tests of statistical assumptions results are presented; in section 4.4 the descriptive statistics are presented. This included measures of central tendency for all the study variables; section 4.5,

presents correlation analysis for the variables of the study; and section 4.6 provides the chapter summary.

4.2 Performance and Board structure indicators

The main objective was to examine the association among board structure and performance, and therefore, the researcher sought to begin by isolating the variables of performance and board structure from a list of all the variables determined from the literature and continues to use the identified variables to examine the bidirectional association between board structure and performance of firms. The data analyzed was for a period of 10 years, for each company, from 2006 to 2015. Regression and general linear models were used to determine whether board structure affects firm performance or firm performance affects board structure and what is the mediating and intervening effect of firm characteristics and CEO tenure respectively.

Board structure variables included board size, board activity, board diversity, board type, board independence and CEO duality. This were operationalized in line with previous studies as described in chapter three. The study focused on financial performance and this was operationalized through return on assets and revenue growth.

4.3 Diagnostic Test Results

The study undertook diagnostic tests on the data. The tests included, normality, linearity, independence, homogeneity and collinearity. Normally, statistical tests performed are based on a number of assumptions. The discussion from the results includes information about the violation of the assumption where the criteria for normality are not satisfied. Horton (1978) agrees that where these assumptions are violated this does not necessarily affect seriously the chances required for statistical decision making, particularly where the cases available in each

cell are equal. Additionally, the F test is a solution to non-normality, if the non-normality is due to skewness contrary to outliers. The diagnostic test is undertaken after removing the outliers to improve the normalness of the variable, so as not to lose the information. The variables of the study, including ROA, growth in revenue, total assets, board size, board composition, board activity, board diversity, board type as well as CEO tenure were tested for normality as a covariate level. Multicollinearity between variables was tested using Variance Inflation Factors (VIF). Homogeneity of study variables was tested using Levene test. Linearity was tested using ANOVA. Independence was tested through the Durbin-Watson test.

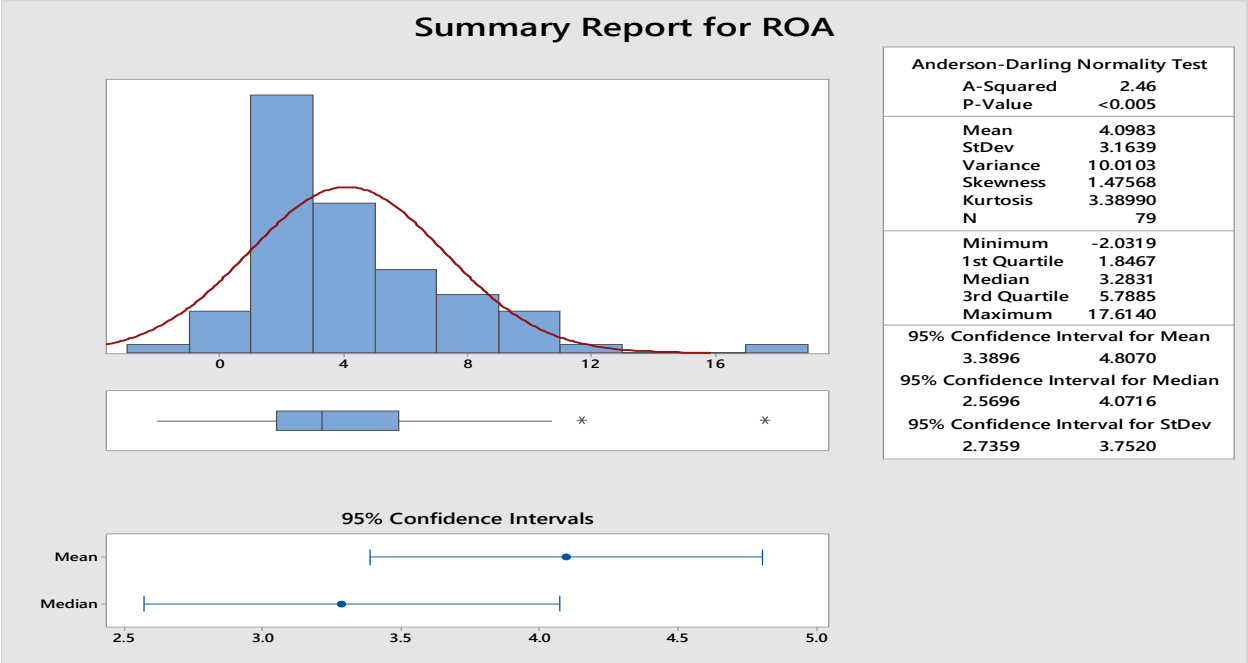
4.3.1 Normality Tests

Testing for normality was done through the Anderson-Darling test which has the power to check for departure from normality as a result of skewness or kurtosis or both. The statistic figures vary from zero to one, and a value higher than 0.05 show that the data is normally distributed (Razali and Wah, 2011). Normality test explores in detail what it means for data to be normally distributed in a normal distribution, but in general it means that the graph of the data has the shape of a bell curve. Such data is symmetric around its mean and has kurtosis equal to zero. In testing for normality and symmetry the study provides tests to determine whether the data meets this assumption.

The p-value is compared to the significance level to determine whether the data do not follow a normal distribution. Statisticians assume a significance level, (α or alpha) of 0.05 as cut of point. A significance level of 0.05 indicates a 5% risk of concluding that the data do not follow a normal distribution when they actually do follow a normal distribution. If P-value $\leq \alpha$, then the data do not follow a normal distribution; and if P-value $> \alpha$, then we cannot conclude the data do not follow a normal distribution.

The study performed normality tests on the data for the study variables including return on assets, growth in revenue and profits before interest and tax, growth in total assets, CEO tenure and board structure variables. The results are presented in figures 4.1 to 4.12.

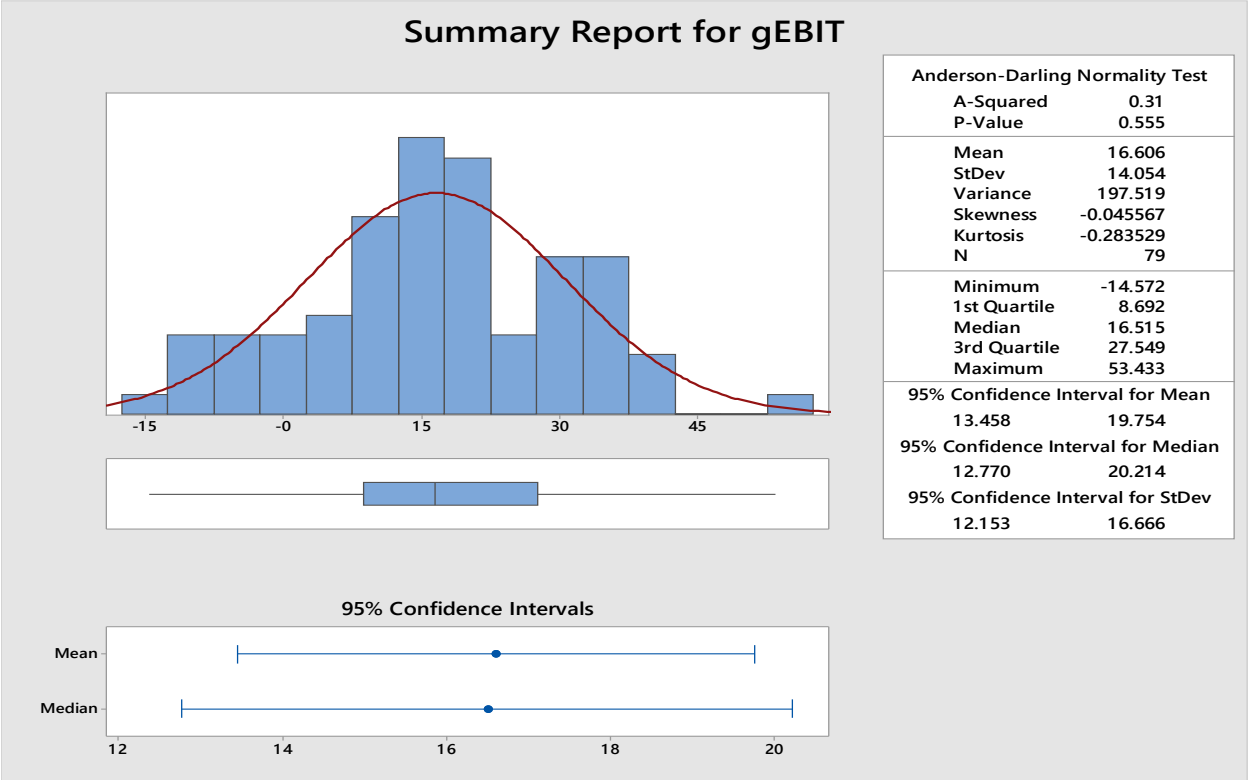
Figure 4.1 Normality Test for Return on Assets (ROA)



Author, 2017

The normality test result on return on assets (ROA) is presented in Figure 4.1. The figure indicates that the average ROA is 4.0983 (95% confidence intervals of 3.3896 and 4.8070). The standard deviation is 3.1639 (95% confidence intervals of 2.7359 and 3.7520). Using a significance level of 0.05, and given that P-value $\leq \alpha$, the data do not follow a normal distribution, the Anderson-Darling normality test (A-Squared = 2.46, P-Value = 0.0005) indicates that the ROA data do not follow a normal distribution.

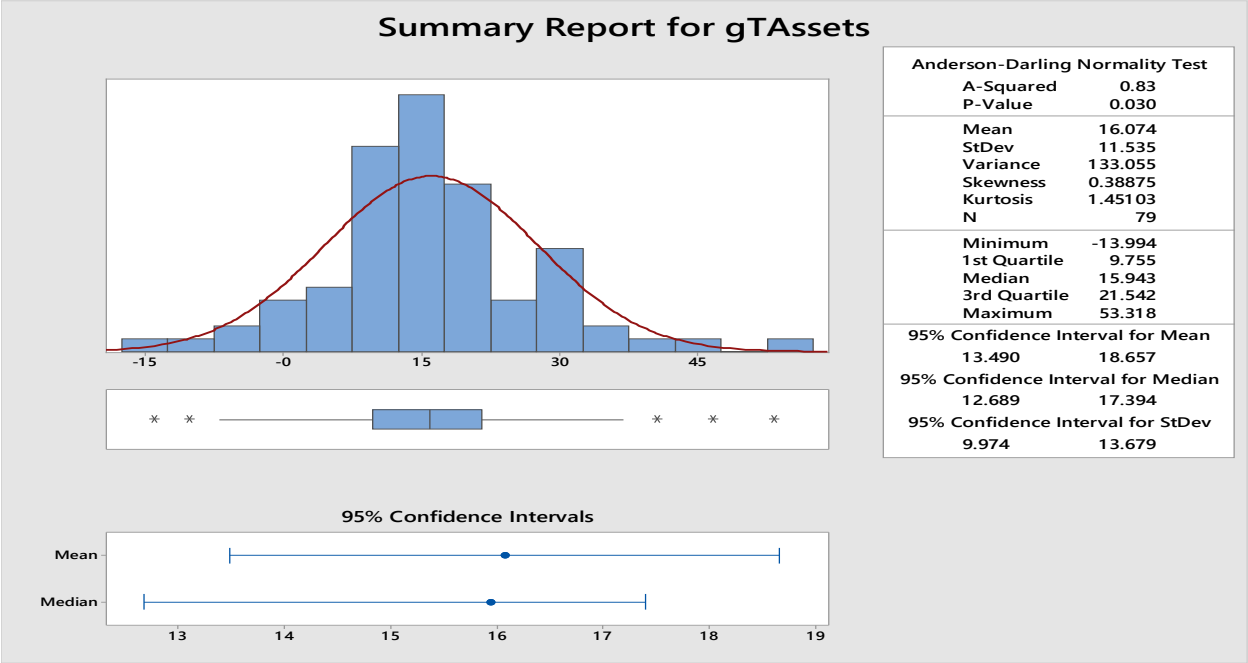
Figure 4.2 Normality Test for Growth in Earnings before Interest and Tax (gEBIT)



Author, 2017

The normality test on earnings before interest and tax are in Figure 4.2. The mean of the growth in earnings before interest and tax (gEBIT) is 16.606 (95% confidence intervals of 13.458 and 19.754). The standard deviation is 14.054 (95% confidence intervals of 12.153 and 16.666). The Anderson-Darling normality test (A-Squared = 0.31, P-Value = 0.555), using a significance level (α) of 0.05, and that P-value > α, then we cannot conclude the data do not follow a normal distribution; therefore, the growth in earnings before interest and tax (gEBIT) followed a normal distribution and thus allowing for use of statistical techniques that require the assumption of normal distribution to be undertaken.

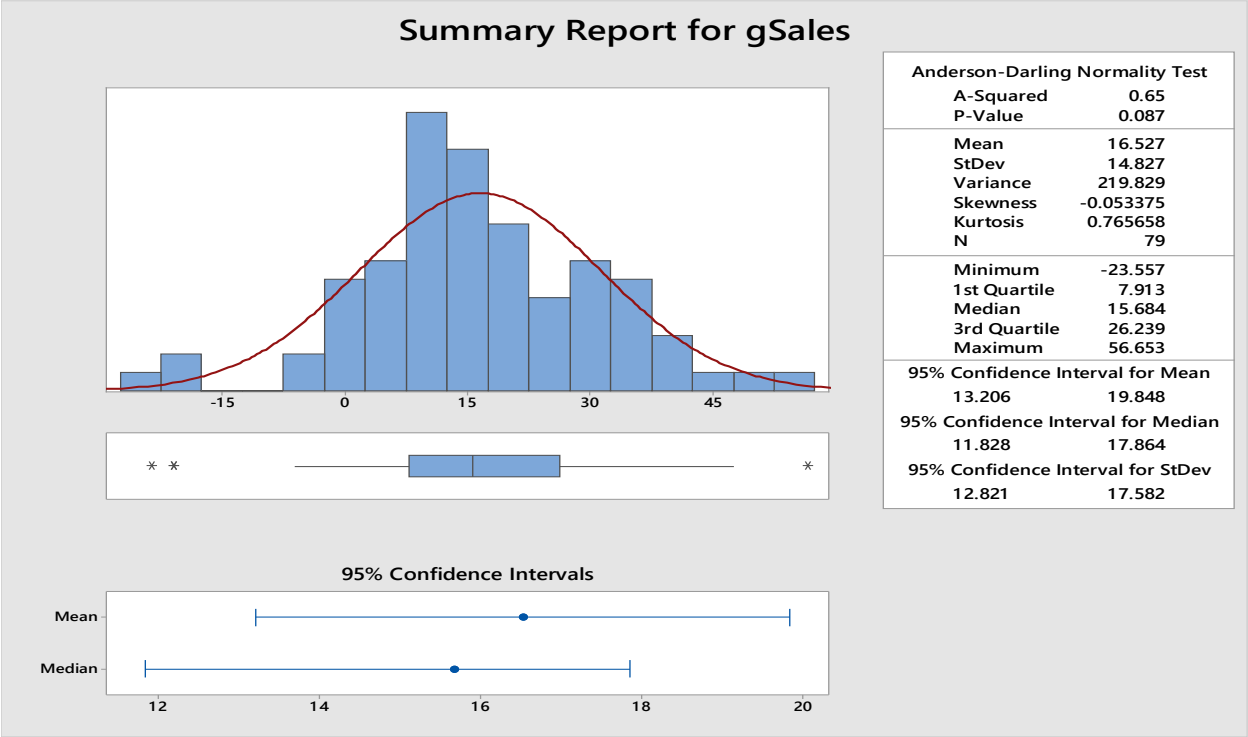
Figure 4.3 Normality Test for Growth in Total Assets (gTAssets)



Author, 2017

The Figure 4.3 present the normality test results for growth in total assets; the mean of the growth in total assets (gTAssets) is 16.074 (95% confidence intervals of 13.490 and 18.657). The standard deviation is 11.535 (95% confidence intervals of 9.974 and 13.679). The Anderson-Darling normality test (A-Squared = 0.83, P-Value = 0.080) show that, using a significance level of 0.05 and given that the P-value > α (0.05), we cannot conclude the data do not follow a normal distribution; and the mean is close to the median, confirming that the growth in growth in total assets (gTAssets) followed a normal distribution, therefore allowing for statistical techniques that require normal data to be undertaken.

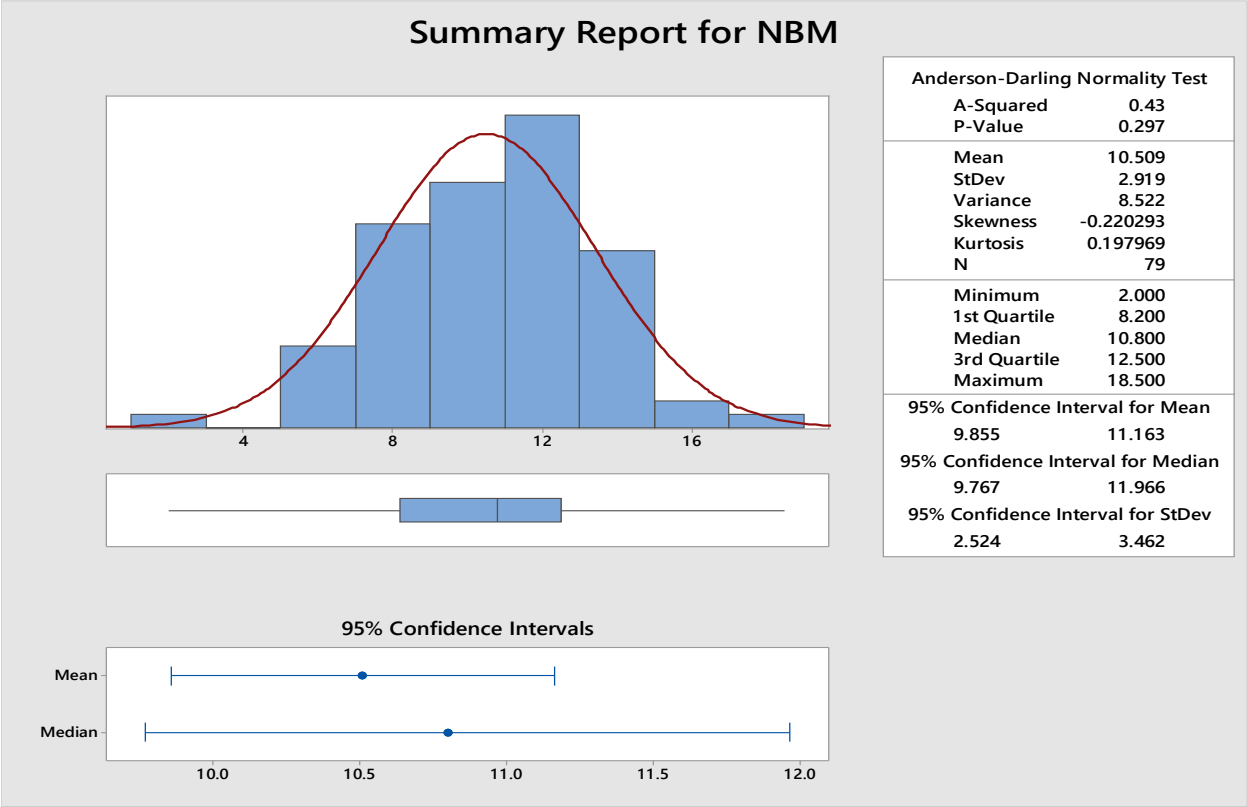
Figure 4.4 Normality Test for Growth in Sales (gSales)



Author, 2017

The Figure 4.4 present the results for normality test for growth in sales. The mean of the growth in sales/revenue (gSales) is 16.527 (95% confidence intervals of 13.206 and 19.848). The standard deviation is 14.827 (95% confidence intervals of 12.821 and 17.582). The Anderson-Darling normality test (A-Squared = 0.66, P-Value = 0.087), show that, using a significance level of 0.05 and given that the P-value > α (0.05): we cannot conclude the data do not follow a normal distribution, and this mean that the growth in sales/revenue (gSales) followed a normal distribution; the mean is also close to the median further confirming the normal distribution. This allows for use of statistical techniques that require the assumption of normal distribution to be undertaken.

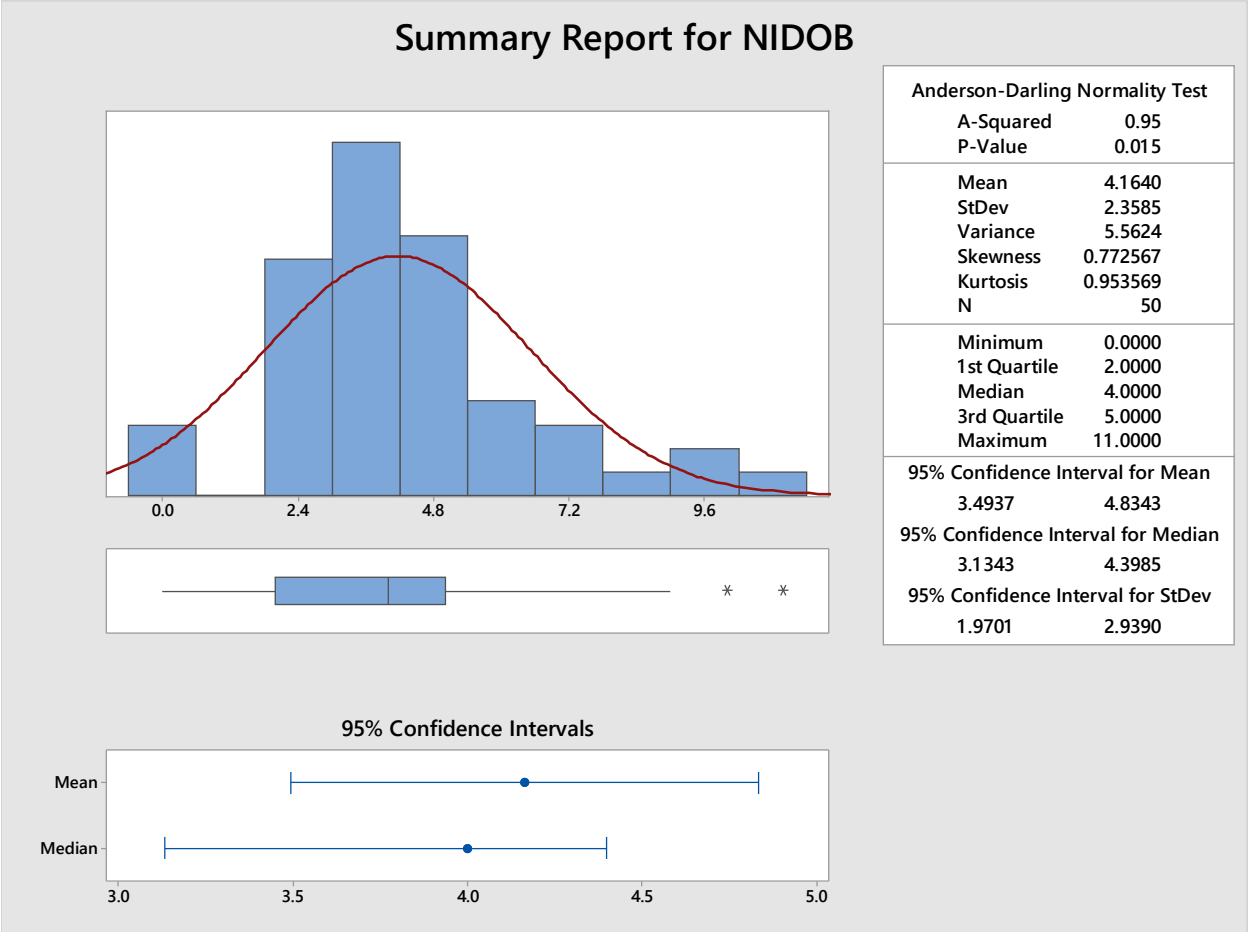
Figure 4.5 Normality Test for Board Size



Author, 2017

Board Size was operationalized using the number of board members (NBM). Figure 4.5 presents the results for normality test for NBM; its mean is 10.509 (95% confidence intervals of 9.855 and 11.163). The standard deviation is 2.919 (95% confidence intervals of 2.524 and 3.462). The mean is also close to the median; and Anderson-Darling normality test (A-Squared = 0.43, P-Value = 0.297), using a significance α level of 0.05 and given that P-value > α (0.05), we cannot conclude the data for this variable do not follow a normal distribution implying that the data for board size follow a normal distribution. This allows for the use of statistical analysis techniques that require the assumption of normal distribution.

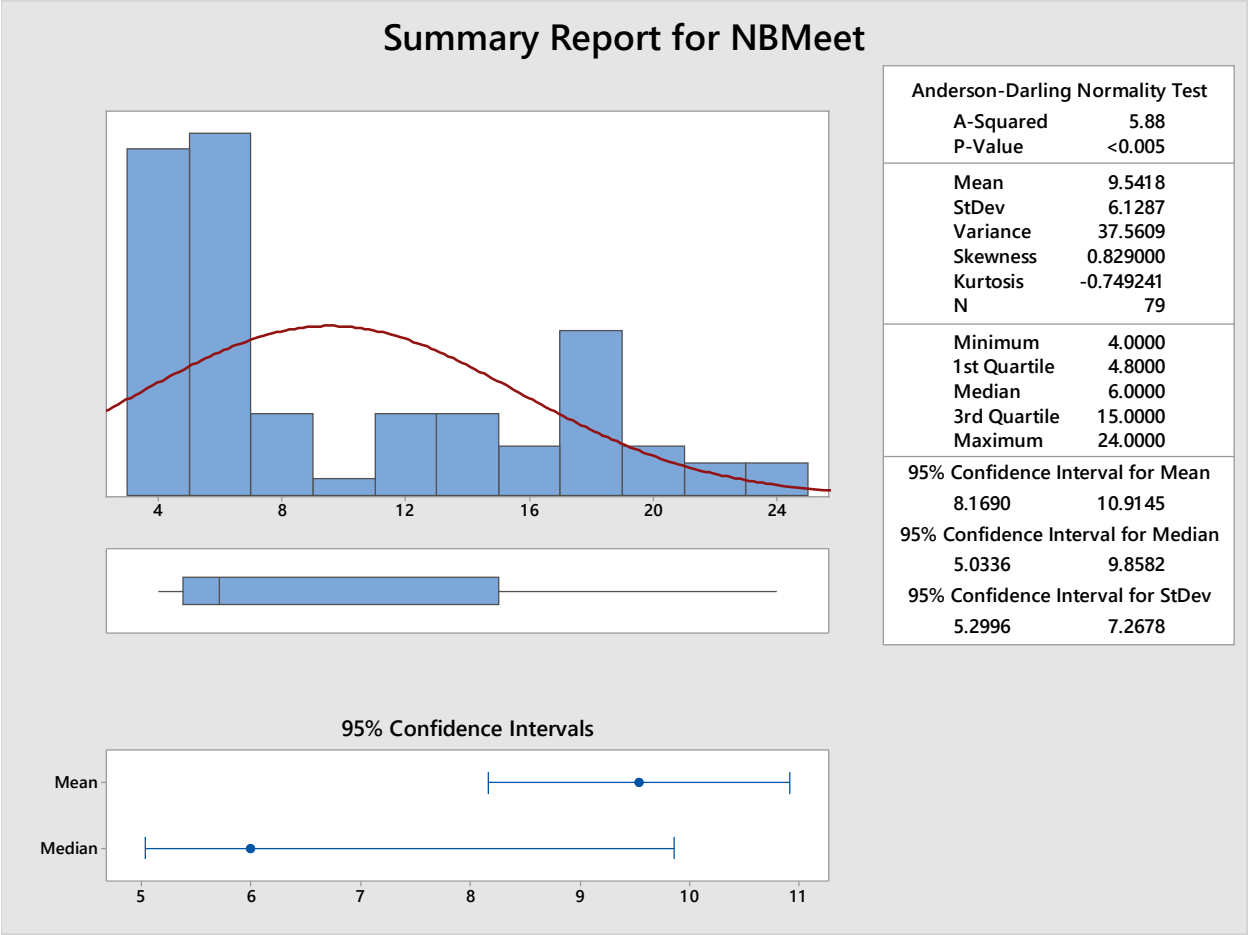
Figure 4.6 Normality Test for Board Composition



Author, 2017

The study operationalized board independence using the number of non-executive directors on the board (NIDOB). Figure 4.6 provides the results for normality test for the number of non-executive directors on the board and shows that the mean is 4.1640 (95% confidence intervals of 3.4937 and 4.8343). The standard deviation is 2.3585 (95% confidence intervals of 1.9701 and 2.9390. The Anderson-Darling normality test (A-Squared = 0.95, P-Value = 0.015), tested at a significance α level of 0.05 and given that the P-value ≤ α(0.05), confirm that the data is not normally distributed, indicating that the NIDOB did not follow a normal distribution.

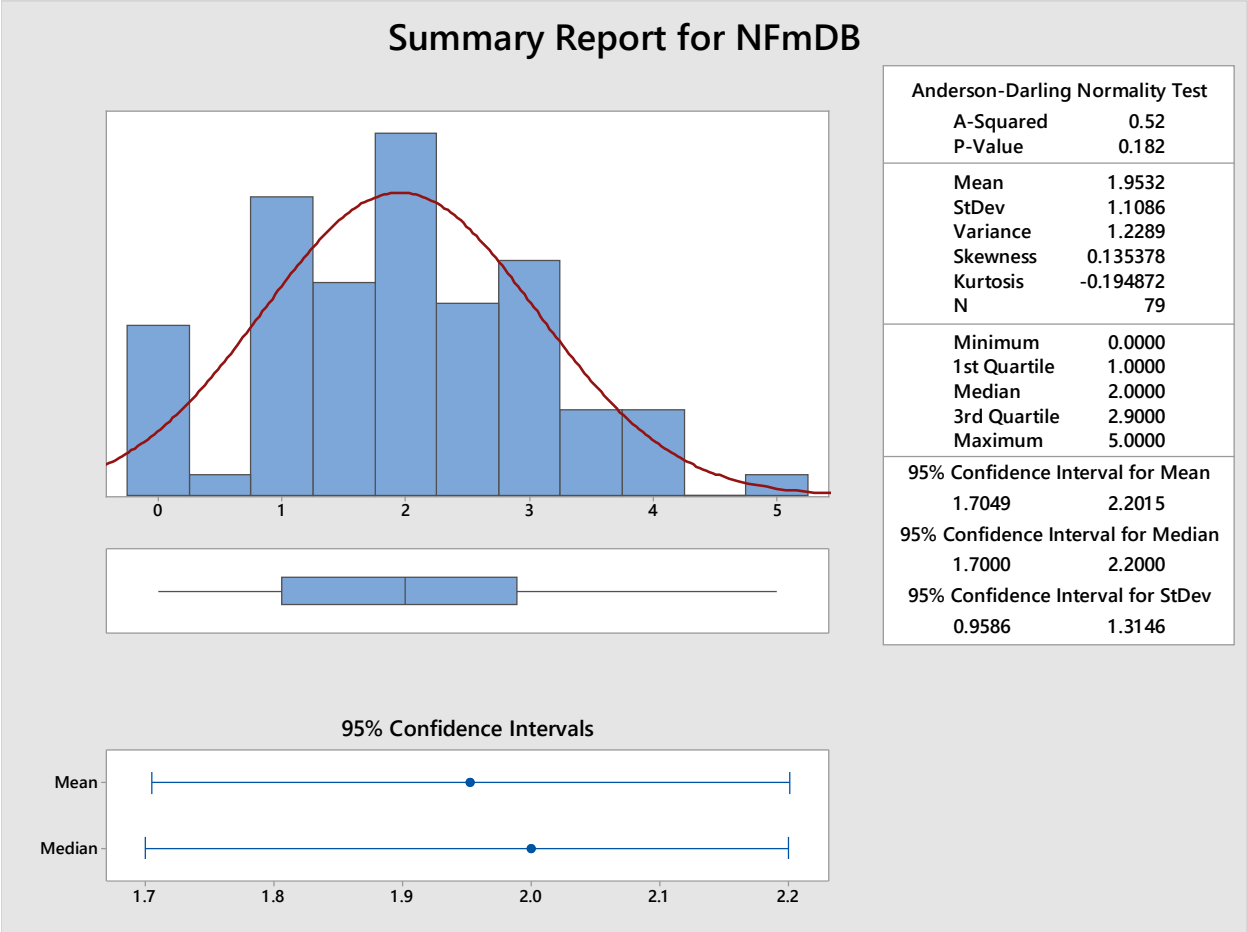
Figure 4.7 Normality Test for Board Activity



Author, 2017

The study operationalized board activity using the number of board meetings and other activities involving directors (NBMeet) in a year. Figure 4.7 presents the results for normality test for number of meetings by the members of the board and other activities of the board and shows that the mean is 9.5418 (95% confidence intervals of 8.1690 and 10.9145) and the median is 6.000, indicating that these two statistics are far apart. The standard deviation is 6.1287 (95% confidence intervals of 5.2996 and 7.2678. Using the Anderson-Darling normality test (A-Squared = 5.88, P-Value = <0.005), at a significance level of 0.05, and given that the P-value $\leq \alpha$ (0.05), the data do not follow a normal distribution.

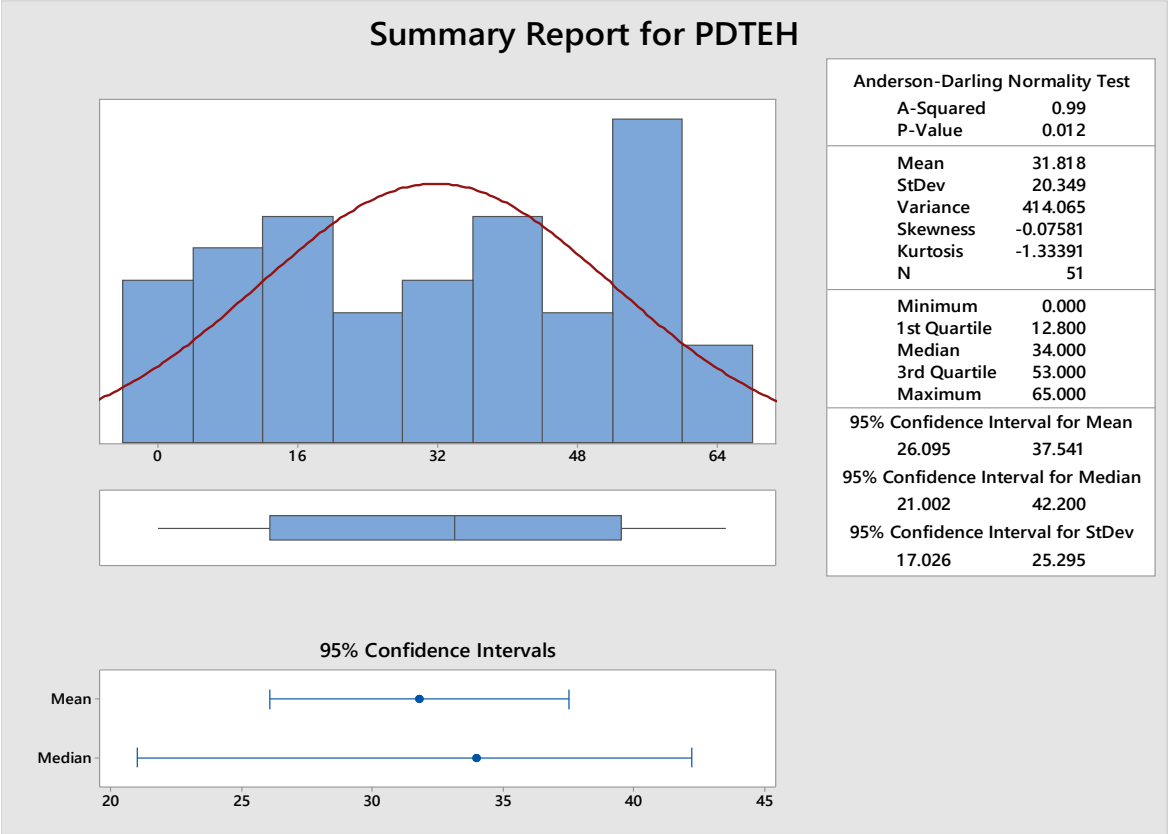
Figure 4.8 Normality Test for Board Diversity



Author, 2017

The study operationalized board diversity using the ratio of female directors on the board (NFmDB). Figure 4.8 presents the results for normality test for the number of female board members. The mean is 1.9532 (95% confidence intervals of 1.7049 and 2.2015) whereas the median is 2.000. The standard deviation is 1.1086 (95% confidence intervals of 0.9586 and 1.3146). The Anderson-Darling normality test (A-Squared = 0.52, P-Value = 0.182), using a significance level of 0.05, and given that the P-value > α (0.05): we cannot conclude the data do not follow a normal distribution. Therefore, the Anderson-Darling normality test (A-Squared = 0.52, P-Value = 0.182) confirm that the NFmDB followed a normal distribution. Therefore, allows for use of statistical techniques that require the assumption of normal distribution.

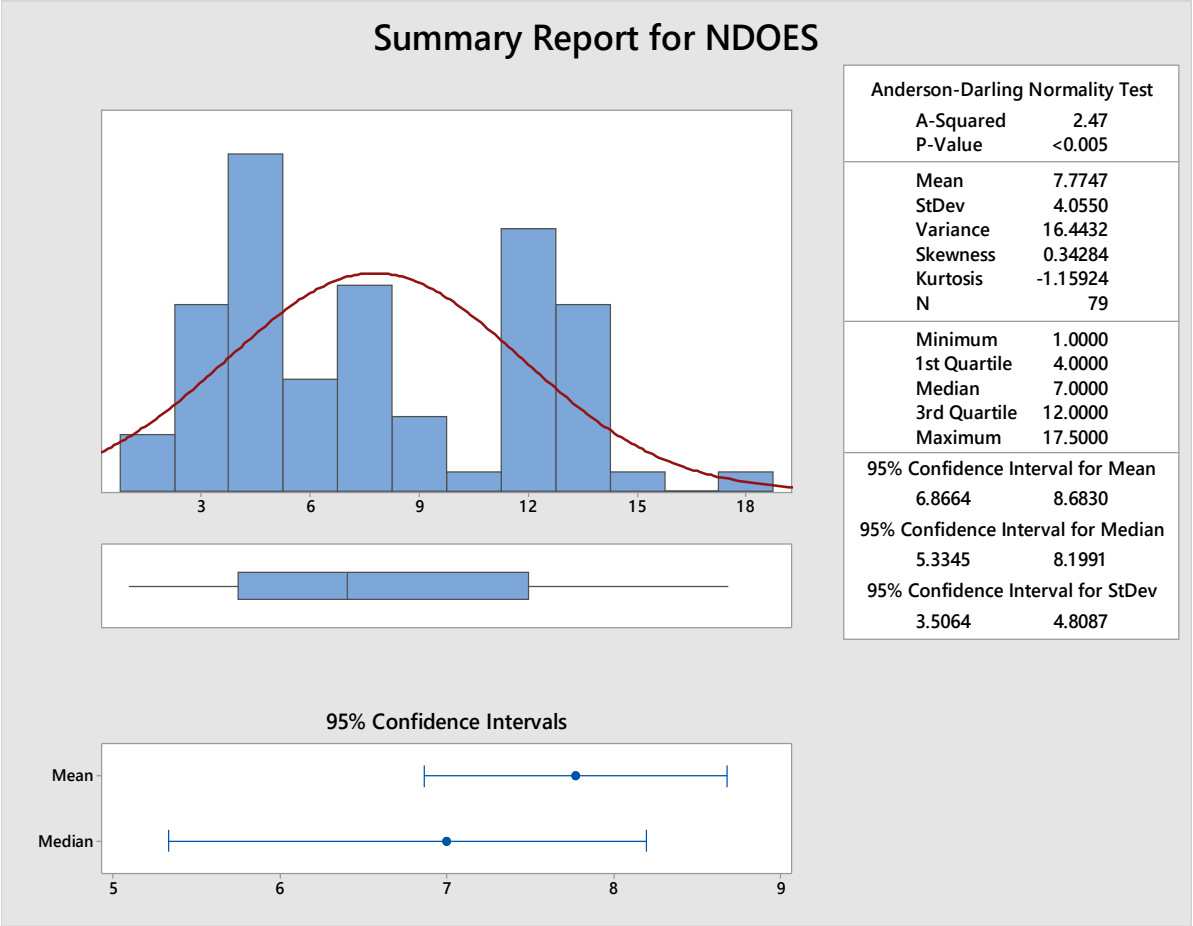
Figure 4.9 Normality Test for Percentage of Directors Total Equity Holding



Author, 2017

Figure 4.9 provides the results for normality test for the percentage of directors' total equity holding (PDTEH). This data was used in determining the type of the board, whether it would be classified as type 1, 2 or 3. The results showed that the mean is 31.818 (95% confidence intervals of 26.095 and 37.541). The standard deviation is 20.349 (95% confidence intervals of 17.026 and 25.295. Using a significance level of 0.05, and given that P-value $\leq \alpha$ (0.05), the Anderson-Darling normality test (A-Squared = 0.99, P-Value = 0.012) indicates that the PDTEH did not follow a normal distribution as can be seen from the plot chart above.

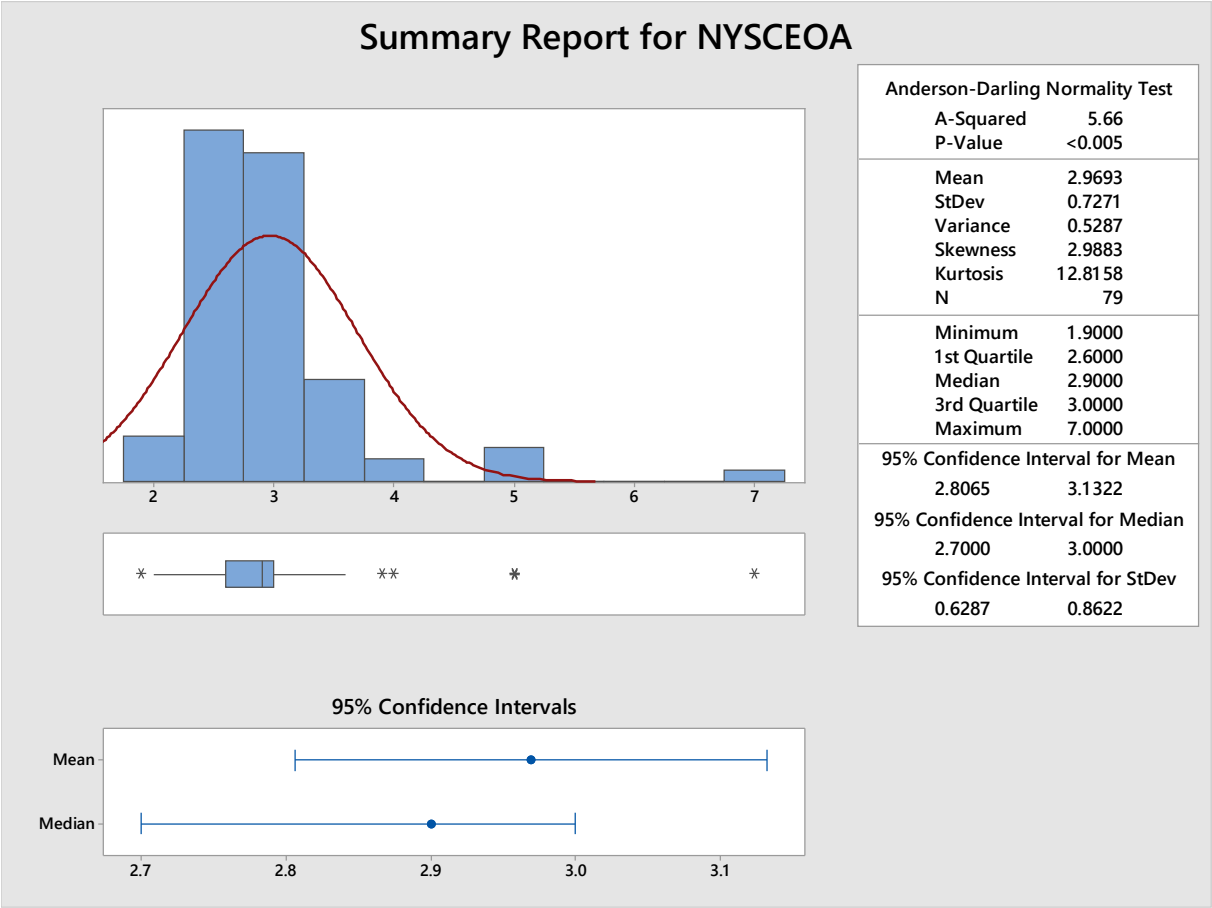
Figure 4.10 Normality Test for the Number of Directors Owning Equity Shares



Author, 2017

In Figure, 4.10 are the results for normality test for the number of directors' owning equity shares (NDOES). This data was also used in determining the type of the board, whether it would be classified as type 1, 2 or 3. The results showed that the mean is 7.7747 (95% confidence intervals of 6.8664 and 8.6830) and a median of 7.00, thus the mean and the median are close. Using a significance level of 0.05, and given that P-value $\leq \alpha$, the Anderson-Darling normality test (A-Squared = 2.47, P-Value = <0.005) indicates that the NDOES does not follow a normal distribution.

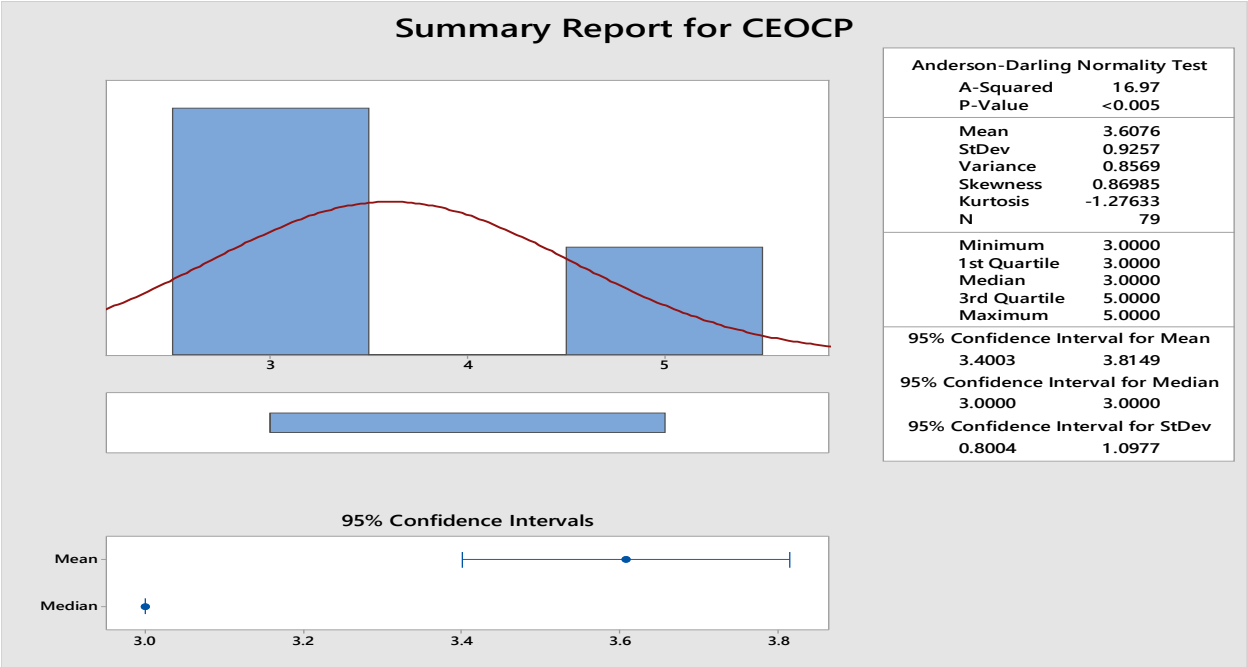
Figure 4.11 Normality Test the CEO Tenure



Author, 2017

The study operationalized the CEO's tenure using the years elapsed after CEO appointment (NYSCEOA). In Figure, 4.11 are the results for normality test in a number of years since CEO appointment. The mean is 2.9693 (95% confidence intervals of 2.8065 and 3.1322). The standard deviation is 0.7271 (95% confidence intervals of 0.6287 and 0.8622). Using a significance level of 0.05, and given that the P-value ≤ α (0.05), the Anderson-Darling normality test (A-Squared = 5.66, P-Value = <0.005) indicates that the CEO tenure did not follow a normal distribution.

Figure 4.12 Normality Test the CEO Duality



Author, 2017

Figure 4.12 presents the results for normality test for CEO duality. The mean is 3.6076 (95% confidence intervals of 3.4003 and 3.8149). The standard deviation is 0.9257 (95% confidence intervals of 0.8004 and 1.0977). Using a significance level of 0.05, and given that P-value ≤ α (0.05), the Anderson-Darling normality test (A-Squared = 16.97, P-Value = <0.005) indicates that the data collected about the CEO tenure do follow a normal distribution, and this allowed for use of statistical methods that require the assumption of normal distribution to be undertaken.

4.3.2 Linearity

The study carried out further diagnostic tests. The findings from the tests of the four regression assumptions in addition to those of the test for reliability are provided in Table 4.13. The limits within which the assumption is not violated for the respective test statistics are provided in the table for each of the diagnostic tests.

Linearity was tested through ANOVA. In this case, both the linear and nonlinear elements of a pair of variables are determined; nonlinearity is said to be available if the F value for the nonlinear element is below 0.05 (Razali & Wah, 2011). The findings were above 0.05 indicating linear associations (constant slope) among the predictor variables and the dependent variable. The findings, therefore, indicate that the expected value of the dependent variable is a straight-line function of each of the predictors, holding the other variables fixed; the slope of the line does not depend on the values of the other variables; and the influences of different predictors on the expected value of the dependent variable are additive. The findings were that the assumption of linearity was met and as a result, this allowed for further statistical analysis, including tests of hypotheses to be carried out on the data.

4.3.3 Independence

The tests of independence of error terms, that indicates that data is independent, was done using the Durbin-Watson test whose results should be between zero to four. Values ranging between 1.5 and 2.5 show that the data collected is independent (Iraya, 2014). Linear regression model assumes that the error terms are independent. This is mostly violated when each error term is related to its immediate predecessor which occurs when the data points are observed in a meaningful time sequence (Iraya, 2014). The findings indicate that the values lie between 1.67 and 2.01 showing that independence of error terms exists. The findings indicate that the regression assumptions regarding independence were met and therefore, allowed for further statistical analysis, including tests of hypotheses, to be performed on the data. The results of this tests are presented in this chapter and in the chapter that follow.

4.3.4 Homogeneity and Homoscedasticity

The assumption of homogeneity of variance is an assumption of the independent sample's t-test and ANOVA, which indicates that all comparison groups have the same variance. The independent sample's t-test and ANOVA make use of the t and F statistics respectively, which are in most instances susceptible to violations of the assumption if group sizes are equal (Razali & Wah, 2011). Equal group sizes may be defined by the ratio of the largest to smallest group being less than 1.5. Where group sizes are unequal to a large extend and homogeneity of variance is not supported, then the F statistic will be biased when large sample variances are associated with small-group sizes (Razali & Wah, 2011). In cases where this occurs, the level of significance will be underestimated, which can cause the null hypothesis to be falsely rejected. On the other hand, the F statistic will be biased in the opposite direction if large variances are associated with large-group sizes. This would mean that the significance level will be overestimated. This does not cause the same problems as falsely rejecting the null hypothesis; however, it can cause a decrease in the power of the test (Hair, Anderson, Tatham & Black, 2010).

This study tested for Homoscedasticity by use of Levene's test of homogeneity of variances. The test was not significant at $\alpha = 0.05$ confirming homogeneity. It was found that the regression's assumptions regarding homogeneity were met and thereafter further statistical analyses, including tests of hypotheses were performed on the data as presented in the subsections that follow.

4.3.5 Collinearity

Multicollinearity (also collinearity) is a condition in which one dependent variable in multiple regression models can be linearly determined from the other independent variables, with a substantial amount of accuracy (Hair, Anderson, Tatham & Black, 2010). In this situation, the coefficient estimates of the multiple regressions may change erratically in response to small changes in the model or the data. The existence of multicollinearity does not reduce the predictive power or reliability of the model as a whole, at least within the sample data set; it only affects calculations regarding individual predictors (Hair, et al., 2010). Meaning that, multiple regression models with collinear predictors can show how well the entire bundle of predictors predicts the outcome variable, but it may not necessarily give valid results regarding any individual predictor, or about which predictors are redundant with respect to others. Multicollinearity is also defined as conditions where the dependent variables in a multiple regression analysis are themselves highly correlated hence it's not easy to predict the actual contribution of respective predictors to the variance existing in the dependent variable. Multicollinearity also means that the variables of interest are highly correlated.

Variance Inflation Factors (VIF) and tolerance being it's reciprocal were used in testing for multicollinearity. To test the assumption of multicollinearity, VIF and Condition indices was used, especially in regression analyses. A value of VIF >10 indicate that multicollinearity is present, and the assumption of multicollinearity is violated. The multicollinearity assumption has a VIF limit value of 10 maximums (Gatwirth et al., 2009). The findings indicate that tolerance ranged from 0.13 to 0.78, and hence it's reciprocal; the VIF values lie between one and two, being below the threshold. The findings indicate that the regression assumptions regarding collinearity were met and thereafter additional statistical analyses, including tests of hypotheses were performed on the data as presented in the subsections that follow.

Table 4.1: Results of Diagnostic Tests (Test of regression assumption and statistic used)

		N	Linearity (ANOVA test)	Independence (Durbin-Watson test)	Homogeneity (Levene test)	Collinearity VIF(Tolerance test)
Threshold: Assumption is met if			**P >0.05**	**1.5 - 2.5**	**p >0.05**	**VIF (10 max)**
Board Structure	Size Independence CEO Duality Diversity Type Activity	790	0.40	2.05	0.62	6.13(0.14)
Firm Characteristics	Firm Size Stock Market Listing Ownership Structures	790	0.35	1.67	4.27	1.02(0.78)
CEO Tenure	Number of Years since CEO appointment	790	1.71	0.21	0.78	6.09(0.13)
Firm Performance	ROA Revenue Growth Rate	790	0.29	2.10	0.78	1.88(0.57)

Author, 2017

4.4 Descriptive Statistics

The descriptive statistics presented are mean, range, maximum, minimum, standard deviation, standard error of estimate, skewness and kurtosis. However, the detailed descriptive statistics appear partly below and in appendix III.

4.4.1 Board Structure

The indicators of board structure for financial institutions used in this study are: board size, board composition, CEO Duality, board diversity, board activity, and board type. This was operationalized using the number of board members, the ratio of independent board members, cases where CEO holds the chairman position, number of female board members, the number of board meetings in a year, the ratio of directors' total shareholding and number of directors owning equity shares. This section, therefore, provides the descriptive statistics of the above-board structure variables, and the findings are provided in the sub-sections that follow.

Table 4.2: Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Number of Board members	499	63.2%	291	36.8%	790	100.0%
Number of independent directors on the board	499	63.2%	291	36.8%	790	100.0%
CEO holds the Chairman position	499	63.2%	291	36.8%	790	100.0%
Number of female directors on the board	499	63.2%	291	36.8%	790	100.0%
Percentage of Directors total equity holding	499	63.2%	291	36.8%	790	100.0%
Number of Directors owning equity shares	499	63.2%	291	36.8%	790	100.0%

Author, 2017

Table 4.2 provides information on the case processing summary and the findings show that 63.2% of the values included in the board structure variables data was valid and ultimately used in all the analysis. The missing cases were left out in some of the variable analysis and used in others. The percentage of the valid cases was considered adequate for the analysis. Table 4.3 below provides the descriptive statistics for board structure variables. The statistic presented include the mean, median, range, kurtosis and skewness.

Table 4.3: Descriptive Statistics for Board Structure Variables & CEO Tenure

		Mean	95% Confidence Interval		5% Trimmed Mean	Median	Variance	Std. Deviation	Minimum	Maximum	Range	Interquartile Range	Skewness	Kurtosis
			Lower Bound	Upper Bound										
Board Size-Number of Board members	*Statistic*	9.57	9.28	9.86	9.45	9.00	10.700	3.271	2	20	18	4	0.595	0.772
	Std. Error	0.146											0.109	0.218
Independence-Number of independent directors on the board	*Statistic*	4.17	3.95	4.39	4.06	4.00	6.132	2.476	0	11	11	3	0.788	0.380
	Std. Error	0.111											0.109	0.218
CEO Duality-CEO holds the Chairman position	*Statistic*	0.04	0.02	0.05	0.00	0.00	0.035	0.187	0	1	1	0	4.991	23.001
	Std. Error	0.008											0.109	0.218
Diversity-Number of female directors on the board	*Statistic*	1.69	1.58	1.80	1.65	2.00	1.557	1.248	0	4	4	2	0.216	0.934
	Std. Error	0.056											0.109	0.218
Board Type-Percentage of Directors total equity holding	*Statistic*	32.38	30.60	34.16	32.38	34.00	408.337	20.207	0	65	65	39	-0.081	-1.299
	Std. Error	0.905											0.109	0.218
Board Type-Number of Directors owning equity shares	*Statistic*	5.24	5.01	5.48	5.06	5.00	6.924	2.631	1	22	21	4	2.282	10.453
	Std. Error	0.118											0.109	0.218
CEO Tenure-Number of years since CEO appointment	*Statistic*	3.21	3.07	3.34	3.19	3.00	2.362	1.537	1	7	6	3	0.063	-0.923
	Std. Error	0.069											0.109	0.218

Author, 2017

The descriptive statistics for board structure variables are provided in table 4.3 above. These reveal that the number of board members varies from different financial institutions but overall the mean board members were about 10 with a minimum of 2 and a maximum of 20. This means that the board sizes are appropriate for firm's optimum performance as evidenced by Jensen (1993) and Lipton and Lorsch (1992) who stated that larger boards were less effective when it comes to profitability of the organization. The findings show that on average, there were 10 board of directors in most of the financial institution with an average of four members being independent directors. The results further show that 30 institutions had no independent directors. Most of the firms had between two and seven independent directors.

The results further indicate that the median number of board of directors is 9, implying that, half the number of financial institution's board contains members less than or equal to 9, and half the number of financial institution's board contains members greater than or equal to nine. The results show that all the financial institution in Kenya had the CEO position held by a different person from the chairman except one of the financial institutions. The results further indicate that the maximum number of female board members on any of the boards studied was 4, though there exist some boards with no female representation. The results show that nine institutions had no female directors on the board while 17 and 14 firms had 1 and 2 female directors respectively. The findings show that for most institutions, the ratio of female directors was quite low. The range between the maximum and the minimum percentage of Directors' total equity holding in financial institutions is 65% and on average 32% of the equity in financial institutions is held by directors. The results show that, in most cases, the companies considered to have modest board sizes. This enhances performance of these companies and therefore, considered appropriate. With regard to independence of the board, the study provides evidence that 40 percent of every board of directors are non-executive, which

suggested that these boards are in most cases not independent. This is based on the fact that empirical evidence agrees that more non-executive directors on a board increased its independence (Anthony et al., 2000). The study observed that the average scores of all the board structure constructs are positively skewed and are very near to zero, which clarified that the constructs are asymmetrical. Kurtosis values indicated that all the sub constructs have platy-kurtic distribution, and it is concluded that they are normally distributed.

4.4.2 CEO Tenure

CEO tenure was operationalized by the number of years that have elapsed since CEO appointment. Table 4.4 below presents the descriptive analysis for CEO tenure and indicates that the mean of the CEO tenure is three years with a minimum of one and maximum of seven whereas the range between the maximum and the minimum number of years since CEO appointment in financial institutions' is six years. On average, the number of years since CEO appointment (Tenure) deviates from the mean by about two years and is skewed to the right.

Table 4.4: Descriptive Statistics for CEO Tenure

	Years since CEO appointment (Tenure)		
		Statistic	*Std. Error*
Mean		3.21	0.069
95% Confidence Interval	**Lower Bound**	3.07	
	Upper Bound	3.34	
5% Trimmed Mean		3.19	
Median		3	
Variance		2.362	
Std. Deviation		1.537	
Minimum		1	
Maximum		7	
Range		6	
Interquartile Range		3	
Skewness		0.063	0.109
Kurtosis		-0.923	0.218

Author, 2017

4.4.3 Firm Characteristics

Firms' characteristics were included as the moderating variable in this study similar to the study by Afzalur (2011). This was operationalised thorough firm size which was transformed into a natural logarithm. The other firm characteristics namely, firm listing and ownership structures were measured through government ownership and block holder ownership; and whether a sampled firm is listed or not.

Table 4.5: Summary of Descriptive Statistics of Firm Characteristics

Type of Institution		**Total Assets**	**Sales/Revenue**
Commercial Banks	Mean	86849518.28	8386449.68
	Std. Deviation	161044521.266	15017223.752
	Minimum	110517	15123
	Maximum	1715271378	110516618
Mortgage	Mean	32357476.00	1501456.10
	Std. Deviation	21283661.716	925894.476
	Minimum	9133831	692280
	Maximum	71659434	3611954
Micro-Finance	Mean	10126249.60	775480.00
	Std. Deviation	4590305.882	252032.439
	Minimum	6812069	581298
	Maximum	16781543	1136453
Regulator	Mean	147624026.63	2598899.93
	Std. Deviation	255789372.527	3604726.730
	Minimum	124737	6231
	Maximum	856120000	12108000
Saccos	Mean	4146504.65	4105528.64
	Std. Deviation	9914202.301	13978422.918
	Minimum	50200	11
	Maximum	50311413	90152566
Insurance Companies	Mean	9204998.54	3052427.44
	Std. Deviation	13988197.156	4365892.103
	Minimum	20588	353
	Maximum	83292690	28375800

Author, 2017

The findings in Table 4.5 indicate that the average mean scores for total assets was 86.8 million for Commercial Banks, 32.4 Million for Mortgage finance companies, 10.1 million for micro finance institutions, 147.6 million for regulators, 4.1 million for Saccos and 9.2

million for Insurance companies. This shows that commercial banks were on average the largest in terms of size of the firm as determined by the natural logarithm of total assets. The results show that the mean ownership and shareholding for the firms was 0.7703 for non-government owners. Presence of outside block holders (more than 10%) had an overall mean score of 0.834 and standard deviation of 0.4247. The proportion of listed firms from the sampled firms was 20 percent.

4.4.3 Firm Performance

Performance of financial institutions in Kenya was the dependent variable of this study. The indicators of performance were ROA and Revenue Growth Rate. These performance indicators had been used for similar studies by Yammeesri and Lodh (2004), Johl et.al. (2015), Yammeesri et al. (2006), Rashid and Lodh (2008). ROA was computed as the Earnings before Interest and Taxes (EBIT) divided by the book value of total assets. In Table 4.6 below are the descriptive statistics.

Table 4.6: Descriptive Statistics for Firm Performance

		Mean	95% Confidence Interval		5% Trimmed Mean	Median	Variance	Std. Deviation	Minimum	Maximum	Range	Interquartile Range	Skewness	Kurtosis
			Lower Bound	Upper Bound										
ROA Bank	*Statistic*	3.205	2.809	3.600	3.145	3.207	10.443	3.231	-15.548	24.908	40.456	2.8622	1.419	20.264
	Std. Error	0.200												
ROA Insurance	*Statistic*	6.831	6.238	7.424	6.588	6.075	21.726	4.661	-3.838	25.990	29.829	5.9428	0.928	1.649
	Std. Error	0.300											0.157	0.313
ROA Sacco	*Statistic*	2.637	2.291	2.984	2.328	1.719	8.995	2.999	-8.479	21.3785	29.8582	2.3137	2.086	8.973
	Std. Error	0.176											0.143	0.285
Growth of EBIT	*Statistic*	16.610	15.633	17.587	16.677	16.515	195.496	13.981	-14.571	53.4332	68.0050	18.8570	-0.046	-0.338
	Std. Error	0.497											0.087	0.174
Growth of Sales	*Statistic*	16.548	15.518	17.578	16.751	15.684	217.219	14.738	-23.556	56.6533	80.2098	80.2098	-0.055	0.661
	Std. Error	0.524											0.087	0.174

			Mean	95% Confidence Interval		5% Trimmed Mean	Median	Variance	Std. Deviation	Minimum	Maximum	Range	Interquartile Range	Skewness	Kurtosis
				Lower Bound	Upper Bound										
Growth of EBIT	Bank	*Statistic*	14.89	13.02	16.76	15.096	14.259	233.541	15.282	-14.5718	40.7802	55.3520	25.2134	-0.155	-1.104
		Std. Error	0.949											0.151	0.302
	Insurance	*Statistic*	14.89	13.24	16.55	14.885	13.132	169.166	13.006	-9.8314	38.8980	48.7294	17.0886	0.196	-0.526
		Std. Error	0.839											0.157	0.313
	Sacco	*Statistic*	19.56	18.04	21.07	19.612	19.252	170.856	13.071	-11.0044	53.4332	64.4376	17.2052	0.027	0.809
		Std. Error	0.767											0.143	0.285
	Bank	*Statistic*	14.19	12.84	15.53	14.069	13.495	121.568	11.025	-6.1423	35.9907	42.1331	18.6541	0.292	-0.890
		Std. Error	0.685											0.151	0.302

Growth of Sales	Insurance	*Statistic*	19.12	16.73	21.52	19.511	17.332	354.415	18.825	-23.556	56.6533	80.2098	19.4190	-0.391	0.146
		Std. Error	1.215											0.157	0.313
	Sacco	*Statistic*	16.52	14.96	18.07	16.714	15.332	180.151	13.422	-20.901	47.5165	68.4178	9.5513	-0.072	1.013
		Std. Error	0.788											0.143	0.285

Author, 2017

The maximum ROA for the financial institutions sampled was 24.9, 25.99 and 21.38 for Banks, Insurance and Saccos respectively (see Table 4.6). Commercial banks exhibit the largest asset base, compared to the other categories of financial institutions, but when it comes to performance (ROA), it is ranked second. The minimum ROA was -15.55, 3.84 and 8.48 for Banks, Insurance and Saccos respectively; while the average ROA from Banks, Insurances and Saccos were 3.20, 6.83 and 2.64 respectively. Half the ROA for Banks, Insurance and Saccos are less than or equal to 3.20, 6.07 and 1.72 respectively whereas their respective ranges in ROA are 40.45, 29.83 and 29.85. From skewness, the study observed that the average scores of all the firm performance constructs are positively skewed and is very near to zero, which clarified that the constructs are asymmetrical. Kurtosis values indicated that all the sub constructs have platy-kurtic distribution, and it is concluded that they are normally distributed.

Descriptive statistics was also carried out for growth in revenue being the other firm performance measure. The results show that the maximum and minimum number of growth in revenue for Banks, Insurances and Saccos are 35.99, 56.65 and 47.52 and -6.14, -23.56 and -20.90 respectively. The average growth in sales for Banks, Insurance and Saccos are 14.19, 19.12 and 16.52 respectively, whereas their corresponding medians are 13.50, 17.32 and 15.33 indicating that the means are not very far from their respective medians implying that they follow a normal distribution and thus allowed for correlation and regression analysis to be undertaken. Additionally, growth in EBIT was analyzed and the results in table 4.6 above show that, the maximum and minimum number of Growth of EBIT in Banks, Insurances and Saccos are 40.78, 38.90, 53.43 and -14.37, -9.83, -11 respectively. The results also indicate that the respective means and medians are 14.26, 13.13 and 19.25 for Banks, Insurances and Saccos respectively.

4.5 Correlation Analysis

Correlation analysis using Pearson product-moment correlation coefficient technique and partial correlation analysis were used to examine whether there exists an association between board structure, CEO tenure, firm characteristics and performance of organizations. This section summarizes the results of the correlation analysis on the study variables. Pearson product-moment correlation coefficient measures how strong two variables are linearly associated and is denoted by *r*. The Pearson correlation coefficient, *r*, can fall between the values of +1 to -1. A value of 0 shows that no association between the two variables being measured exists. Amounts greater than 0 indicate a positive relationship; this implies that as the value of one variable increases, the value of the other variable also increases. A value less than 0 indicates a negative relationship; implying that as the value of one variable increases, there is a decrease in the value of the other variable. A value of 1 indicates perfect positive correlation implying that an increase/decrease in one variable is followed by a proportional increase/decrease in the other variable while a value of -1 indicates perfect negative correlation, which implies that an increase in one variable is followed by a proportional decrease in the other variable (Cooper & Schindler, 2003).

The greater the strength of the association between two variables, the closer the *r*, is to either +1 or – 1 based on whether the relationship is positive or negative, respectively (Cooper& Schindler, 2003). The Pearson's correlation is used if the variables of the study are measured using either interval or ratio scales. Correlation results are reported at a significance level of 0.05 and 0.01 in line with other studies such as Iraya (2014) and Magutu (2013). Table 4.5 presents the results of correlation analysis. The results demonstrate that there exists a statistical

significant relationship among several board structure variables, CEO tenure, firm characteristics and performance of financial institutions in Kenya. These results provide additional confirmation of the hypothesis as formulated and are a necessary precondition for further statistical tests including regression and GEE performed on the study hypothesis.

Table 4.7a: Correlation Analysis between Board Structure and Firm Performance

		ROA	gSales	NBM	NIDOB	NBMeet	NFmDB	BoType	CEOT
ROA	Pearson Correlation	1	.136	.033	.238	-.298**	-.033	.407**	.153
	Sig. (2-T)		.231	.773	.096	.008	.773	.000	.177
	N	79	79	79	50	79	79	79	79
gSales	Pearson Correlation	.136	1	.143	.191	-.038	.175	.033	.163
	Sig. (2-T)	.231		.208	.184	.738	.124	.776	.150
	N	79	79	79	50	79	79	79	79
NBM	Pearson Correlation	.033	.143	1	.812**	.436**	.497**	-.282*	-.033
	Sig. (2-T)	.773	.208		.000	.000	.000	.012	.775
	N	79	79	79	50	79	79	79	79
NIDOB	Pearson Correlation	.238	.191	.812**	1	.180	.429**	.451**	.074
	Sig. (2-T)	.096	.184	.000		.211	.002	.001	.610
	N	50	50	50	50	50	50	50	50
NBMeet	Pearson Correlation	-.298**	-.038	.436**	.180	1	.280*	-.809**	-.406**
	Sig. (2-T)	.008	.738	.000	.211		.013	.000	.000
	N	79	79	79	50	79	79	79	79
NFmDB	Pearson Correlation	-.033	.175	.497**	.429**	.280*	1	-.178	.038
	Sig. (2-T)	.773	.124	.000	.002	.013		.117	.741
	N	79	79	79	50	79	79	79	79
BoType	Pearson Correlation	.407**	.033	-.282*	.451**	-.809**	-.178	1	.461**
	Sig. (2-T)	.000	.776	.012	.001	.000	.117		.000
	N	79	79	79	50	79	79	79	79
NYSCE OA	Pearson Correlation	.153	.163	-.033	.074	-.406**	.038	.461**	1
	Sig. (2-T)	.177	.150	.775	.610	.000	.741	.000	
	N	79	79	79	50	79	79	79	79

. Correlation is significant at the 0.01 level (2-tailed). **Author, 2017

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

Table 4.7b: Correlations Analysis for Performance Indicators

		ROA	gEBIT	gTAssets	gSales
ROA	Pearson Correlation	1	-.115	.061	.136
	Sig. (2-tailed)		.311	.596	.231
	N	79	79	79	79
gEBIT	Pearson Correlation	-.115	1	.401**	.238*
	Sig. (2-tailed)	.311		.000	.035
	N	79	79	79	79
gTAssets	Pearson Correlation	.061	.401**	1	.362**
	Sig. (2-tailed)	.596	.000		.001
	N	79	79	79	79
gSales	Pearson Correlation	.136	.238*	.362**	1
	Sig. (2-tailed)	.231	.035	.001	
	N	79	79	79	79
**. Correlation is significant at the 0.01 level (2-tailed).					
*. Correlation is significant at the 0.05 level (2-tailed).					

Author, 2017

The strength of the association between board structure variables operationalized by the number of board of directors, number of independent board members, number of meetings held by board members, number of female directors and number of directors owning equity shares and firm performance was determined using Pearson product-moment correlation. As shown in Table 4.5 (a) and 4.5 (b) above, there is a positive correlation between various board structure and performance variables which was statistically significant.

Similarly, partial correlation coefficients that indicate the linear association among board structure and performance of financial institutions while controlling for the effects of CEO tenure was computed. All the variables were scale variables. The assumption is that two variables can have a perfect relationship, but if the association is not linear, a correlation coefficient is not a suitable statistic for determining their association. The basic question

was, is there an association between board structure and performance of financial institutions in Kenya? What will be the relation if we control for CEO tenure? Three variable types are used in the study; indicators of firm performance, ROA and growth in sales; indicators of board structure, Number of Board members (NBM), Number of independent directors on the board (NIDOB), Number of board meetings and other activities (NBMeet), Number of female directors on the board (NFmDB), and Board Type (BoType). The partial correlations' tables below show both the zero-order correlations (correlations without any control variables) of all three variables and the partial correlation of the first two variables controlling for the influence of the third variable (CEO Tenure).

Table 4.7c: Partial Correlations

Number of Meetings (NBM) as board structure indicator and firm performance of financial institutions while controlling for the effects of CEO tenure.					
Control Variables			ROA	NBM	CEOT
-none-[a]	ROA	Correlation	1.000	.033	.153
		Significance (2-tailed)	.	.773	.177
		Df	0	77	77
	NBM	Correlation	.033	1.000	-.033
		Significance (2-tailed)	.773	.	.775
		Df	77	0	77
	NYSCEOA	Correlation	.153	-.033	1.000
		Significance (2-tailed)	.177	.775	.
		Df	77	77	0
NYSCEOA	ROA	Correlation	1.000	.038	
		Significance (2-tailed)	.	.739	
		Df	0	76	
	NBM	Correlation	.038	1.000	
		Significance (2-tailed)	.739	.	
		Df	76	0	
a. Cells contain zero-order (Pearson) correlations.					

Author, 2017

The zero-order correlation between ROA and Number of Board members (NBM) as the board structure indicator, indeed, is 0.333 and statistically not significant ($p < 0.001$). The partial correlation controlling for the effects of CEO tenure (CEOT), however, improved but is negligible (0.038) and statistically not significant ($p = 0.739$). The results, therefore, cannot lead towards the conclusion that an association among ROA and Number of Board members (NBM) existed even after controlling for the effects of CEO tenure (CEOT).

Table 4.7d: Partial Correlations

Number of independent directors on the board (NIDOB) as board structure indicator and firm performance of financial institutions while controlling for the effects of CEO tenure (CEOT).					
Control Variables			ROA	NIDOB	CEOT
-none-[a]	ROA	Correlation	1.000	.238	-.004
		Significance (2-tailed)	.	.096	.980
		df	0	48	48
	NIDOB	Correlation	.238	1.000	.074
		Significance (2-tailed)	.096	.	.610
		df	48	0	48
	NYSCEOA	Correlation	-.004	.074	1.000
		Significance (2-tailed)	.980	.610	.
		df	48	48	0
NYSCEOA	ROA	Correlation	1.000	.239	
		Significance (2-tailed)	.	.099	
		df	0	47	
	NIDOB	Correlation	.239	1.000	
		Significance (2-tailed)	.099	.	
		df	47	0	
a. Cells contain zero-order (Pearson) correlations.					

Author, 2017

The zero-order correlation between ROA and number of independent directors on the board (NIDOB) as the board structure indicator, indeed, are both high (0.238) and is statistically not significant ($p < 0.001$). The partial correlation controlling for the effects of CEO tenure (CEOT),

however, is negligible (0.239) and is statistically not significant (p = 0.099). The results, therefore, cannot lead to the conclusion that a relationship between ROA and number of independent directors on the board (NIDOB) as the board structure indicator existed even after controlling for the effects of CEO tenure.

Table 4.7e: Partial Correlations

Number of board meetings and other activities (NBMeet) as board structure indicator and firm performance of financial institutions while controlling for the effects of CEO tenure.					
Control Variables			ROA	NBMeet	CEOT
-none-[a]	ROA	Correlation	1.000	-.298	.153
		Significance (2-tailed)	.	.008	.177
		df	0	77	77
	NBMeet	Correlation	-.298	1.000	-.406
		Significance (2-tailed)	.008	.	.000
		df	77	0	77
	NYSCEOA	Correlation	.153	-.406	1.000
		Significance (2-tailed)	.177	.000	.
		df	77	77	0
NYSCEOA	ROA	Correlation	1.000	-.261	
		Significance (2-tailed)	.	.021	
		df	0	76	
	NBMeet	Correlation	-.261	1.000	
		Significance (2-tailed)	.021	.	
		df	76	0	
a. Cells contain zero-order (Pearson) correlations.					

Author, 2017

The zero-order correlation between ROA and number of board meetings and other activities (NBMeet) as the board structure indicator, indeed, are both low (-0.298) and statistically not significant (p < 0.001). The partial correlation controlling for the effects of CEO tenure (CEOT), however, is negligible (-0.261) and statistically significant (p = 0.021). The results, therefore,

contribute to the conclusion that a relationship between ROA and number of board meetings and other activities (NBMeet) as the board structure indicator existed after controlling for the effects of CEOT. This further indicates that firm performance has no relation to the number of board meetings, unless we control for CEO tenure.

Table 4.7f: Partial Correlations

Number of female directors on the board (NFmDB) as board structure indicator and firm performance of financial institutions while controlling for the effects of CEO tenure.					
Control Variables			ROA	NFmDB	CEOT
-none-[a]	ROA	Correlation	1.000	-.033	.153
		Significance (2-tailed)	.	.773	.177
		df	0	77	77
	NFmDB	Correlation	-.033	1.000	.038
		Significance (2-tailed)	.773	.	.741
		df	77	0	77
	NYSCEOA	Correlation	.153	.038	1.000
		Significance (2-tailed)	.177	.741	.
		df	77	77	0
NYSCEOA	ROA	Correlation	1.000	-.039	
		Significance (2-tailed)	.	.733	
		df	0	76	
	NFmDB	Correlation	-.039	1.000	
		Significance (2-tailed)	.733	.	
		df	76	0	
a. Cells contain zero-order (Pearson) correlations.					

Author, 2017

The zero-order correlation between ROA and Number of female directors on the board (NFmDB) as the board structure indicator, indeed, are both low (-0.033) and is statistically not significant ($p < 0.001$). The partial correlation controlling for the effects of CEO tenure, however, is negligible (-0.039) and is statistically not significant ($p = 0.733$). The results, therefore, cannot lead towards the conclusion that a relationship between ROA and Number of female directors on

the board (NFmDB), as the board structure indicator, existed even after controlling for the effects of CEO tenure.

Table 4.7g: Partial Correlations

Board Type (BoType) as board structure indicator and firm performance of financial institutions while controlling for the effects of CEO tenure.					
Control Variables			ROA	BoType	CEOT
-none-[a]	**ROA**	Correlation	1.000	.407	.153
		Significance (2-tailed)	.	.000	.177
		df	0	77	77
	BoType	Correlation	.407	1.000	.461
		Significance (2-tailed)	.000	.	.000
		df	77	0	77
	NYSCEOA	Correlation	.153	.461	1.000
		Significance (2-tailed)	.177	.000	.
		df	77	77	0
NYSCEOA	**ROA**	Correlation	1.000	.384	
		Significance (2-tailed)	.	.001	
		df	0	76	
	BoType	Correlation	.384	1.000	
		Significance (2-tailed)	.001	.	
		df	76	0	
a. Cells contain zero-order (Pearson) correlations.					

Author, 2017

The zero-order correlation between ROA and Board Type (BoType) as the board structure indicator, indeed, are both high (.407) and statistically not significant ($p < 0.001$). The partial correlation controlling for the effects of CEO tenure, is (0.384) and statistically significant ($p = 0.001$). These results leads to the conclusion that a relationship between ROA and Board Type (BoType) as the board structure indicator existed after controlling for the effects of CEO tenure.

4.6 Chapter Summary

This chapter presented the descriptive statistics and other findings. Results of the tests of statistical assumptions, including normality, linearity, independence, homogeneity and collinearity were also presented. Descriptive statistics were presented through statistics such as the mean scores, one-sample t-tests at test value 3 and significance levels. Correlation analysis was done to check the relationships among the variables. The results indicate that there were variations across organizations on the aspects presented to the respondents regarding a manifestation of various variables across the studied financial institutions.

The results further indicate that performance of financial institutions has been overall very good in the period covered by the study. The findings of the correlation analysis indicate that some of the board structure variables affect performance. CEO tenure and firm characteristics are also shown to have a statistically significant association with board structure and performance of financial institutions in Kenya. On average CEO, tenure is found to be five years for most of the institutions sampled. Government ownership has been shown to be to a moderate extent in which government has been seen to be divesting out of the financial sector and concentrating on the regulation. Performance data is also presented, and banks have been found to be the best performers compared to the other financial institutions. The relationship within the study variables indicated that there is need for hypothesis testing. The next chapter, therefore, delved into the test of hypotheses and discussion of the research findings.

CHAPTER FIVE

HYPOTHESES TESTING AND DISCUSSION OF FINDINGS

5.1 Introduction

This chapter presents findings from the tests of the four null hypotheses of the study and their interpretation. The first hypotheses tested the direct relationship among the main variables of the study and premised lack of significant effect of board structure on performance of financial institutions in Kenya. This was further disintegrated into six other sub hypotheses that hypothesized how individual variables on board structure affect institutional performance. The last three hypotheses tested the intervening effect of CEO tenure in the association between board structure and performance of financial institutions in Kenya, the moderating effect of firm's characteristics on the relationship between board structure and performance of financial institutions in Kenya; and the combined effect of board structure, CEO tenure and firm characteristics on performance of financial institutions in Kenya.

Tests of goodness of fit, including the adjusted coefficient of determination, r-squared, t-tests, standard error of estimate (S_e) and ANOVA are also presented. Moderated and stepwise regression models and GEE were used to find out any association between board structure, CEO tenure, firm characteristics, and institutional performance using ROA initially and then sales growth. The chapter concludes by discussing findings on each of the hypotheses tested.

5.2 Regression Analysis

The regression was done through a panel process; A number of alternatives of panel data hierarchical regressions were performed, fixed and random effects, ordinary least squares commonly called OLS, generalized least squares (GLS) and a dynamic panel. Considering that OLS usually does not apply information contained in any unequal variability of the independent variable and to ensure analysis produces the best linear unbiased estimators GLS was also used. Hierarchical multiple linear regression (HMLR) model was employed in assessing the nature of the relationship between various variables as hypothesised in the study at 5% level of statistical significance. Reliability tests on the regression models were then computed to measure the strength of the relationship between the variables. These tests done included multicollinearity tests, adjusted coefficient of determination (adjusted *R*), F-tests and t tests. The data used in running the regression was the averages for all the 10 years per company, to confirm the results GEEs were done using repeated data that is for each of the 10 years and across companies. The study followed four steps in testing the mediating effect of firm characteristics on the relationship between board structure and performance of financial institutions in Kenya in line with the process advocated by Baron and Kenny (1986).

This study reports the adjusted *R*-squared ($\bar{R}^2$), instead of the R^2. For multiple regression analysis, R^2 determines the number of variations in the dependent variable as explained through analyzing together all independent variables. Introducing additional independent variables into the regression model, leads to an increase in R^2 even if the new independent variable has no additional predictive ability. It is worth noting that some element of this increase is as a result

of chance since additions into independent variables reduces the degrees of freedom. The R^2estimate tends to over-estimate the real fit of the model to the data when the number of independent variables approaches the sample size. The adjusted R^2controls the decrease in degrees of freedom caused by increase in independent variables and compared to the R^2, the adjusted R^2 may indicate decreases as additional independent variables are introduced into a model.

5.3 Board Structure and Firm Performance

The first objective of the research assessed the influence of board structure on Kenyan financial institution's performance. The research predicted that there was no significant influence of board structure on the institution's performance. The study considered the board structure variables to include: size, independence, type, CEO duality, diversity and activity. Performance was measured through ROA and revenue growth for each institution. To assess if the board structure variables; size, independence, type, diversity, activity and CEO duality did not significantly predict ROA and Revenue growth of financial institutions in Kenya, the researcher applied hierarchical multiple regression analysis. This was the test of the first hypothesis and the sub hypotheses as shown below:

Ho_1: There is no significant effect of board structure on performance of financial institutions in Kenya.

H_{o11}: There is no significant effect of board size on performance of financial institutions in Kenya.

H_{o12}: There is no significant effect of board type on performance of financial institutions in Kenya.

H_{o13}: There is no significant effect of board composition on performance of financial institutions in Kenya.

H_{o14}: There is no significant effect of CEO duality on performance of financial institutions in Kenya.

H_{o15}: There is no significant effect of board activity on performance of financial institutions in Kenya.

H_{o16}: There is no significant effect of board diversity on performance of financial institutions in Kenya.

The prediction equations as shown in chapter three were;

$$ROA_{i,t}=\alpha+\beta_1 BS_{i,t}++\beta_2 BC_{i,t}+\beta_3 CEOD_{i,t}+\beta_4 BA_{i,t}+\beta_5 BD_{i,t}+\beta_6 BT_{i,t}+\varepsilon_{i,t}$$

$$RGR_{i,t}=\alpha+\beta_1 BS_{i,t}++\beta_2 BC_{i,t}+\beta_3 CEOD_{i,t}+\beta_4 BA_{i,t}+\beta_5 BD_{i,t}+\beta_6 BT_{i,t}+\varepsilon_{i,t}$$

$ROA_{i,t}=\alpha+\beta_1 BS_{i,t}+\varepsilon_{i,t}$. and $RGR_{i,t}=\alpha+\beta_1 BS_{i,t}+\varepsilon_{i,t}$

$ROA_{i,t}=\alpha+\beta_1 BC_{i,t}+\varepsilon_{i,t}$. and $RGR_{i,t}=\alpha+\beta_1 BC_{i,t}+\varepsilon_{i,t}$

$ROA_{i,t}=\alpha+\beta_1 CEOD_{i,t}+\varepsilon_{i,t}$ and $RGR_{i,t}=\alpha+\beta_1 CEOD_{i,t}+\varepsilon_{i,t}$.

$ROA_{i,t}=\alpha+\beta_1 BA_{i,t}+\varepsilon_{i,t}$. and $RGR_{i,t}=\alpha+\beta_1 BA_{i,t}+\varepsilon_{i,t}$.

$ROA_{i,t}=\alpha+\beta_1 BD_{i,t}+\varepsilon_{i,t}$. and $RGR_{i,t}=\alpha+\beta_1 BD_{i,t}+\varepsilon_{i,t}$.

$ROA_{i,t}=\alpha+\beta_1 BT_{i,t}+\varepsilon_{i,t}$.and $RGR_{i,t}=\alpha+\beta_1 BT_{i,t}+\varepsilon_{i,t}$.

Note: The variables areas defined in section 3.9 and Table 3.2

Several steps were used in carrying out the hierarchical multiple regressions with the first step involving regressing ROA as the dependent variable against board structure variables as the predictor, including size, composition, activity, diversity, type and CEO duality, the other steps involved dropping the variables representing board structure each at a time. The same steps were repeated using the revenue growth rates. The study rejects the null hypothesis and concludes that board structure significantly affects firm performance with p-values of less than 0.05 for board activity and board type variables. The board structure variable that significantly affected firm performance is board activity and board type operationalized as the number of meetings and other activities by the board annually and shareholder equity ownership respectively. The results show that the p-value for board activity was 0.02 and board type was 0.028, when the other variables are dropped as shown in table 5.2 and 5.3 respectively. Table 5.1 to table 5.3 shows the results from these regressions:

Table 5.1: Regression Analysis: ROA versus Board Structure Variables

Analysis of Variance

Source	DF	Adj SS	Adj MS	F-Value	P-Value
Regression	7	65.895	9.4136	0.77	0.614
NBM	1	3.055	3.0551	0.25	0.619
NIDOB	1	1.589	1.5892	0.13	0.720
NBMeet	1	14.541	14.5407	1.19	0.281
NFmDB	1	0.464	0.4638	0.04	0.846
PDTEH	1	16.320	16.3204	1.34	0.254
NDOES	1	0.049	0.0490	0.00	0.950
CEOT	1	2.203	2.2029	0.18	0.673
Error	43	524.027	12.1867		
Total	50	589.922			

Model Summary

S	R-sq	R-sq (adj)	R-sq (pred)
3.49094	11.17%	0.00%	0.00%

Coefficients

Term	Coef	SE Coef	T-Value	P-Value	VIF
Constant	5.84	3.31	1.76	0.085	
NBM	0.227	0.454	0.50	0.619	7.83
NIDOB	0.181	0.502	0.36	0.720	5.64
NBMeet	-0.349	0.319	-1.09	0.281	1.13
NFmDB	-0.105	0.538	-0.20	0.846	1.52
PDTEH	-0.0296	0.0256	-1.16	0.254	1.07
NDOES	0.021	0.338	0.06	0.950	3.14
CEOT	-0.295	0.694	-0.43	0.673	1.30

Author, 2017

Regression Equation

ROA = 5.84 + 0.227 NBM + 0.181 NIDOB - 0.349 NBMeet - 0.105 NFmDB -0.0296PDTEH + 0.021 NDOES - 0.295 NYSCEOA

From the hierarchical, regression results in Table 5.1, regression models were generated. The computed p-value of the regression findings as shown in the analysis of variance table (0.614) indicates that the model as produced through the regression methodology is not statistically significant at α-a-levels of 0.05, which demonstrates all the coefficients are not different from zero. The model, in this case, therefore, lacks explanatory power. The calculated p-values of all estimated coefficients are greater than 0.05, which showed that they are not statistically significantly related to performance (ROA) at a-level of 0.05. However, the type of the board measured by the number of directors owning equity shares on the board has the highest calculated p- value indicting that it has the least explanatory power, followed by diversity, composition, size and lastly activity variables of the board. Since the model is not a good predictor of firm performance, it cannot be used subject to the other goodness of fit tests discussed below.

Adjustment for the number of predictors in a regression model provides the adjusted R-squared, which is a modified version of R-squared. The predicted R-squared shows how well a regression

model predicts responses for new observations. The R^2 value shows that the predictors describe 11.17% of the variance in ROA. Adjusted R^2 is 0.00%, shows the number of predictors in the model. R^2 and adjusted R^2 values both indicate that the data available does present the model well. The adjusted coefficient of determination ($\bar{R}^2$), which describe the amount of variation in the dependent variables explained by all the independent variables taken together, the adjusted R^2 of 0.00% indicates that the model was statistically not significant and therefore not subject to tests of slope. Tests of the slope are aimed at determining the strength of the association among the dependent variable and each of the independent variables. In general, it may be concluded that there is no significant influence of board structure on performance of financial institutions using ROA as the performance indicator. The second step involved regressing ROA as a dependent variable against two board structure variables as the predictor; size and activity having dropped all the other explanatory variables for board structure. The result of this regression analysis is shown in table 5.2 below:

Table 5.2: Regression Analysis: ROA versus Board Size & Board Activity

Analysis of Variance

Source	DF	Adj SS	Adj MS	F-Value	P-Value
Regression	2	95.081	47.5403	5.34	0.007
NBM	1	25.621	25.6210	2.88	0.094
NBMeet	1	94.235	94.2355	10.58	0.002
Error	77	685.725	8.9055		
Lack-of-Fit	75	685.479	9.1397	74.10	0.013
Pure Error	2	0.247	0.1233		
Total	79	780.806			

Model Summary

S	R-sq	R-sq(adj)	R-sq(pred)
2.98421	12.18%	9.90%	4.18%

Coefficients

Term	Coef	SE Coef	T-Value	P-Value	VIF
Constant	3.71	1.26	2.94	0.004	
NBM	0.218	0.129	1.70	0.094	1.23
NBMeet	-0.1993	0.0613	-3.25	0.002	1.23

Regression Equation **Author, 2017**

ROA = 3.71 + 0.218 NBM - 0.1993 NBMeet

A regression model was generated from the hierarchical regression and the results are presented in Table 5.2. The p-value (0.007) of F- value demonstrates that the model as estimated by the regression analysis is significant at α-level of 0.05, showing that at least one coefficient is different from zero. The board activity as determined by the number of board meetings held is statistically related to the ROA which reported a p-value of 0.002. The p-value for size of the board as operationalized through the number of board of directors is 0.094, showing that there is no association with ROA at α-level of 0.05. The model, therefore, is a good predictor of firm performance, and can be used subject to the other goodness of fit tests discussed below. The study, therefore, rejects the null hypothesis and concludes that board structure significantly affects firm performance of financial institutions in Kenya.

The predictor explains 12.18% of the variance in ROA as shown in the R^2 value. The adjusted R^2 is 9.90%, showing the number of predictors in the model, hence the model contains some information. The adjusted coefficient of determination (R^{-2}), presents the amount of variation in the dependent variable explained by all the independent variable analyzed together. This indicates that the model was statistically significant and therefore, subject to tests of slope. Tests of the slope are aimed at determining the strength of the association among the dependent variable and each independent variable. It appears that of all board structure variables, it is the number of

board meeting that is related to ROA. All the VIFs are almost nearer to 1, showing that the independent variables are not correlated. The VIF values which are greater than 5-10 indicated that the regression coefficients are predicted poorly because of severe multicollinearity. Hypothesis one is therefore rejected.

5.3.1 Board Structure and Revenue Growth Rate

Stepwise regression was used to measure the relationship between board structure and firm performance using the revenue growth rates (RGR) as the measure of performance. The results are presented in Table 5.3. The board structure is the predictor variable, and the revenue growth rates is the dependent variable.

Table 5.3: Regression Analysis: Revenue Growth Rate and Board Structure

	----Step 1----		----Step 2----	
	Coef	P	Coef	P
Constant	-1.39		11.76	
NDOES	5.09	0.038	5.23	0.028
NBMeet			-2.52	0.031
S		13.7170		13.1964
R-sq		8.46%		17.01%
R-sq(adj)		6.59%		13.55%
R-sq(pred)		1.68%		8.18%
Mallows' Cp		4.17		1.39

α to enter = 0.15, α to remove = 0.15
Candidate terms: NBM, NIDOB, NBMeet, NFmDB, PDTEH, NDOES.

Analysis of Variance

Source	DF	Adj SS	Adj MS	F-Value	P-Value
Regression	2	1712.8	856.4	4.92	0.011
NBMeet	1	860.7	860.7	4.94	0.031
NDOES	1	896.4	896.4	5.15	0.028
Error	48	8358.9	174.1		
Total	50	10071.7			

Model Summary

S	R-sq	R-sq(adj)	R-sq(pred)
13.1964	17.01%	13.55%	8.18%

Coefficients

Term	Coef	SE Coef	T-Value	P-Value	VIF
Constant	11.76	9.63	1.22	0.228	
NBMeet	-2.52	1.14	-2.22	0.031	1.00
NDOES	5.23	2.30	2.27	0.028	1.00

Author, 2017

RGR = 11.76 - 2.52 NBMeet + 5.23 NDOES

The regression equation above shows that all other predictors had no explanatory power and were dropped except two variables: Board activity measured by the number of board meetings and other activities (NBMeet) and board type measured by the number of directors owning equity shares (NDOES). The p-value for these two variables show that they influence the revenue growth rate (RGR) at a-level of 0.05. The study, therefore, rejects the null hypothesis and concludes that board structure significantly affects performance of the financial institutions.

All the VIFs are close to 1, which indicate that the independent variables are not correlated. VIF values greater than 5-10 show that the regression coefficients are predicted poorly because of severe multicollinearity. The predictors explain 17.01 % of the variance in growth in revenue as indicated by R^2 value. The adjusted R^2 is 13.55%, accounting for the number of independent variables in the model. R^2 and adjusted R^2 values both show that the model fits the data reasonably well. Because the predicted R^2 value is close to the R^2 and adjusted R^2 values, the model appears not to be over fit and therefore, has sufficient predictive ability.

5.3.2 Generalized Estimating Equations for Board structure and Firm Performance

The procedure for Generalized Estimating Equations (GEE) was applied in extending the Generalized Linear Model (GLM) to enable the researcher to analyze repeated data. The GLM repeated data measure technique affords examination of variance in cases where similar measurements are done several times on each subject or case and across units of analysis. For instance, ROA was measured for 10 years in this study. By adopting the general linear model technique, the study tested the hypotheses regarding influence of both the between-subjects' elements and the within-subjects' elements. These explored relationships among elements in addition to the influence of individual elements. Furthermore, the influences of constant covariates and covariate interactions with the between-subjects' elements were included.

The GLM repeated measures technique enabled the researcher to determine the values of multiple dependent scale variables obtained at multiple time periods, based on their association to categorical and scale independent variables and the time periods at which they were obtained. This section presents the result of how ROA depended on board structure variables using the GEE procedure. The board structure variables are classified into different categories. These include: number of board members; number of independent directors on the board; number of board meetings and other activities; number of female board members; and board type. The model information table 5.4 below summarizes section 5.3.2.1 modelling selection to ensure that the procedure fits the appropriate model.

Table 5.4: Model Information

Dependent Variable		Return on Assets
Probability Distribution		Normal
Link Function		Identity
Subject Effect	1	Name
Within-Subject Effect	1	Year
Working Correlation Matrix Structure		Unstructured

Author, 2017

The Normal Probability Distribution (NPD) was appropriate since return on total asset is a scale variable, and its values take a symmetric, bell-shaped distribution about a central (mean) value. The link function is an alteration of the dependent variable that permits prediction of the model. The following link function which can also be used with any distribution is used – identity, f (x) = x. The dependent variable is not altered.

The variable name captures the names of the firms in this study, which are the main subjects of the study. The variable year captures the within subject data. The working correlation matrix is a representative of the within-subject dependencies. The size is indicated by the number of observations and thus the amalgamation of values of within-subject variables. There are five possible structures: independent which assumes that repeated observations are uncorrelated; AR (1) in which it is assumed that repeated observations have a first-order autoregressive association and that the correlation among any two elements is equal to r for adjacent elements, r^2 for elements that are separated by a third, and so on, r is constrained so that $-1<r<1$; Exchangeable which assumed that the structure has homogenous correlations between elements, it is also known as a compound symmetry structure; M-dependent in which it is assumed that consecutive observations have a common correlation coefficient, pairs of observations separated by a third

have a common correlation coefficient, and so on, through pairs of observations separated by m−1 other observations. Observations with greater separation are assumed to be uncorrelated; unstructured, which is a completely general correlation matrix (help ibm.spss.statistics, 2017). The Working Correlation Matrix Structure with the best result, based on the data in this study is unstructured. The other structure does not tell much. The results are presented in sections 5.3.2.1 to 5.3.2.5, in summary, the results indicate that out of the board structure variables, board activity operationalized through the number of board meetings, and other activities significantly affected firm performance further confirming the failure to reject the null hypothesis. This result leads to the conclusion that board structure significantly affects firm performance.

5.3.2.1 Board Size and Firm Performance

GEE results for firm performance and board size operationalized as the categories of number of board members are presented in tables 5.5 to 5.12.

Table 5.5a: Continuous Variable Information

	Dependent Variable
	ROA
N	790
Minimum	-15.548
Maximum	25.9906
Mean	4.097865
Std. Deviation	4.075663

Author, 2017

Table 5.5b: Categories of Number of Board members

			N	Percent
Factor	Categories of Number of Board members	8 Members and Below	200	25.30%
		9 to 10 Members	190	24.10%
		11 and above Members	400	50.60%
		Total	790	100.00%

Author, 2017

The results in Table 5.5b, indicates the categories of the number of board members as: below eight members, nine to ten members and above eleven members, with each of the categories having 25.3%, 24.1% and 50.6% of the cases respectively. Table 5.5a shows that the mean ROA is 4.097% with a minimum of -15.54% and a maximum of 25.99%.

Table 5.6a: Goodness of Fit[a]

	Value
Quasi Likelihood under Independence Model Criterion (QIC)[b]	13439.783
Corrected Quasi Likelihood under Independence Model Criterion (QICC)[b]	13376.465

Dependent Variable: Return on Total Assets
Model: (Intercept), NBMCla

a. Information criteria are in small-is-better form
b. Computed using the full log quasi-likelihood function

Author, 2017

Table 5.6 (a) provides two extensions of Akaike's Information Criterion for model selection: Quasi-likelihood under the independence model criterion (QIC) for choosing the best correlation structure and another QIC measure for choosing the best subset of independent variables. The Goodness of Fit statistics were employed in picking the appropriate correlation structure in this case unstructured correlation. Out of the five possible models, the one that provides a smaller QICC is 'better' according to this criterion. The unstructured correlation structure tends to provide a better model and is used in this section.

Table 5.6b: Tests of Model Effects and Parameter Estimates.

Parameter	B	Std. Error	95% Wald Confidence Interval		Hypothesis Test		
			Lower	Upper	Wald Chi-Square	Df	Sig.
(Intercept)	3.581	0.6152	2.375	4.786	33.871	1	0
[NBMCla=0]	-0.133	1.4082	-2.89	2.627	0.009	1	0.93
[NBMCla=1]	-0.137	0.9564	-2.01	1.738	0.021	1	0.89
[NBMCla=2]	0[a]	.	.	.	.	.	.
(Scale)	16.99						

Source	Type III		
	Wald Chi-Square	df	Sig.
(Intercept)	43.53	1	.000
NBMCla	0.024	2	.988

Author, 2017

Table 5.6 (b) presents the results for parameter estimates for the GEE procedure. The reference category for the number of board members is NBMCla=2; that is, firms with 11 and above members; and the value of -0.137 for NBMCla=1 means that, all other things being equal, we would expect the ROA of firms with 9 to 10 board members to be -0.137 lower than firms categorized as NBMCla=2; and the value of -0.133 for NBMCla=0 means that, all other things being equal, we would expect the ROA of firms with eight board members and below to be -0.133 lower than firms categorized as NBMCla=2. However, with a significance of 0.925, the results do not lead to the conclusion that firms with eight (8) board members and below influences ROA; with a significance of 0.886, the study cannot conclude that firms with 9 to 10 members have an effect on ROA, when compared to other firms with a different number of board members.

The results indicate that as the number of board members' decrease, ROA also decreases, however, this relationship is not statistically significant. This implies that board size operationalized by the number of board member is no longer a potential predictor of performance as measured by ROA. Therefore, ROA is independent of the number of board members.

Table 5.7a: Estimated Marginal Means: Categories of Number of Board members

Categories of Number of Board members	Mean	Std. Error	95% Wald Confidence Interval	
			Lower	Upper
8 Members and Below	3.44754	1.2666456	0.96496	5.93012
9 to 10 Members	3.443583	0.7322895	2.008322	4.87884
11 and above Members	3.58065	0.6152402	2.374801	4.7865

Table 5.7b: Working Correlation Matrix[a]

Measurement	Measurement									
	[Year = 2006]	[Year = 2007]	[Year = 2008]	[Year = 2009]	[Year = 2010]	[Year = 2011]	[Year = 2012]	[Year = 2013]	[Year = 2014]	[Year = 2015]
[Year = 2006]	1									
[Year = 2007]	0.947	1								
[Year = 2008]	0.947	0.947	1							
[Year = 2009]	0.699	0.768	0.791	1						
[Year = 2010]	0.615	0.726	0.628	0.589	1					
[Year = 2011]	0.316	0.46	0.437	0.346	0.509	1				
[Year = 2012]	0.413	0.533	0.484	0.5	0.656	0.59	1			
[Year = 2013]	0.37	0.537	0.547	0.572	0.629	0.5	0.719	1		
[Year = 2014]	0.347	0.477	0.378	0.392	0.438	0.349	0.506	0.623	1	
[Year = 2015]	0.283	0.354	0.327	0.333	0.38	0.287	0.47	0.683	0.444	1

Dependent Variable: Return on Total Assets
a. Ridge value was added to the working correlation matrix to make it positive definite.

Table 5.7c: General Estimable Function

Parameter	Contrast		
	L1	L2	L3
(Intercept)	1	0	0
[NBMCla=0]	0	1	0
[NBMCla=1]	0	0	1
[NBMCla=2]	1	-1	-1

Author, 2017

The results in table 5.7a indicate the average response per category of the board size, adjusted for any other variation in the model. The ranking in estimated marginal means in table show that firms with 11 and above board members post best ROA, with an ROA of 3.58, followed by 9 to 10 members with an ROA of 3.44 and finally by 8 members and below with an ROA of 3.45. Table 5.7b indicate that there is no information in the history as years 2006 and 2015 have very low correlation, the correlation decreases as the gap in the years increase.

5.3.2.2 Board Composition and Firm Performance

The GEE results for board composition and firm performance operationalized through the categories of number of independent directors and ROA are presented in table 5.8.

Table 5.8a: Categorical Variable Information

			N	Percent
Factor	Categories of Number of Independent directors on the board	Absence of Independent Director	320	40.5%
		Presence of Independent Director	470	59.5%
		Total	790	100.0%

Table 5.8b: Goodness of Fit[a]

	Value
Quasi Likelihood under Independence Model Criterion (QIC)[b]	12418.036
Corrected Quasi Likelihood under Independence Model Criterion (QICC)[b]	12388.501

Dependent Variable: Return on Total Assets
Model: (Intercept), NIDOBCla

a. Information criteria are in small-is-better form
b. Computed using the full log quasi-likelihood function

Table 5.8c: Tests of Model Effects & Parameter Estimates

Source	Type III		
	Wald Chi-Square	df	Sig.
(Intercept)	80.395	1	0
NIDOBCla	2.192	1	0.139

Parameter	B	Std. Error	95% Wald Confidence Interval		Hypothesis Test		
			Lower	Upper	Wald Chi-Square	df	Sig.
(Intercept)	4.065	.6087	2.871	5.258	44.587	1	.000
[NIDOBCla=0]	-1.152	.7781	-2.677	.373	2.192	1	.139
[NIDOBCla=1]	0[a]	.	.	.	.	.	.
(Scale)	15.716						

Table 5.8d: Estimated Marginal Means

Categories of Number of independent directors on the board	Mean	Std. Error	95% Wald Confidence Interval	
			Lower	Upper
Absence of Independent Directors	2.912502	.4847444	1.962420	3.862583
Presence of Independent Directors	4.064545	.6087086	2.871498	5.257592

Table 5.8e: Working Correlation Matrix[a]

Measurement	Measurement[Year]									
	2006]	2007]	2008]	2009]	2010]	2011]	2012]	2013]	2014]	2015]
[Year = 2006]	1.00	.948	.948	.679	.576	.267	.349	.320	.310	.262
[Year = 2007]	.948	1.00	.948	.733	.676	.402	.458	.479	.429	.319
[Year = 2008]	.948	.948	1.00	.766	.580	.385	.414	.498	.331	.298
[Year = 2009]	.679	.733	.766	1.00	.546	.297	.439	.534	.355	.313
[Year = 2010]	.576	.676	.580	.546	1.00	.458	.593	.582	.391	.351
[Year = 2011]	.267	.402	.385	.297	.458	1.00	.532	.453	.306	.261
[Year = 2012]	.349	.458	.414	.439	.593	.532	1.00	.665	.451	.434
[Year = 2013]	.320	.479	.498	.534	.582	.453	.665	1.00	.594	.679
[Year = 2014]	.310	.429	.331	.355	.391	.306	.451	.594	1.00	.438
[Year = 2015]	.262	.319	.298	.313	.351	.261	.434	.679	.438	1.00

Dependent Variable: Return on Total Assets
Model: (Intercept), NIDOBCla
a. Ridge value was added to the working correlation matrix to make it positive definite.

Table 5.8f: General Estimable Function

Parameter	Contrast	
	L1	L2
(Intercept)	1	0
[NIDOBCla=0]	0	1
[NIDOBCla=1]	1	-1

Dependent Variable: Return on Total Assets Model: (Intercept), NIDOBCla

Author, 2017

In Table 5.8 (a) are the results for the two categories of board composition, the presence of independent directors and their absence. The data show that 40.5% of the firms had no independent director while 59.5% had independent directors. In Table 5.8(b) the result shows that the unstructured correlation structure provides a better model and is used throughout this section**.** Table 5.8 (c) provides the reference category for presence of independent directors which is NIDOBCla=1; that is, firms with independent directors; and the value of -1.152 for NIDOBCla=0 means that, all other things being equal, the ROA of firms without independent directors should be -1.152 lower than firms with independent directors with a significance of 0.139, showing that this relationship is not statistically significant. In overall terms, these results

indicate that the presence of independent directors improves performance. The results in Table 5.8 (d) showed that the mean ROA is 4.06% for firms with independent directors and 2.91% for firms without independent directors. However, this relationship is not statistically significant. This means that board composition is not a potential predictor of performance as measured by ROA. Table 5.8e indicates that there is no information in the history as years 2006 and 2015 have very low correlation, the correlation decreases as the gap in the years increase.

5.3.2.3 Board Activity and Firm Performance

The GEE results for firm performance and board activity operationalized through ROA and the categories of the number of board meetings and other activities respectively are presented in table 5.9.

Table 5.9a: Categorical Variable Information

			N	Percent
Factor	Categories Of Number of Board meetings and other activities	1 to 6 Meetings in a Year	420	53.2%
		7 to 10 Meetings in a Year	60	7.6%
		11 to 15 Board Meetings in a Year	121	15.3%
		16 to 27 Meetings in a Year	189	23.9%
		Total	790	100.0%

Table 5.9b: Goodness of Fita

	Value
Quasi Likelihood under Independence Model Criterion (QIC)[b]	17849.223
Corrected Quasi Likelihood under Independence Model Criterion (QICC)[b]	17781.282

Dependent Variable: Return on Total Assets
Model: (Intercept), NBMeetCla

a. Information criteria are in small-is-better form.
b. Computed using the full log quasi-likelihood function

Table 5.9c: Tests of Model Effects & Parameter Estimates

Source	Type III		
	Wald Chi-Square	df	Sig.
(Intercept)	64.355	1	.000
NBMeetCla	26.457	3	.000

Parameter	B	Std. Error	95% Wald Confidence Interval		Hypothesis Test		
			Lower	Upper	Wald Chi-Square	df	Sig.
(Intercept)	-.855	.9830	-2.782	1.072	.756	1	.384
[NBMeetCla=0]	5.264	1.1244	3.060	7.468	21.917	1	.000
[NBMeetCla=1]	4.765	1.2014	2.411	7.120	15.735	1	.000
[NBMeetCla=2]	7.908	1.8054	4.370	11.447	19.186	1	.000
[NBMeetCla=3]	0[a]	.	.	.	.	.	.
(Scale)	22.612						

Dependent Variable: Return on Total Assets

Model: (Intercept), NBMeetCla a. Set to zero because this parameter is redundant.

Table 5.9d: Estimated Marginal Means

Categories Of Number of board meetings and other activities	Mean	Std. Error	95% Wald Confidence Interval	
			Lower	Upper
1 to 6 Meetings in a Year	4.409169	.5458838	3.339256	5.479081
7 to 10 Meetings in a Year	3.910531	.6905976	2.556984	5.264077
11 to 15 Board Meetings in a Year	7.053296	1.3833166	4.342046	9.764547
16 to 27 Meetings in a Year	-.854926	.9830387	-2.781647	1.071794

Table 5.9e: Working Correlation Matrix

	Measurement									
Measurement	[Year = 2006]	[Year = 2007]	[Year = 2008]	[Year = 2009]	[Year = 2010]	[Year = 2011]	[Year = 2012]	[Year = 2013]	[Year = 2014]	[Year = 2015]
[Year = 2006]	1.000	.916	.916	.796	.674	.437	.517	.484	.501	.482
[Year = 2007]	.916	1.000	.916	.835	.744	.526	.585	.667	.604	.566
[Year = 2008]	.916	.916	1.000	.848	.668	.504	.544	.670	.526	.541
[Year = 2009]	.796	.835	.848	1.000	.652	.451	.569	.702	.551	.560
[Year = 2010]	.674	.744	.668	.652	1.000	.511	.623	.684	.524	.534
[Year = 2011]	.437	.526	.504	.451	.511	1.000	.553	.566	.436	.443
[Year = 2012]	.517	.585	.544	.569	.623	.553	1.000	.732	.556	.582
[Year = 2013]	.484	.667	.670	.702	.684	.566	.732	1.000	.722	.819
[Year = 2014]	.501	.604	.526	.551	.524	.436	.556	.722	1.000	.624
[Year = 2015]	.482	.566	.541	.560	.534	.443	.582	.819	.624	1.000

Dependent Variable: Return on Total Assets

Model: (Intercept), NBMeetCla

Author, 2017

In Table 5.9 (a) are the results for the four categories of board activity, measured in terms of board meeting. The categories of board meetings were as follows: firms that held 1 to 6 board meeting a year (53.2%), firm that held 7 to 10 board meetings a year (7.6%), firm that held 11 to 15 board meetings a year (15.3%) and firm that held 16 to 27 board meetings a year (23.9%). The data in Table 5.9(b) shows that the unstructured correlation structure provides a better model and therefore, is used throughout this section**.** The results in Table 5.9 (c) showed the reference category for the number of board meetings is NBMeetCla=3; that is, firms with 16 to 27 board meetings in a year; and the value of 7.908 for NBMeetCla=2 means that, all other things being equal, we would expect the ROA of firms with 11 to 15 board meetings to be 7.908 higher than firms categorized as NBMeetCla=3; and the value of 4.765 for NBMeetCla=1 means that, all other things being equal, we would expect the ROA of firms with 7 to 10 board meetings to be 4.765 higher than firms categorized as NBMeetCla=0. The relationships are statistically significant indicating that board activity influences firm performance. Overall the results' indicate that there is an optimal number of board meetings that firm performance is optimized. Table 5. 9 (d) shows that the mean ROA is highest for firms with 11 to 15 board meetings in a year with mean ROA of 7.05%, for 7 to 10 meetings, the mean is 3.9%, 1 to 6 meetings are 4.4% and for 16 to 27 meetings the mean ROA is -0.85% indicating that very high meetings negatively impact performance. This means that board activity is a predictor of performance as measured by ROA. Table 5.9 (e) indicate that there is no information in the history as years 2006 and 2015 have very low correlation, the correlation decreases as the gap for the years increase.

5.3.2.4 Board Diversity and Firm Performance

The GEE results for firm performance and board diversity operationalized through ROA and the categories of number of female directors in the board respectively are presented in tables 5.10.

Table 5.10 a: Categorical Variable Information

			N	Percent
Factor	Categories Of Number of female directors on the board	No Female Director in The Board	100	12.7%
		1 to 2 Female Directors In The Board	412	52.2%
		3 and More Female directors in The Board	278	35.2%
		Total	790	100.0%

Table 5.10 b: Goodness of Fit[a]

	Value
Quasi Likelihood under Independence Model Criterion (QIC)[b]	17882.429
Corrected Quasi Likelihood under Independence Model Criterion (QICC)[b]	17624.540

Table 5.10 c: Tests of Model Effects

Source	Type III		
	Wald Chi-Square	df	Sig.
(Intercept)	1.392	1	.238
NFmDBCla	3.488	2	.175

Table 5.10 d: Parameter Estimates

Parameter	B	Std. Error	95% Wald Confidence Interval		Hypothesis Test		
			Lower	Upper	Wald Chi-Square	df	Sig.
(Intercept)	3.703	.7689	2.196	5.209	23.190	1	.000
[NFmDBCla=0]	-6.645	4.2404	-14.956	1.667	2.455	1	.117
[NFmDBCla=1]	.702	.8074	-.880	2.284	.756	1	.385
[NFmDBCla=2]	0[a]	.	.	.	.	.	.
(Scale)	22.387						

a. Set to zero because this parameter is redundant.

Table 5.10 e: Estimated Marginal Means

Categories Of Number of female directors on the board	Mean	Std. Error	95% Wald Confidence Interval	
			Lower	Upper
No Female Director in The Board	-2.942	4.170	-11.115	5.231
1 to 2 Female Directors In The Board	4.404	.788	2.859	5.949
3 and More Female directors in The Board	3.702	.768	2.195	5.209

Table 5.10 f: Working Correlation Matrix[a]

	Measurement									
Measurement	[Year = 2006]	[Year = 2007]	[Year = 2008]	[Year = 2009]	[Year = 2010]	[Year = 2011]	[Year = 2012]	[Year = 2013]	[Year = 2014]	[Year 2015]
[Year = 2006]	1.00	.915	.915	.698	.616	.427	.501	.472	.440	.372
[Year = 2007]	.915	1.00	.915	.791	.740	.575	.632	.638	.577	.469
[Year = 2008]	.915	.915	1.00	.863	.724	.613	.650	.700	.559	.504
[Year = 2009]	.698	.791	.863	1.00	.635	.487	.603	.659	.511	.450
[Year = 2010]	.616	.740	.724	.635	1.00	.586	.697	.681	.524	.464
[Year = 2011]	.427	.575	.613	.487	.586	1.00	.678	.616	.489	.425
[Year = 2012]	.501	.632	.650	.603	.697	.678	1.00	.779	.606	.562
[Year = 2013]	.472	.638	.700	.659	.681	.616	.779	1.00	.696	.722
[Year = 2014]	.440	.577	.559	.511	.524	.489	.606	.696	1.00	.530
[Year = 2015]	.372	.469	.504	.450	.464	.425	.562	.722	.530	1.00

a. Ridge value was added to the working correlation matrix to make it positive definite.

Table 5.10 g: General Estimable Function

Parameter	Contrast		
	L1	L2	L3
(Intercept)	1	0	0
[NFmDBCla=0]	0	1	0
[NFmDBCla=1]	0	0	1
[NFmDBCla=2]	1	-1	-1

Author, 2017

In Table 5.10 (a) are the results for the three categories of board diversity that were identified, being no female director in the board (12.7% of the firms), 1 to 2 female directors (52.2% of the firms) and the third category 3 or more female directors (35.2% of the firms). Table 5.10 (b) shows that the unstructured correlation structure provides a better model and is used in this section**.** Table 5.10 (d) provides the reference category for presence of 3 or more female directors which is NFmDBCla=2; that is, firms with 3 or more female directors; and the value of 0.702 for NFmDBCla=1 means that, all other things being equal, we would expect the ROA of firms with

1 to 2 directors to be 0.702 higher than firms with 3 or more female directors with a significance of 0.385; and ROA for no female director on the board to be -6.645 lower than that of 1 to 2 female directors with a significance of 0.117 indicating that this association is not statistically significant. Overall, the findings show that board diversity operationalized by the number of female directors in the board impact firm performance, table 5.10 (e) reveals that the mean ROA is -2.94% for firms with no female director in the board, 4.4% for firms with 1 to 2 female directors in the board and 3.7% for firms with 3 or more female directors; however, this relationship is not statistically significant. This means that diversity of the board is not a potential predictor of firm performance as measured by ROA. Table 5.10 (f) indicate that there is no information in the history as years 2006 and 2015 have very low correlation, the correlation decreases as the gap in the years increase.

5.3.2.5 Board Type and Firm Performance

The GEE results for firm performance and board type operationalized through ROA and director equity share ownership classified board type 1 and 2 respectively are presented in tables 5.11.

Table 5.11a: Categorical Variable Information

			N	Percent
Factor	Board Type	If all Directors Own Shares	333	42.2%
		Some Directors Do Not Own Shares	457	57.8%
		Total	790	100.0%

Table 5.11b: Goodness of Fit[a]

	Value
Quasi Likelihood under Independence Model Criterion (QIC)[b]	12723.597
Corrected Quasi Likelihood under Independence Model Criterion (QICC)[b]	12691.934

Table 5.11c: Tests of Model Effects & Parameter Estimates

Source	Type III		
	Wald Chi-Square	df	Sig.
(Intercept)	70.309	1	.000
BoType	.959	1	.327

Parameter	B	Std. Error	95% Wald Confidence Interval		Hypothesis Test		
			Lower	Upper	Wald Chi-Square	df	Sig.
(Intercept)	3.892	.6362	2.645	5.139	37.431	1	.000
[BoType=1]	.761	.7768	-2.283	.762	.959	1	.327
[BoType=2]	0[a]	.	.	.	.	.	.
(Scale)	16.101						

a. Set to zero because this parameter is redundant.

Table 5.11 d: Estimated Marginal Means: Board Type

Board Type	Mean	Std. Error	95% Wald Confidence Interval	
			Lower	Upper
If all Directors Own Shares	3.131203	0.4977932	2.155546	4.10686
Some Directors Do Not Own Shares	3.892099	0.6361627	2.645243	5.138955

Table 5.11e: Working Correlation Matrix[a]

Measurement	Measurement (Year)									
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Year = 2006]	1.00	.948	.948	.682	.585	.282	.368	.335	.320	.266
[Year = 2007]	.948	1.00	.948	.741	.689	.419	.481	.496	.442	.327
[Year = 2008]	.948	.948	1.00	.771	.594	.400	.436	.513	.345	.305
[Year = 2009]	.682	.741	.771	1.00	.558	.312	.458	.544	.365	.317
[Year = 2010]	.585	.689	.594	.558	1.00	.475	.613	.596	.405	.359
[Year = 2011]	.282	.419	.400	.312	.475	1.00	.551	.468	.320	.269
[Year = 2012]	.368	.481	.436	.458	.613	.551	1.00	.682	.468	.444
[Year = 2013]	.335	.496	.513	.544	.596	.468	.682	1.00	.601	.677
[Year = 2014]	.320	.442	.345	.365	.405	.320	.468	.601	1.00	.437
[Year = 2015]	.266	.327	.305	.317	.359	.269	.444	.677	.437	1.00

a. Ridge value was added to the working correlation matrix to make it positive definite.

Author, 2017

In Table 5.11 (a) are the results for the two categories of board type that were identified being board type 1 where all directors own equity shares with 42.2% of the firms falling in this category and type 2 where some own equity shares with 52.2% of the firms lying in this category. Table 5.11 (b) shows that the unstructured correlation structure provides a better model and is used throughout this section**.** Table 5.10 (c) provides the reference category for board type 2 (BoType=2); that is, firms with board type 2; and the value of 0.761 for BoType =1 means that, all other things being equal, we would expect the ROA of firms with board type 1 to be 0.702 higher than firms with board type 2 with a significance of 0.327 indicating that this relationship is not statistically significant. Table 5.11 (d) shows that the mean ROA is 3.13% for board type 1 and 3.89% for board type 2. The results mean that board type is not a potential predictor of firm performance as measured by ROA. Table 5.8 (e) indicate that there is no information in the history as years 2006 and 2015 have very low correlation, the correlation decreases as the gap in the years increase.

5.4 Board Structure, CEO Tenure and Firm Performance

The second objective of the research was to determine the intervening effect of CEO's tenure on the association among board structure and firm performance. The influence of CEO tenure was captured by the number of years since the CEO’s appointment. These were assessed along with the indicators of board structure variables: size, type, activity, diversity, composition; and CEO duality. The firms' indicators of performance were return on assets and revenue growth rate. In testing for the impact on variables, various regression procedures were performed to determine whether the joint effects were adequate to support the hypotheses. The following null hypothesis was formulated:

H_{o2}: There is no significant intervening effect of CEO tenure in the relationship between board structure and performance of financial institutions in Kenya.

The prediction equations as shown in chapter three were;

$$ROA_{i,t} = \alpha + \beta_1 BS_{i,t} + + \beta_2 BC_{i,t} + \beta_3 CEOD_{i,t} + \beta_4 BA_{i,t} + \beta_5 BD_{i,t} + \beta_6 BT_{i,t} + \beta_7 CEOT_{i,tt} + _{i,t} \ldots\ldots 3.1.3$$

$$RGR_{i,t} = \alpha + \beta_1 BS_{i,t} + + \beta_2 BC_{i,t} + \beta_3 CEOD_{i,t} + \beta_4 BA_{i,t} + \beta_5 BD_{i,t} + \beta_6 BT_{i,t} + \beta_7 CEOT_{i,t} + \varepsilon_{i,t} \ldots\ldots 3.1.4$$

Note: The variables are as defined in section 3.9 and Table 3.2

The first step of the analysis involved regressing ROA as the dependent variable, together with the board structure as the predictor variable. The board structure predictors were: size, composition, activity, CEO duality, board diversity and board type. The CEO tenure was included as an intervening variable. The second step involved regressing the same variables but using a revenue growth rate (gSales) as the dependent variable. The study failed to reject the null hypothesis thus indicating that CEO tenure does not significantly intervene in the association among board structure and performance of financial institutions in Kenya. The results from these regressions are reported in table 5.12 and table 5.13 below:

Table 5.12: Regression Analysis: ROA versus NBM, NIDOB, NBMeet, NFmDB, NYSCEOA, and BoType

Analysis of Variance

Source	DF	Adj SS	Adj MS	F-Value	P-Value
Regression	6	80.598	13.4330	1.16	0.344
NBM	1	9.269	9.2694	0.80	0.376
NIDOB	1	0.011	0.0114	0.00	0.975
NBMeet	1	1.327	1.3273	0.11	0.737
NFmDB	1	0.426	0.4262	0.04	0.849
NYSCEOA	1	3.777	3.7772	0.33	0.571
BoType	1	15.600	15.6002	1.34	0.252
Error	48	556.801			
Total	54	637.399			

Model Summary

S	R-sq.	R-sq.(adj)	R-sq.(pred)
3.40588	12.64%	1.73%	0.00%

Coefficients

Term	Coef	SE Coef	T-Value	P-Value	VIF
Constant	1.95	2.93	0.67	0.509	
NBM	0.245	0.274	0.89	0.376	3.20
NIDOB	-0.010	0.332	-0.03	0.975	3.35
NBMeet	-0.063	0.185	-0.34	0.737	2.70
NFmDB	-0.098	0.511	-0.19	0.849	1.54
NYSCEOA	-0.356	0.624	-0.57	0.571	1.17
BoType	2.51	2.16	1.16	0.252	2.76

Author, 2017

Regression Equation

When BoType = 0

ROA = 1.95 + 0.245 NBM - 0.010 NIDOB - 0.063 NBMeet - 0.098 NFmDB - 0.356 NYSCEOA

When BoType = 1

ROA = 4.46 + 0.245 NBM - 0.010 NIDOB - 0.063 NBMeet - 0.098 NFmDB - 0.356 NYSCEOA

From the hierarchical regression results in Table 5.12, regression models were generated. The p-value for the regression equation in the analysis of variance table (0.344) indicates that the model predicted by the regression technique is not significant at α-level of 0.05. The P-Value is greater than the α - level of 0.05. Therefore, the study failed to reject the hypothesis as formulated and concludes that the variables NBM, NIDOB, NBMeet, NFmDB, NYSCEOA, BoType does not significantly affect the ROA of financial institutions in Kenya when CEO tenure is included as an intervening variable. This leads to the conclusion that CEO tenure does not significantly intervene in the relationship among board structure and performance of financial institutions in Kenya. The p-values for all estimated coefficients are greater than 0.05, showing that they are not significantly related to ROA at a-level of 0.05. However, the NIDOB has the highest p value indicting that it has the least explanatory power, followed by NFmDB, NBMeet, NYSCEOA, NBM and BoType. Since the model is not a good predictor of ROA, it cannot be used subject to the other goodness of fit tests presented below.

The R^2 value shows that the independent variables account for 12.64% of the variance in ROA. The low adjusted R^2 of 1.73%, indicates that the model does not fit the data well. The adjusted coefficient of determination indicates the amount of variations in the dependent variable as accounted for by all the independent variables taken together, is 0.00%, therefore, the model was

statistically not significant and hence, not subject to tests of slope. VIF values of less than five shows that the regression coefficients are not poorly predicted as a result of severe multicollinearity. In general, there is no significant influence of CEO tenure on the association among board structure and performance (ROA) of financial institutions in Kenya resulting in the failure to reject hypothesis two (H_{o2}).

The second step involved regressing to the structure of the board variables against the revenue growth rate (gSales) as the measure of performance, and the findings are in Table 5.13.

Table 5.13: Regression Analysis: gSales versus NBM, NIDOB, NBMeet, NFmDB, NYSCEOA, and BoType
Analysis of Variance

Source	DF	Adj SS	Adj MS	F-Value	P-Value
Regression	6	1441.7	240.28	1.06	0.402
NBM	1	348.2	348.22	1.53	0.222
NIDOB	1	15.9	15.90	0.07	0.793
NBMeet	1	212.2	212.20	0.93	0.339
NFmDB	1	27.5	27.46	0.12	0.730
NYSCEOA	1	351.4	351.38	1.54	0.220
BoType	1	324.5	324.53	1.43	0.238
Error	48	10921.9	227.54		
Total	54	12363.6			

Model Summary

S	R-sq.	R-sq.(adj)	R-sq.(pred)
15.0844	11.66%	0.62%	0.00%

Coefficients

Term	Coef	SE Coef	T-Value	P-Value	VIF
Constant	5.8	13.0	0.44	0.659	
NBM	1.50	1.22	1.24	0.222	3.20
NIDOB	0.39	1.47	0.26	0.793	3.35
NBMeet	-0.792	0.820	-0.97	0.339	2.70
NFmDB	-0.79	2.26	-0.35	0.730	1.54
NYSCEOA	3.43	2.76	1.24	0.220	1.17
BoType	-11.45	9.58	-1.19	0.238	2.76

Author, 2017

Regression Equation

When BoType = 0

gSales = 5.8 + 1.50 NBM + 0.39 NIDOB - 0.792 NBMeet - 0.79 NFmDB + 3.43 NYSCEOA

When BoType = 0

gSales = -5.7 + 1.50 NBM + 0.39 NIDOB - 0.792 NBMeet - 0.79 NFmDB + 3.43 NYSCEOA

In Table 5.13, the p-value from the regression analysis of variance table of 0.402 illustrates that the equation predicted by the regression technique is not significant at α-level of 0.05. The P-value is greater than the α-level of 0.05; therefore, the study failed to reject the hypothesis as formulated and concludes that NBM, NIDOB, NBMeet, NFmDB, NYSCEOA, BoType does not significantly affect the growth in revenue of financial institutions in Kenya. The p-values for all the predicted coefficients are greater than 0.05, proving that they are not significantly related to growth in revenue at α -level of 0.05. However, the NIDOB has the highest p-value indicting that it has the least explanatory power, followed by NFmDB, NBMeet, BoType, NBM and the NYSCEOA. Since the model is not a good predictor of revenue growth rate; it cannot be used subject to the other goodness of fit tests discussed below.

The R^2 value reveals that the independent variables account for 11.66% of the variance in growth in revenue. The adjusted R^2 is 0.62%, accounting for the number of independent variables in the model. Both values show that the model does not fit the data well. The adjusted coefficient of determination ($\bar{R}^2$), indicating the amount of variation in the dependent variable as accounted for by all the predictors taken together, 0.00% indicating that the model was statistically not significant and therefore, not subject to tests of slope. VIF values of less than 5 shows that the regression coefficients are not poorly predicted as a result of severe multicollinearity. In general, it can therefore be concluded that there is no significant influence of CEO tenure on the association among board structure and performance (operationalized by the growth in revenue) of financial institutions in Kenya resulting in failure to reject hypothesis two (H_2).

5.5 Board Structure, Firm Characteristics and Performance

The research hypothesized that there is no significant moderating influence of firm characteristics on the association among board structure and performance of financial institutions in Kenya. This was derived from the main objective of the research which was to establish the effect of board structure on performance of financial institutions in Kenya. To address the objective of the study, first board structure was disaggregated into the various variables that characterize it, being: size, type, diversity, activity, composition and CEO duality. This study conceptualized that firm characteristics would accelerate or decelerate the relationship among board structure and performance of financial institutions in Kenya. Firm characteristics were therefore conceptualized as having a significant moderating impact on the association among board structure and performance of Kenyan financial institutions. This

led to the formulation of the third objective of the study which sort to examine the moderating impact of firm characteristics on the association among board structure and performance of financial institutions in Kenya. A moderator is a variable which affects association between independent and dependent variables.

Baron and Kenny (1986) define a moderating variable as one that affects the direction and/or strength of the relationship among an independent and dependent variable. Moderated influences in regression models capture the influence of a predictor variable on a dependent variable as a function of another third variable. The dependence of the third variable is known as the interaction effector term. This effect is a product of the predictor and dependent variable. Moderation is supported when the interaction term remains significant when introduced to the regression which is significant. Moderation was done at three levels. The first step involved testing the independent effect among the predictor and dependent variable. If the results are significant, then the second step is introduced. The second step involves a combined regression of the independent and moderator. Thirdly, an interaction term which is a product of the independent, and moderator are introduced as predictors on one hand while dependent variable on the other. If the results show model significance and the interaction term is significant, then moderation is said to be occurring. Following conceptualization of the study variables the third null hypothesis was thus formulated:

H_{o3}: There is no significant moderating effect of firm characteristics on the relationship between board structure and performance of financial institutions in Kenya.

The prediction equations as shown in chapter three were;

$$ROA_{i,t}=\alpha+\beta_1 BS_{i,t}++\beta_2 BC_{i,t}+\beta_3 CEOD_{i,t}+\beta_4 BA_{i,t}+\beta_5 BD_{,t}+\beta_6 BT_{i,t}+\beta_7 SIZE1_{i,tt}+\beta_8 LIS_{i,t}+$$

$$\beta_9 OWN_{i,t}+{}_{i,t} \quad \text{.....3.1.5}$$

$$RGR_{i,}=\alpha+\beta_1 BS_{i,t}++\beta_2 BC_{i,t}+\beta_3 CEOD_{i,t}+\beta_4 BA_{i,t}+\beta_5 BD_{i,t}+\beta_6 BT_{i,t}+\beta_7 SIZE1_{i,tt}+\beta_9 LIS_{i,t}+$$

$$\beta_{10} OWN_{i,t}+{}_{i,t} \quad \text{.....3.1.6}$$

Note: The variables are as defined in section 3.9 and Table 3.2

The moderating effect of each structural manifestation was tested to determine the impact of firm characteristics on the association among board structure and performance of financial institutions in Kenya. These included firm size, listing and ownership structures. The study began by testing the moderating influence of firm size on the association among board structure and performance, thereafter the same steps were carried out for the other two variables. The study rejects the hypothesis as the p-value for the regression equation in the analysis of variance table (0.05) indicates that the equation predicted through the regression technique is significant at α-level of 0.05. This result shows that the association among ROA and board structure variables, considering the mediation effect of firm characteristic is significant (P = 0.050); this indicates that at least one variable predicted ROA. The findings of the regression test are presented in the subsections that follow.

Table 5.14: Regression Analysis: ROA versus NBM, NIDOB, NBMeet, NFmDB, TAssets (log), Listed, and BoType

Analysis of Variance

Source	DF	Adj SS	Adj MS	F-Value	P-Value
Regression	7	156.789	22.3985	2.21	0.050
NBM	1	8.307	8.3066	0.82	0.370
NIDOB	1	0.555	0.5549	0.05	0.816
NBMeet	1	1.659	1.6590	0.16	0.688
NFmDB	1	1.693	1.6931	0.17	0.684
TAssets(log)	1	89.757	89.7572	8.86	0.005
Listed	1	6.624	6.6235	0.65	0.423
BoType	1	19.066	19.0664	1.88	0.177
Error	46	465.769	10.1254		
Total	53	622.559			

Model Summary

S	R-sq.	R-sq.(adj)	R-sq.(pred)
3.18205	25.18%	13.80%	0.00%

Coefficients

Term	Coef	SE Coef	T-Value	P-Value	VIF
Constant	17.02	5.96	2.86	0.006	
NBM	0.236	0.260	0.91	0.370	3.24
NIDOB	-0.073	0.313	-0.23	0.816	3.26
NBMeet	-0.073	0.181	-0.40	0.688	2.77
NFmDB	0.199	0.487	0.41	0.684	1.57
TAssets(log	-1.661	0.558	-2.98	0.005	1.12
Listed	1.14	1.41	0.81	0.423	1.20
BoType	2.93	2.13	1.37	0.177	2.74

Author, 2017

Regression Equation

Listed BoType

0 0 ROA = 17.02 + 0.236 NBM - 0.073 NIDOB - 0.073 NBMeet + 0.199NFmDB -1.661 TAssets (log)

0 1 ROA = 19.95 + 0.236 NBM - 0.073 NIDOB - 0.073 NBMeet + 0.199 NFmDB - 1.661 TAssets (log)

1 0 ROA = 18.17 + 0.236 NBM - 0.073 NIDOB - 0.073 NBMeet + 0.199 NFmDB - 1.661 TAssets (log)

1 1 ROA = 21.09 + 0.236 NBM - 0.073 NIDOB - 0.073 NBMeet + 0.199 NFmDB - 1.661 TAssets (log)

The results in table 5.14 presents four regression equations, one for each level of the categorical predictor and combination variables' firm size (Log of total assets) and listing status. The P-value and F-value from the regression equation in the analysis of variance table (0.05) tells us that the model estimated by the regression technique is significant at α-level of 0.05. This indicates that at least one predictor variable predicts ROA. The study, therefore, rejects the hypothesis and concludes that the moderating influence of firm characteristics on the relationship is significant. The board structure variables: NBM, NIDOB, NBMeet, NFmDB, NYSCEOA, and BoType significantly affect ROA of financial institutions in Kenya when the effects of firm characteristics are introduced. The VIFs are very high. VIF values less than 5 shows that the regression coefficients are not poorly predicted as a result of severe multicollinearity. The R^2 value shows that regression equation account for 25.18% of the variance in strength, proving that the model fits the data well. R^2 (pred) is 13.80%. The study therefore rejects the third hypothesis as formulated.

5.6 Board Structure, CEO Tenure, Firm Characteristics and Performance

The fourth objective of this research was to examine the joint effect of board structure, CEO tenure, firm characteristics on performance of financial institutions in Kenya. The influence of CEO tenure was evaluated based on the number of years since the CEO appointment. Firm characteristics were operationalized using firm size, ownership structure and listing. These were assessed against the indicators of board structure being size, type, activity, diversity, composition and CEO duality and indicators of firm performance being return on assets and revenue growth rate. In testing the influence on dimensions, various regressions were conducted to determine if the joint effects were adequate to support the hypotheses. The following null hypothesis was formulated:

H_{o4}: There is a significant joint effect of board structure, CEO tenure and firm characteristics on performance of financial institutions in Kenya.

The prediction equation as discussed in chapter three is:

$$ROA_{i,t}=\alpha+\beta_1 BS_{i,t}++\beta_2 BC_{i,t}+\beta_3 CEOD_{i,t}+\beta_4 BA_{i,t}+\beta_5 BD_{i,t}+\beta_6 BT_{i,t}+\beta_7 CEOT_{i,tt}+\beta_8 SIZE1_{i,tt}+\beta_9 LIS_{i,t}+\beta_{10} OWN_{i,t}+$$

$$_{i,t}\text{.....}3.1.7$$

$$RGR_{i,}=\alpha+\beta_1 BS_{i,t}++\beta_2 BC_{i,t}+\beta_3 CEOD_{i,t}+\beta_4 BA_{i,t}+\beta_5 BD_{i,t}+\beta_6 BT_{i,t}+\beta_7 CEOT_{i,tt}+\beta_8 SIZE1_{i,tt}+\beta_9 LIS_{i,t}+\beta_{10} OWN_{i,t}+$$

$$_{i,t}\text{.....}3.1.8$$

Note: The variables areas defined in section 3.9 and Table 3.2

Multiple regression analysis was performed to assess the association among performance (dependent variable), firm characteristics (moderating variable), CEO tenure (intervening

variable) and board structure (independent variable). The findings indicate that the model was statistically significant (p-value<.05). The multiple regression models produced, show an R^{-2} =20.09%, F=3.02, p<0.05. The study therefore rejects the null hypothesis and concludes that the joint influence of board structure, CEO tenure and firm characteristics on performance of financial institutions is significant. The results of the tests are presented in table 5.15 below.

Table 5.15: Regression Analysis: ROA versus NBMeet, NYSCEOA, TAssets (log), NBMeet*NYSCE.

Analysis of Variance

Source	DF	Adj SS	Adj MS	F-Value	P-Value
Regression	6	156.843	26.140	3.02	0.011
NBMeet	1	50.772	50.772	5.86	0.018
NYSCEOA	1	18.739	18.739	2.16	0.146
TAssets(log)	1	47.242	47.242	5.45	0.022
NBMeet* NYSCEOA	1	1.601	1.601	0.18	0.669
NBM*TAssets (log)	1	62.443	62.443	7.21	0.009
TAssets (log)* NYSCEOA	1	17.238	17.238	1.99	0.163
Error	72	623.963	8.666		
Total	78	780.806			

Model Summary

S	R-sq.	R-sq.(adj)	R-sq.(pred)
2.94383	20.09%	13.43%	0.00%

Coefficients

Term	Coef	SE Coef	T-Value	P-Value	VIF
Constant	63.9	25.2	2.54	0.013	
NBMeet	-3.03	1.25	-2.42	0.018	530.70
NYSCEOA	-9.45	6.43	-1.47	0.146	196.49
TAssets(log)	-5.60	2.40	-2.33	0.022	40.33
NBMeet*NYSCEOA	0.116	0.270	0.43	0.669	139.19
NBM*TAssets(log)	0.2628	0.0979	2.68	0.009	269.92
TAssets(log)*NYSCEOA	0.854	0.605	1.41	0.163	248.18

Author, 2017

Regression Equation

ROA = 63.9 - 3.03 NBMeet - 9.45 NYSCEOA - 5.60 TAssets(log)
+ 0.116 NBMeet*NYSCEOA + 0.2628 NBM*TAssets(log) + 0.854 TAssets(log)*NYSCEOA

From the regression results in table 5.15 above, regression equations were generated, one for each level of the categorical predictor and combination variables' firm size (Log of total assets) and CEO tenure. The p-value for the regression equation (0.011) indicates that the equation predicted through the regression technique is significant at α-level of 0.05. This indicates that the association among ROA and board structure variables, considering the intervening effect of CEO tenure and moderating effect of firm characteristics is significant, and that is at least one variable predicts ROA. Therefore, the study rejects the hypothesis as formulated and concludes that there is a significant joint effect of board structure, CEO tenure and firm characteristics on performance of financial institutions in Kenya. The results indicate that the predictor variables of NBMeet, TAssets (log) and NBM*TAssets (log) are significant based on the fact that all their p-values are less than 0.05 level of significant.

The R^2 value indicates that regression equation accounts for 20.09% of the variance in the strength, proving that the model fits the data well. R^{-2} (pred) is 13.43%. The VIFs are very high. VIF values less than 5 show that the regression coefficients are not poorly predicted as a result of severe multicollinearity. The study rejects the hypothesis as formulated.

5.7 Discussion of Findings

The general objective of this research was to examine the influence of board structure on performance of financial institutions in Kenya and the intervening and moderating effect of CEO tenure and firm characteristics on that relationship. This section presents a discussion of the results summarized in table 5.16. The discussion follows closely the results of test of each hypothesis.

5.7.1 Board Structure and Firm Performance

The first specific objective of the study was to examine the association among board structure and performance of financial institutions in Kenya. This study hypothesized that there is no significant influence of board structure on firm performance. The results led to rejection of the first hypothesis implying that a statistically significant influence of board structure on performance of financial institutions in Kenya exists. Both the hierarchical regression and GEE results show that two board structure variables; board activity and board type significantly affect performance of financial institutions in Kenya. The findings further give evidence that the optimal number of board of directors' meetings and other activities that optimize performance of financial institutions in Kenya is 11 to 15 meetings per annum. Board types 1 where all members own equity shares are shown to have the greatest influence on performance of the institutions. The

results show that the other board structure variables, including size, diversity, CEO duality, and independence do not significantly affect performance of financial institutions in Kenya.

The results confirm previous studies, done by other scholars such as Lipton and Lorsch (1992) and Byrne, (1996) who recommended that the more frequent a board meets, the higher the likelihood of performing its duties diligently to protect shareholders' interests. This study found out that "the most extensively shared problem directors have is lack of enough time to carry out their roles and responsibilities." Other researchers who have done studies in this area include: Jensen and Murphy (1990); Johl et.al. (2015); Palia and Lichtenberg (1999) who concluded that board members' equity share ownership enhances the performance of the firm. Brickley et al. (1988) argued that employees and board of directors owning stocks are more motivated and keen to run the firm efficiently and to control managers carefully. Studies on board size has also yielded equivocal results with many studies debating, from many perspectives, whether the board is preferred to be of a large size or small size (Jensen 1993; and Yermack, 1996). While others preferred smaller boards to enhance performance of the firm (e.g., Lipton & Lorsch, 1992; Jensen 1993; Yermack, 1996) several others have provided evidence that larger board sizes are better for improving performance of the firm (Adam & Mehran, 2003; and Anderson et al., 2004). Other studies in the past have made similar conclusions on CEO duality. The supporters of agency theory argue that the principle of CEO duality weakens control mechanism and negatively influences monitoring role of board members. The research by Ujunwa (2012), Heenetigala & Armstrong (2007) and Yasser et al. (2011) concluded that CEO duality has a negative impact on the firm performance. The findings provide evidence on the various categories of board type as defined in this study, a variable of board structure that has not been

extensively studied and conclude that it significantly affects performance of financial institutions in Kenya.

This study is not consistent with other studies which found mixed and contradicting results on the effect of some of the board structure variables on performance. For instance, Bhatt and Bhattacharya (2015) studied various board structure variables such as independence; size; meeting and attendance at other events; and CEO duality. The study, after controlling for firm-specific factors, provides evidence that larger sizes of the board were positively related to firm performance. The study failed to find any association among the number of board meetings and firm performance. However, attendance of the board members was found to be positively associated with firm performance. Other empirical studies, including, Johl et al. (2015), Wah et al. (2015) and Gurasamy (2017) concluded that board size and board financial expertise had a positive influence on the performance of firms. Other studies have also demonstrated that board meetings have adverse effects on performance of institutions. The findings also contradict the study by Hussein and Kiwia (2009) who examined the relationship between female board members defined as board diversity in this study and the performance of 250 US firms from 2000 to 2006. Their findings indicated a positive association among performance of institutions and the ratio of female board of directors. They further showed that better performing firms usually are dominated by female members on their boards, which helped in conceding to government pressure, particularly in developed countries.

The results about the significance of the influence of board structure on performance are consistent with the agency theory. This postulates that a key purpose of the board is to ensure

managers achieve results, which are in the best interest of the owners (Shleifer & Vishny, 1997). This is done by effectively structuring the board to ensure the interests of the managers are in line with owners' interests thus improving institutional performance. The results are also in support of the convergence-of-interests theory, which provides that when directors have no equity shares, they are motivated by selfish interests, but they possess no power to circumvent business controls designed to align their decision making for the benefit of the equity holders. As equity share ownership increases, directors automatically and progressively align their interest with the equity holders leading to improved quality decisions, which enhance the performance of the firm (Jensen & Meckling, 1976; Beasley, 1996).

The results indicate that various conclusions may be drawn from the association among the board structure and performance of institutions depending on the board structure variables used. Prior literature indicates that, there is no agreement regarding which structure leads to what performance levels (Johnson, Daily & Ellstrand, 1996; Zahra & Pearce, 1989). Dalton and Daily (1999) noted that despite decades of research in an attempt to link the association among board structure and firm performance, results had been described as 'vexing', 'contradictory', 'mixed' and 'inconsistent'.

5.7.2 Board Structure, CEO Tenure and Firm Performance

The second specific objective of the research was to examine the intervening influence of CEO tenure on the relationship between board structure and performance of financial institutions in Kenya. This study hypothesized that there was no significant intervening influence of CEO tenure on the association among board structure and performance of financial institutions in

Kenya. The study failed to reject hypothesis two implying that there is no significant influence of CEO tenure in the association among board structure and performance of financial institutions in Kenya.

These results demonstrate consistency with other researchers such as, Huson et al. (2004) who provides evidence that performance changes after the CEO leave in cases where the CEOs are forced out, do not exhibit any significant differences when compared with performance changes when CEOs resign voluntarily. CEO tenure and changes may also be associated to other governance characteristics and institutions with higher institutional ownership thereby contributing to enhanced performance after the CEO departure. The successive performance enhancement is also much more in cases where the successor CEOs are recruited from outside the institution than when they are recruited from within the firm.

Empirical evidence agrees that the influence of CEO tenure and turnover on performance of institutions is a complex phenomenon which goes beyond the simple, direct effects (Simsek, 2007). In order to get a whole assessment of the causal linkages among CEO tenure and turnover and performance of institutions, it is imperative to explore the fundamental mechanisms that describe how CEO tenure is important (Simsek, 2007). Nonetheless, even after numerous calls (Simsek, 2007), the available knowledge of the intermediate features that channel the influence of CEO tenure on performance of institutions is still rare. It is worth noting that none of the above studies had considered CEO tenure as an intervening variable but rather had considered the pairwise association among CEO tenure and performance of institutions or board structure and the firm's performance.

5.7.3 Board Structure, Firm Characteristics and Performance

This research conceptualized that firm characteristics would accelerate or decelerate the association among board structure and performance of financial institutions in Kenya. Firm characteristics were thus conceptualized to have a significant moderating effect on this relationship. This led to the formulation of the third objective of the research which was to assess the association among board structure, firm characteristics and performance of financial institutions in Kenya. Specifically, the third objective sort to examine the moderating influence of firm characteristics on the association among board structure and performance of financial institutions in Kenya. This study hypothesized that the moderating influence of firm characteristics on the association among board structure and firm performance was not significant. The researcher tested for mediation by exploring the possibility of a mediating effect of firm characteristics on the relationship between board structure and institutional performance. The results provided sufficient statistical evidence to signify a moderating relationship. The results, therefore, rejected hypothesis three implying that firm characteristics significantly mediate in the association among board structure and performance of financial institutions in Kenya. There is minimal literature that attempts to link board structure, firm characteristics and institutional performance. However, studies have been done linking firm characteristics to firm performance.

The study is consistent with previous studies, which have concluded that firm characteristics, including age, size, stock exchange listing, nature of institution, whether multinational or local, leverage, family control, quality of auditing, asset structure and fund availability have an impact on firm performance (Wahab et al., 2004). This could be attributed to operational efficiency,

regulatory requirements and external support. Wallace et al. (1994) contend that the firm's age and financial performance have a significant positive relationship.

However, the results are not consistent with Morck et al. (1988), who reported a statistically significant non-linear association among management equity ownership and performance of institutions. Additionally, McConnell and Servaes (1990) results identified positive association among firm performance variables and the extent of institutional and large external equity ownership respectively. Other conflicting studies include, Demetz and Villalonga (2001) with regard to management equity ownership, and Morck et al. (1988) who while evaluating institutional equity ownership documented that there was no statistically significant influence on performance of the institutions. Barako et al. (2006) also concluded that firm size has no significant effect on firm performance.

5.7.4 Board Structure, CEO Tenure, Firm Characteristics and Performance

The fourth and last objective of the research was to assess the joint relationship between board structure, CEO tenure, firm characteristics and performance of financial institutions in Kenya. The study predicted that there is no significant joint influence of board structure, CEO tenure and firm characteristics on performance of financial institutions in Kenya. The results led to the rejection of the null hypothesis and concluded that there is a statistically significant joint influence of board structure, CEO tenure and firm characteristics on performance of financial institutions in Kenya, the predictor variables jointly explaining part of the variations in performance of the institutions. Although the influence in joint effect is not a direct one, there was evidence that the three variables (board structure, CEO tenure and firm

characteristics) in combination increased the explained variation in performance of financial institutions in Kenya, and this was evidence that they each had a contribution to the institutions' performance. The joint effect of board structure, CEO tenure and firm characteristics on firm performance as evidenced in the model was greater than the individual effects, thus hypothesis four was rejected.

The variables of board structure, CEO tenure, firm characteristics and firm performance have not previously been considered together as has been done in this study. Previous researchers seem to have been kinked towards select variables of the board structure or on the influence of a single structure such as the board (Letting et al., 2012; Kamaara et al., 2013) or ownership (Mangunyi, 2011; Ongore & K'Obonyo, 2011) on performance. Examples of studies that focused on select board structure variables include a study by Letting et al. (2012) who studied board diversity and performance of companies concluding that board diversity significantly affects performance; Kamaara et al. (2013) established that board characteristics influenced performance of Kenyan state corporations.

5.8 Summary of Research Findings

Chapter five presented hypotheses' testing as well as discussions of the findings of the study. The hypotheses were stated in the null hypotheses' form and were tested using regression analysis and GEE models. Based on the results, there was the failure to reject hypothesis two, while hypotheses one, three and four were rejected. The interpretations have been made using statistical knowledge and the existing body of theoretical and empirical literature.

Hypothesis one (H_{01}) hypothesized that there is no significant effect of board structure on performance of financial institutions in Kenya. Results of hierarchical multiple regressions provide evidence that there is a significant influence of board structure on performance of financial institutions in Kenya. Board activity and board type are identified as the two board structure variables that have a statistically significant influence on performance of financial institutions in Kenya. The results further show that the optimal number of board of directors' meetings and other activities that optimize performance of financial institutions in Kenya is the 11 to 15 meetings in a year. Board type is also found to have a significant effect on performance of financial institutions in Kenya with board type 1 whose all members own equity shares being shown to have the greatest impact on performance of financial institutions in Kenya. The results indicate that the other board structure variables, including size, diversity, CEO duality, and composition did not have a significant effect on performance of financial institutions in Kenya.

Hypothesis two (H_{o_2}) examined the intervening influence of CEO tenure on the association among structure of the board and firm performance. The study fails to reject hypothesis two implying that there is no significant intervening effect of CEO tenure in the association

among board structure and performance of financial institutions in Kenya. Hypothesis three (H_{03}) tested the mediating influence of the institutional characteristics on the association among board structure and performance of financial institutions in Kenya and conclude that firm characteristics had a mediating relationship between board structure and performance of financial institutions in Kenya. Hypothesis four (H_{o_4}) assessed the joint effects of board structure, CEO tenure and firm characteristics on performance of financial institutions in Kenya. The findings from this study show that overall the model is statistically significant, implying that board structure, CEO tenure and firm characteristics jointly have a significant effect on performance of financial institutions in Kenya.

Table 5.16: Summary of Results of Hypothesis Testing

Study Objective	Hypothesis	Results	Implications
Objective 1: To determine the effect of board structure on performance of financial institutions in Kenya.	**H_{o1}:** There is no significant effect of board structure on performance of financial institutions in Kenya	Hierarchical regression equation results indicate that the equation predicted by the regression technique is significant at α-level of 0.05.Therefore, at least one coefficient is different from zero. GEE analysis further confirms that two variables board activity and board type significantly affect firm performance	The study, therefore rejects the null hypothesis and concludes that Board structure significantly affects performance of financial institutions in Kenya.
Objective 2: To determine the intervening effect of CEO tenure on the relationship between board structure and performance of financial institutions in Kenya.	**H_{o2}:** There is no significant intervening effect of CEO tenure in the relationship between board structure and performance of financial institutions in Kenya.	The p-values for all the estimated coefficients are greater than α-level of 0.05, indicating that they are not significantly related to ROA at a-level of 0.05.	The study fails to reject the hypothesis and concludes that CEO tenure does not significantly intervene in the association among structure and performance of financial institutions in Kenya.
Objective 3: To determine the moderating effect of firm characteristics on the relationship between board structure and performance of financial institutions in Kenya.	**H_{o3}:** There is no significant moderating effect of firm characteristics in the relationship between board structure and performance of financial institutions in Kenya.	The p-values for the regression equation provides evidence that the equation predicted by the regression technique is significant at α-level of 0.05. The P-value is less than the α-level of 0.05	The study rejects the null hypothesis and concludes that the moderating effect of firm characteristics on the relationship between board structure and performance of financial institutions in Kenya is statistically significant.
Objective 4: To ascertain the joint effect of board structure, CEO tenure and firm characteristics on performance of financial institutions in Kenya.	**H_{o4}:** There is no significant joint effect of board structure, CEO tenure and firm characteristics on performance of financial institutions in Kenya.	The multiple regression model results produced $\bar{R}^2$= 20.09%,F=3.02,p< 0.05 indicating that the relationship is statistically significant	From the results, H_{o4} is rejected implying that board structure, CEO tenure and firm characteristics have a joint statistically significant effect on performance of financial institutions in Kenya.

CHAPTER SIX

SUMMARY OF FINDINGS, CONCLUSION AND IMPLICATIONS

6.1 Introduction

The study set out to establish the influence of board structure, CEO tenure and firm characteristics on performance of financial institutions in Kenya by testing four hypotheses that explored the four variables. The study was anchored on agency theory, convergence-of-interests theory, entrenchment theory, upper echelons theory and stewardship theory; and used positivistic philosophy in testing four quantitative hypotheses. Secondary data was collected from financial institutions in Kenya mainly from the annual reports for a ten-year period from 2006 to 2015. The study used both a correlational descriptive research design and cross-sectional survey design.

Three data analysis methods were applied on the data collected to achieve the research objectives. The data analysis methods used included correlation analysis, generalized estimating equations (GEE) and variants of regression analysis. The result provided by the three data analysis methods was to confirm the influence of board structure on performance of financial institutions in Kenya; and further confirm if CEO tenure and firm characteristics moderated and intervened in this relationship. A summary of the study findings is presented throughout this chapter. The rest of the chapter is presented as follows: Section 6.2 presents the summary of the findings; section 6.3 presents the conclusions from the study; section 6.4 is the contribution of the study findings; section 6.5 is limitations to the study; and section 6.6 is further research suggestions.

6.2 Summary of the Findings

Studies about board structure has yielded mixed and contradictory results on the optimal board structure. However, most are in agreement about the important variables representing board structure, and that may have an impact on the monitoring and thus institutional performance. The debate about influence of board structure on institutional performance, therefore, continues given that some empirical studies have yielded inconsistent results suggesting that other factors mediate or intervene to accelerate the relationship. Firm characteristics and CEO tenure were identified as the factors that come into play.

The objective of the research centered on the establishment of the joint influence of board structure, CEO tenure and firm characteristics on performance of financial institutions in Kenya. Board structure was the independent variable. Further, CEO tenure was conceptualized as an intervening variable while the firm characteristic was conceptualized as a moderating variable in the relationship between board structure and performance of financial institutions. To effectively address the main research objective four specific research objectives were formulated. The first objective was to determine the effect of board structure on performance of financial institutions in Kenya. The second objective sought to examine the intervening effect of CEO tenure on the association among board structure and performance of financial institutions in Kenya. Similarly, the third objective was to establish the moderating impact of firm characteristics on the association among board structure and performance of financial institutions in Kenya. The fourth objective sought to establish the combined influence of board structure, CEO tenure and firm characteristics on performance of financial institutions in Kenya. The board structure indicators used are the board size, board activity, board type, board diversity, board composition and CEO duality; while the performance variables used are ROA and growth in revenue; and the control variable is the CEO tenure being the number of years

since CEO appointment and firm characteristics measured by listing, firm size and ownership structures.

Hypothesis one (H_{01}) hypothesized that there is no significant effect of board structure on performance of financial institutions in Kenya. Results of hierarchical multiple regressions showed that there is a significant effect ($p<0.05$) of board structure on firm performance. Similarly, the GEE results indicate that there is a significant effect ($p<0.05$) of board structure on firm performance and identifies board activity and board type as the two most statistically significant board structure variables that affect firm performance. In general, it can therefore be concluded that there is a significant effect of board structure on firm performance resulting in the rejection of the first null hypothesis. The results further show that the optimal number of board of directors' meetings and other activities that optimize performance of financial institutions in Kenya is a range of 11 to 15 meetings in a year. Board type was also found to have a significant influence on performance of financial institutions in Kenya with board type 1 whose all members own equity shares being shown to have the greatest impact on performance of financial institutions in Kenya. The findings indicate that the other board structure variables, including size, diversity, CEO duality, and independence did not have a statistically significant effect on performance of financial institutions in Kenya.

Hypothesis two (H_{o_2}) sought to establish the intervening effect of CEO tenure on the association among board structure and performance of financial institutions in Kenya. The research failed to reject hypothesis two implying that there is no significant intervening effect of CEO tenure in the association among board structure and performance of financial institutions in Kenya.

Hypothesis three (H_{03}) tested the mediating effect of firm characteristics on the association among board structure and performance of financial institutions in Kenya. The third null hypothesis is rejected indicating that board structure significantly predicted firm performance even when a firm characteristic is controlled ($p<0.05$) implying that firm characteristics had a mediating influence on the association among board structure and performance of financial institutions in Kenya.

Hypothesis four (H_{o_4}) assessed the joint effects of board structure, CEO tenure and firm characteristics on performance of financial institutions in Kenya. The findings from this study show the overall model is statistically significant ($p<0.05$), implying that board structure, CEO tenure and firm characteristics jointly have a significant effect on performance of financial institutions in Kenya. The fourth null hypothesis is rejected.

6.3 Conclusions of the Study

The findings of the study of the association among board structure and performance of financial institutions in Kenya brought out mixed results. The results are in support of the agency theory and the convergence-of-interests theory. The results further indicate that there is an optimal number of board of director meetings that have a statistical significant effect on firm performance. The number of board of directors' meetings which optimize firm performance was found to be 11 to 15. In support of the convergence-of-interests theory board type, particularly board type one whose all directors own equity share is found to have a significant effect on performance. This finding could be attributed to the fact that agency conflict can be resolved by encouraging management share options so as to align the interest of employees and directors with those of the equity holders; and the convergence-of-interests theory, which postulates that when board of directors had no equity

ownership, they are self-oriented, but they have little power to circumvent firm controls that have been developed to align their decision making for the benefit of the residual owners. Board size, board diversity, board composition and CEO duality influence on performance was found to be statistically not significant. This was consistent with extant literature; however, whose results have been mixed, vexing and contradictory. Jointly, the individual contribution of each board structure variable had a significant influence on performance.

The study established that board size and board diversity were not conducive to offer meaningful stewardship to the financial institutions. There is need for the institutions to strengthen board structures so that they play their active role of monitoring and oversight. The board should have the necessary authority, competences and objectivity to carry out their functions of strategic guidance and monitoring of management. However, it is worth noting that additionally, there has been strict monitoring of the organizations activities by oversight authorities which exist beyond the board.

Failure to reject hypothesis two (H_{o2}) implied financial institutions in Kenya in making corporate governance decisions, should consider board structure and may ignore the CEO tenure. The introduction of the moderating effects strengthened the explanatory power of board structure on performance of financial institutions in Kenya. Firm characteristics with the strongest impact on performance included firm size and listing. Their independent introduction increased the strength of the association among board structure and firm performance. In this regard, the study concludes that firm characteristics significantly affect the association between board structure and performance of Kenyan financial institutions.

It further concludes that the joint effect of board structure, CEO tenure, and firm characteristic on firm performance was statistically significant. Although a positive relationship existed between the variables, the explanatory power of these models was weak. It is highly likely that there are other factors other than those conceptualized in this study, which influenced firm performance. From the outset, although board structures manifested themselves to a low and moderate extent, it was established that performance of Kenyan financial institutions was very good. In some instances, regression analyses yielded weak models that were largely not statistically significant.

These results confirm some and while refuting other conceptual as well as empirical studies. The results have also supported several theoretical postulations and refuted some. The study concludes that performance of Kenyan financial institutions can be explained by the board structure, CEO tenure and firm characteristics. The findings propose that firms need to emphasize on an optimal number of board meetings between 11 to 15 meetings a year and a higher percentage of board members should own equity shares which are found in this study to have a positive implication on performance of financial institutions in Kenya. However, the findings found that board structure variables of size, independence, diversity and CEO duality does not affect performance of financial institutions in Kenya. The study has various implications to theory, practice, policy and methodology. The subsequent sections present those implications.

6.4 Contributions of the Study Findings

Prior studies have postulated that corporate governance is critical to organizational success. Board structures have also been linked to performance. However, limited empirical literature existed on the influence of CEO tenure and firm characteristics on the association among board structure and firm performance. This study sought to establish this relationship. The study results will arouse deeper academic discourse on the relationship of these concepts; form a basis for strengthening policy as well as managerial practice in financial institutions in Kenya and beyond.

6.4.1 Contributions to Knowledge

This study has reduced the dearth of literature on board structure in emerging economies and Kenya in particular. It has contributed significant knowledge both for the academics and/or practitioners. The study has made several contributions to the theory and practice of finance. It provides information to potential and current scholars on the impact of board structure, CEO tenure and firm characteristics to financial institution's performance in Kenya. The results from this study add to existing knowledge in four ways: The first major contribution is the determination of the relevant factors that are important in defining board structure in Kenya. Although six board structure indicators (size, activity, composition, diversity, CEO duality and type) were used, the study results show that board activity and board type are the key indicators of institutional performance in Kenya. None of the literature reviewed about board structure attempted to determine the board type as an indicator.

The second contribution of the study findings is the determination of the relevant factors that are important in defining firm characteristics in Kenya. Based on the literature reviewed, several indicators were identified as suitable measures of firm characteristics. These included

age, size, stock exchange listing, nature of institution, whether multinational or local, leverage, family control, quality of auditing, asset structure and funds availability which influence on performance. The strength of some of the measures in explaining variations in performance was explored with results indicating the main indicators are firm size, and securities exchange listing.

The third contribution of the study is the test of the intervening effect of CEO tenure on the association among board structure and performance. Although some studies had looked at the direct effect of CEO tenure on performance, none had CEO tenure as an intervening variable in the association among board structure and performance of financial institutions in Kenya. The findings of this study show that CEO tenure had no intervening effect on the association among board structure and firm performance. This further brings out the need to empirically test the postulation of entrenchment theory with a view of seeing whether CEO entrenchment positively affects firm performance.

Lastly, this study has helped in reducing the controversy on the association among board structure and performance by showing that the relationship is not direct but rather is moderated by firm characteristics. This may partly explain why many researchers that have tested the association among board structure variables, and firm performance have found contradictory results. Notwithstanding several years of empirical studies done to link the association among board structure and firm performance, the findings have been found to be "vexing," "contradictory," "mixed" and "inconsistent." This study in an attempt to examine these relationships, has indicated that the influence of board structure on firm performance can best be understood by considering how firm characteristics impact this relationship.

6.4.2 Contributions to Theory

This study has helped add to the empirical grounding of agency theory and convergence-of-interests theory. Various other issues regarding these theories have been brought out. Agency theory posits that performance is enhanced when good corporate governance structures are put in place. The findings from this research indicate that the associations between board structure and institutional performance are enhanced with introduction of various corporate governance structures. Convergence-of-interests theory, which postulates that when the board of directors have no equity ownership, they are self-oriented, but they have little power to circumvent firm controls that are developed to align their decision making for the benefit of the residual owners. The findings of this study indicate that board type significantly affects performance of financial institutions. Therefore, supporting this theory. These same results do not, therefore, support the postulations of the stewardship theory which argues for managers being left on their own to run the organizations and entrenchment theory which postulates that share ownership by directors has no effect on performance. The association among CEO tenure, corporate governance and performance has also received significant input both conceptually and empirically. Previous scanty empirical literature existed linking the three concepts. Scholars and researchers can refer to this thesis for future studies.

The agency theory has received an empirical backing from the findings of this study. The study established that board structure significantly affected performance of financial institutions in Kenya. This agrees with the postulations of agency theory that the monitoring role of the board of directors helped reduce the agency conflict and thus maximize shareholder's wealth (performance) as the agents' interests are synchronized with those of the shareholders. However, the paradox was that when CEO tenure was introduced during intervention, the influence of board structure became negative.

6.4.3 Contributions to Managerial Policy and Practice

The study also contributes to policy formulation and development in Kenya. Policy makers will benefit in understanding how institutional forces in the Kenyan context affects firm performance and hence be guided in formulation of reforms in various political, judicial and economic institutions. Investors who intend to venture into the financial sector in Kenya will benefit from the study and be able to formulate optimal policies, this will also clear their confidence regarding their choices of investment. Due to many complexities in today's world economy and the changing corporate governance scene, there has been an increasing need to change the way organizations conduct their businesses to achieve higher performance levels.

The findings from this study have varied implications on managerial practice. From the findings the joint effect of the three variables (board structure, CEO tenure and firm characteristics) is greater than their individual effect. Additionally, it was established that the moderating effect of firm characteristics on the association among board structure and performance of financial institutions in Kenya had greater influence on firm performance than their individual influence. This means for financial institutions in Kenya to achieve stellar performance the key decision makers should pay close attention to the findings from this research that is; they should ensure their board structure, especially the board activity and board type takes cognizant of the findings in this study and further take into account their firm characteristics. Additionally, financial institutions in Kenya should therefore, consciously structure the board to optimize performance.

The financial institutions' regulators will be in a position to come up with necessary policies and procedures that promote better governance practices and appropriate firm characteristics that improve performance of financial institutions. The government will be able to put in place

a conducive environment and an appropriate regulatory framework. Financial institution regulators in the country such as the CBK, CMA and the Retirement Benefit Authority (RBA) can use the findings in guiding the regulation process, especially when developing corporate governance codes that may include board structures. The government can use the findings from this study as an input in policy formulation on board structure, especially because of the potential contribution of the much-needed governance in the sector.

6.4.4 Contributions to Methodology

This study has helped add to the grounding of methodology in the study of board structure and institutional performance. Various studies on the variables of study have been limited to regression and correlation analysis. The analysis in this study adopted variants of regression; the regression was run in a panel manner; a number of alternatives of panel data hierarchical regressions were run, fixed effects, random effects, ordinary least squares (OLS), generalized least squares (GLS) and a dynamic panel. Since OLS does not make use of information contained in the unequal variability of the independent variable and to ensure the analysis produces the best linear unbiased estimators GLS was also used. The Generalized Estimating Equations (GEE) procedure was used to extend the generalized linear model (GLM) to allow for analysis of repeated measurements. This allowed the study variables to be analyzed over the ten-year period of the study and better-informed conclusions to be made from the findings.

This research solved methodological problems by adopting correlation technique to detect and cross match suitable measures of board structure, firm characteristic and performance. Additionally, generalized estimating equation (GEE) was used as an enhancement on Ordinary Least Regression (OLS).

6.5 Limitations of the Study

Although this study had some limitations, effort was made to ensure that these limitations did not significantly affect the finding of the study. The major limitation was the scope of the research. The research was limited to an emerging country with a developing financial institution's sector which is bedeviled with various governance, resource and capacity challenges. Such challenges may exist to a small extent or nonexistent in developed countries and financial sectors that enjoy adequate governance arrangements, capital, human resources and political goodwill. Additionally, being based on financial institutions in Kenya may limit the generalization of results to other jurisdictions such as to developed countries or to the non-financial companies.

Secondly, the study only integrated six important variables of board structure, including size, composition, type, CEO duality, diversity and activity. However, there is a variety of other important board structure variables that are not included in this framework, such as board process, board expertise and board busyness. In addition, this study only investigated some firm characteristics, including firm size, listing, and ownership structures; however, other characteristics (such as age, auditing arrangements and industry type) might also strongly influence the association among board structure and firm performance. The study fails to consider the possibility that variables such as board process, board busyness, board expertise and additional firm characteristics may influence performance. The variables' relationship was tested in a linear model ignoring the fact that the variables may affect performance but in a non – linear relationship.

Exhaustion all the statistical analysis techniques that can be adopted for such studies could not be achieved by this research. Various techniques are available for such studies, and each

technique or statistical method has its advantages and disadvantages. Use of other statistical methods may lead to different results that may improve empirical studies in this area. This research dependent on variants of multiple regressions to determine several effects and relationships. The research relied on secondary data, but a review of previous studies indicates that there are several board structure characteristics that can better be captured qualitatively. The study was limited as it relied on quantitative data analysis.

The research results are as precise as the data used and the analysis adopted. In developing countries, Kenya included: data availability, validity and collection challenges are numerous. Conclusive time-series data is not readily available even in established databases. This challenge leads to complications in collecting data in forms usable for this research and other studies. To surmount this challenge, the researcher decided to consult several authoritative data sources. However, notwithstanding this challenge, the quality of the research was not compromised, and the findings contributed to the existing body of knowledge, particularly with regard to board structure, CEO tenure, firm characteristics and firm performance.

6.5 Future Research Directions

Several future research possibilities based upon the findings from this study exist. Board structure variables studied included size, CEO duality, activity, type, diversity and composition. However, no evidence has been found that board process, board busyness and expertise among others have been widely used as a variable. A research gap exists as to how these variables may impact institutional performance. The question remains as to the casual relationship between these variables. Researchers could therefore consider introducing other variables in similar studies such as the external environment, firm characteristics, strategy among other variables and establish their influence on performance.

Researchers could equally consider using other statistical tools to analyze data such as structural equation modeling or factor analysis and also other measures such as Tobins Q. A blend between a quantitative and qualitative approach would also provide a rich insight into the relationship between board structure, CEO tenure, firm characteristics and firm performance. Future studies could also want to investigate the reasons for positive and negative influence of an interaction term when combined with other variables. Also, future research needs to look at non- financial performance measures.

Further research should bring in an integrative conceptual model among board structure and institutional performance variables, with board process acting as an intervening variable. Empirical evidence about the board process is rare. The reason for inadequate empirical evidence on the board process is probably as a result of the fact that obtaining access to the members of the board and information about the board is not an easy task. However, the researcher is of the view that such a restraint ought not to be a justification for not designing a functioning model for conceptual analysis.

The results presented mixed findings regarding the association among board structure variables and performance of financial institutions in Kenya. While several studies document a positive influence of board structure variables on performance, others found the opposite. This could be linked to the variety of methodologies and definitions of variables used and the study contextual factors that were not included in the analysis by the models used.

6.7 Chapter Summary

This chapter is a summary of the findings, its conclusion and recommendations. The chapter provided an overview of the objectives, the hypotheses and decisions on the results of tests of hypotheses. Conclusions have been drawn. Overall, it concluded that board structure significantly affects institutional performance. Moderation and intervention of firm characteristics and CEO tenure on the association among board structure and performance of financial institutions in Kenya were highlighted. The chapter consequently discussed the key implications of the study on theory, managerial practice, methodology and policy. Limitations of the study have equally been mentioned. It is along the key implications and limitations that the chapter concluded by providing recommendations and suggestions for future study.

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APPENDICES

Appendix I: Data Collection Form

1. Name of Financial Institution.....

2. Year Established.....

	ITEM	**2006**	**……**	**2013**	**2014**	**2015**
D1	Earnings Before Interest & Taxes (KShs)					
D2	Total Assets (KShs)					
D3	Sales/Revenue (KShs)					
D4	Number of Board members					
D5	Number of independent directors on the board					
D6	CEO holds the Chairman position					
D7	Number of board meetings and other activities					
D8	Number of female directors on the board					
D9	Percentage of Directors total equity holding					
D10	Number of Directors owning equity shares					
D11	Number of years since CEO appointment					
D12	CEO Contract Period					
D13	CEO Changes					
D14	Dummy for listed firms (LIS)					
D15	Percentage of government ownership if any					

Appendix II: Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
ROA	.143	50	.012	.928	50	.005
gEBIT	.079	50	.200*	.976	50	.411
NBM	.100	50	.200*	.977	50	.427
NIDOB	.141	50	.014	.943	50	.017
CEO Cp	.540	50	.000	.202	50	.000
NBMeet	.202	50	.000	.767	50	.000
NFmDB	.106	50	.200*	.947	50	.026
PDTEH	.107	50	.200*	.936	50	.010
NDOES	.138	50	.019	.835	50	.000
NYSCEOA	.267	50	.000	.717	50	.000
CEOCP	.349	50	.000	.636	50	.000
CEOCha	.284	50	.000	.676	50	.000

Appendix III: Descriptive Statistics

Table 1: Descriptive Statistics: EBIT, Total Assets, Sales/Revenue							
Variable	Class	N	N*	Mean	StDev	Minimum	Maximum
		0	1	*	*	*	*
	Bank	259	0	5572017746	10013267595	-13779300000	55672388038
	Insurance	240	0	484118120	633501179	-300634000	4390705000
EBIT	Sacco	290	0	92984946	183964770	-32000000	1611471200
	Bank	259	0	248298000000	917500000000	107657010	10230000000000
	Insurance	240	0	8840505920	11172674477	163471000	76614854000
Total Assets	Sacco	290	0	3445221571	5493605075	29630520	32322172000
	Bank	259	0	19633045422	80884902683	6127000	966669000000
	Insurance	240	0	2935345821	3710215432	16681583	19332946000
Sales/Revenue	Sacco	290	0	526386742	1441310632	1752365	14036932000

Table 2: Earnings Before Interest and Tax							
Variable	Year	N	N*	Mean	StDev	Minimum	Maximum
	2006	78	1	989642440	3769539859	-317626555	28498120636
	2007	79	0	984479100	3078858716	-274520000	20678175274
	2008	79	0	1349554527	4491563441	-382364000	29431306300
	2009	79	0	1291878304	4052250128	-162424000	32341862614
	2010	79	0	1789353767	6214931157	-6592000	51914546615
	2011	79	0	1556280951	5572338346	-13779300000	40901656938
	2012	79	0	2589696269	7424346265	-153378900	53790713638
	2013	79	0	2983930152	7912326983	-123113100	55672388038
	2014	79	0	3206430415	8315822441	-499252000	53176200000
EBIT	2015	79	0	3351111311	8450042677	-1637985000	48451900000

Table 3: Total Assets							
Variable	Year	N	N*	Mean	StDev	Minimum	Maximum
	2006	78	1	31082322916	124014000000	29630520	898578000000
	2007	79	0	34421653173	136590000000	33254120	1046710000000
	2008	79	0	42628361447	160956000000	40125364	1134160000000
	2009	79	0	47076924300	173097000000	45425079	1306550000000
	2010	79	0	56345653395	186312000000	54576435	1398700000000
	2011	79	0	68302187838	227407000000	61465722	1723690000000
	2012	79	0	82364008586	305072000000	73503740	2436000000000
	2013	79	0	92593903923	332843000000	82810626	2594520000000
	2014	79	0	190319000000	1072880000000	97012323	9449370000000
Total Assets	2015	79	0	208804000000	1161160000000	120973738	10230000000000

Table 4: Return On Assets							
Variable	Year	N	N*	Mean	StDev	Minimum	Maximum
	2006	78	1	4.005	4.929	-9.839	24.439
	2007	79	0	4.239	5.243	-15.548	25.991
	2008	79	0	4.175	4.763	-7.647	24.908
	2009	79	0	4.009	3.44	-2.096	15.003
	2010	79	0	4.062	3.535	-1.765	16.788
	2011	79	0	3.217	3.245	-8.48	16.225
	2012	79	0	3.911	3.869	-6.59	15.637
	2013	79	0	4.751	4.389	-3.53	21.378
	2014	79	0	4.193	3.302	-1.585	16.706
ROA	2015	79	0	4.434	3.525	-1.736	15.716

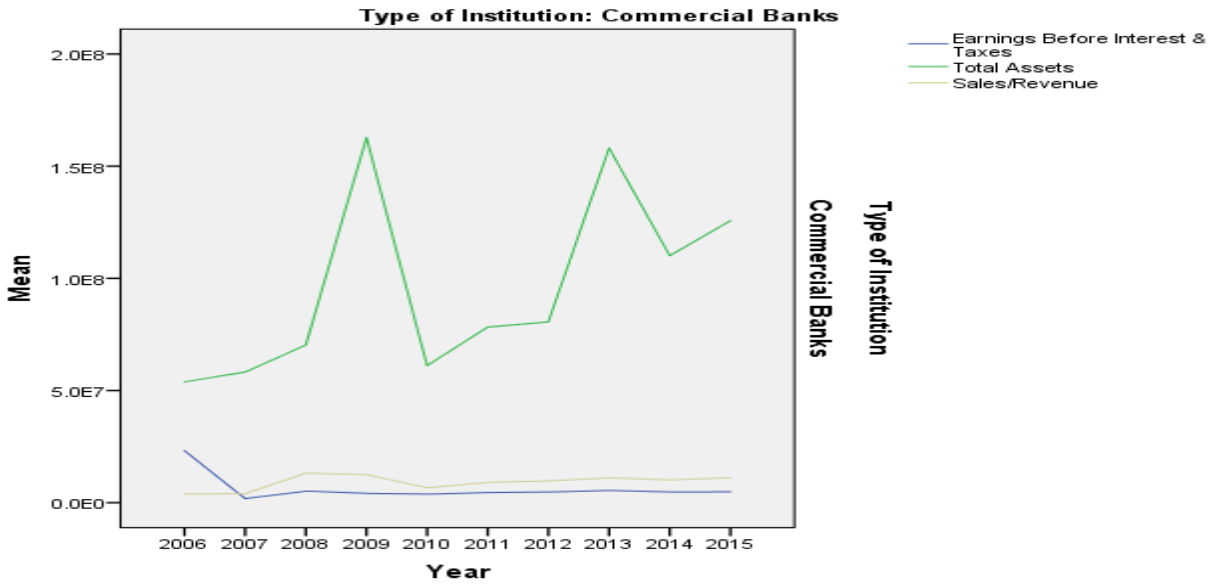
Table 5: Descriptive Statistics: ROA, gEBIT, gTAssets, gSales							
Variable	Class	N	N*	Mean	StDev	Minimum	Maximum
		0	1	*	*	*	*
	Bank	259	0	3.21	3.23	-15.55	24.91
	Insurance	240	0	6.83	4.66	-3.84	25.99
ROA	Sacco	290	0	2.64	3.00	-8.48	21.38
	Bank	259	0	14.89	15.28	-14.57	40.78
	Insurance	240	0	14.90	13.01	-9.83	38.90
gEBIT	Sacco	290	0	19.56	13.07	-11.00	53.43
	Bank	259	0	20.52	12.05	1.21	53.32
	Insurance	240	0	14.98	9.98	-3.35	46.67
gTAssets	Sacco	290	0	13.05	10.91	-13.99	36.07
	Bank	259	0	14.19	11.03	-6.14	35.99
	Insurance	240	0	19.13	18.83	-23.56	56.65
gSales	Sacco	290	0	16.52	13.42	-20.90	47.52

Table 6: Mean per financial institution categories per year. These are based on earnings before interest & taxes, total assets and sales/revenue

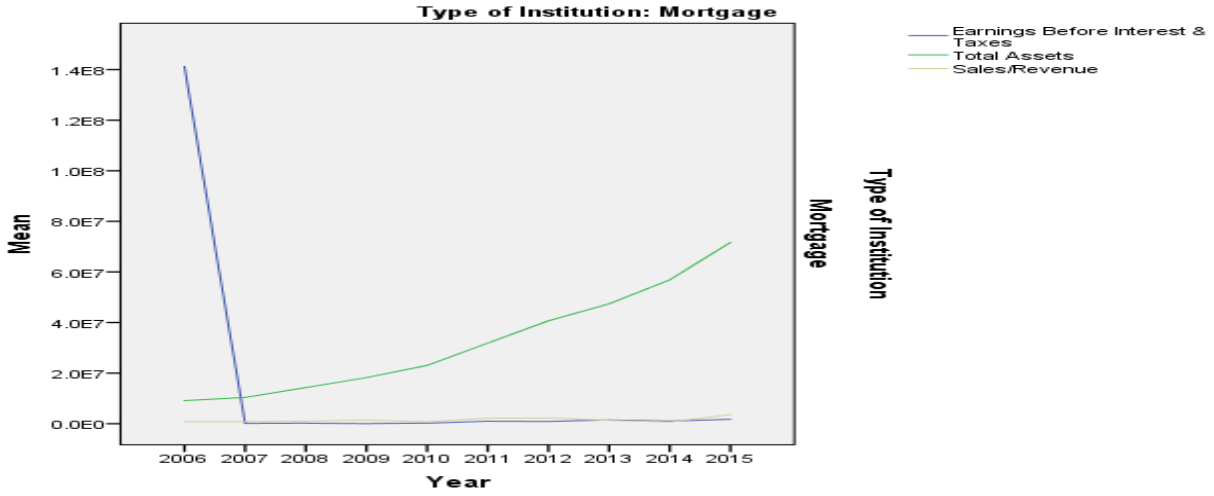
Year	Type of Institution	Earnings Before Interest & Taxes	Total Assets	Sales/Revenue
2006	Commercial Banks	23150142.27	53856881.12	3885015.00
	Mortgage	141236000.00	9133831.00	857347.00
	Regulator	1637067.33	7755330.67	2411980.00
	Saccos	106825613.04	3783520.36	3983581.08
	Insurance Companies	5040703.71	334315658.33	39581367.25
2007	Commercial Banks	1837400.42	58219421.12	3993784.42
	Mortgage	113397.00	10369255.00	860497.00
	Regulator	1761278.67	74788592.00	3424091.33
	Saccos	4977327.72	4320960.72	3934727.56
	Insurance Companies	1673719.63	92501501.29	8142853.46
2008	Commercial Banks	5134355.12	70257465.73	13156675.88
	Mortgage	202670.00	14294368.00	1044342.00
	Regulator	3169728.67	92213969.33	4271876.33
	Saccos	1297357.36	4109627.48	4061276.32
	Insurance Companies	1700800.96	94677622.00	8843081.63
2009	Commercial Banks	4154366.37	162699569.59	12526195.07
	Mortgage	35118.00	18239359.00	1374445.00
	Regulator	7810244.33	104297506.33	3115570.33
	Saccos	1279393.44	4026963.60	4026419.64
	Insurance Companies	433908.61	6196077.30	1770121.04
2010	Commercial Banks	3804668.38	61113590.65	6635359.73
	Mortgage	206250.00	23046540.00	778223.00
	Regulator	599199.00	124369008.67	1195100.00
	Saccos	1679194.15	4234425.81	4595330.96
	Insurance Companies	2015071.46	105755502.38	10971685.08
2011	Commercial Banks	4518978.52	78281981.92	9064436.56
	Mortgage	975795.00	31870916.00	2193181.00
	Micro-Finance	87254.00	6812069.00	581298.00
	Regulator	13475843.33	149344330.00	1628199.67
	Saccos	1689016.04	4258945.04	4048732.16

	Insurance Companies	1973068.38	108724611.37	11085217.96
2012	Commercial Banks	4745816.08	80597664.68	9698586.00
	Mortgage	907631.00	40685928.00	2233922.00
	Micro-Finance	88160.00	6909421.00	592029.00
	Regulator	8627027.00	170420197.00	2945561.00
	Saccos	2136186.75	4270964.00	4225835.71
	Insurance Companies	2105565.79	97118809.33	10152680.13
2013	Commercial Banks	5455866.08	158076340.12	11087087.16
	Mortgage	1480356.00	47389377.00	1368370.00
	Micro-Finance	90074.00	7010323.00	622131.00
	Regulator	698629.00	197329055.00	2237234.33
	Saccos	1284994.81	4244393.54	3948576.35
	Insurance Companies	2253429.63	98903192.54	10896595.88
2014	Commercial Banks	4740609.28	110110809.60	10142943.72
	Mortgage	1028260.00	56885752.00	692280.00
	Micro-Finance	6268.00	13117892.00	945489.00
	Regulator	25114253.00	269295019.67	2288845.00
	Saccos	1314807.92	4255099.62	3963775.50
	Insurance Companies	2154798.92	100180000.13	11358610.96
2015	Commercial Banks	4871820.32	125712194.76	11123048.12
	Mortgage	1753518.00	71659434.00	3611954.00
	Micro-Finance	36418.00	16781543.00	1136453.00
	Regulator	2557059.67	286427257.67	2470541.33
	Saccos	1306287.27	3960777.58	4258096.81
	Insurance Companies	2694948.96	110347837.57	12931689.65

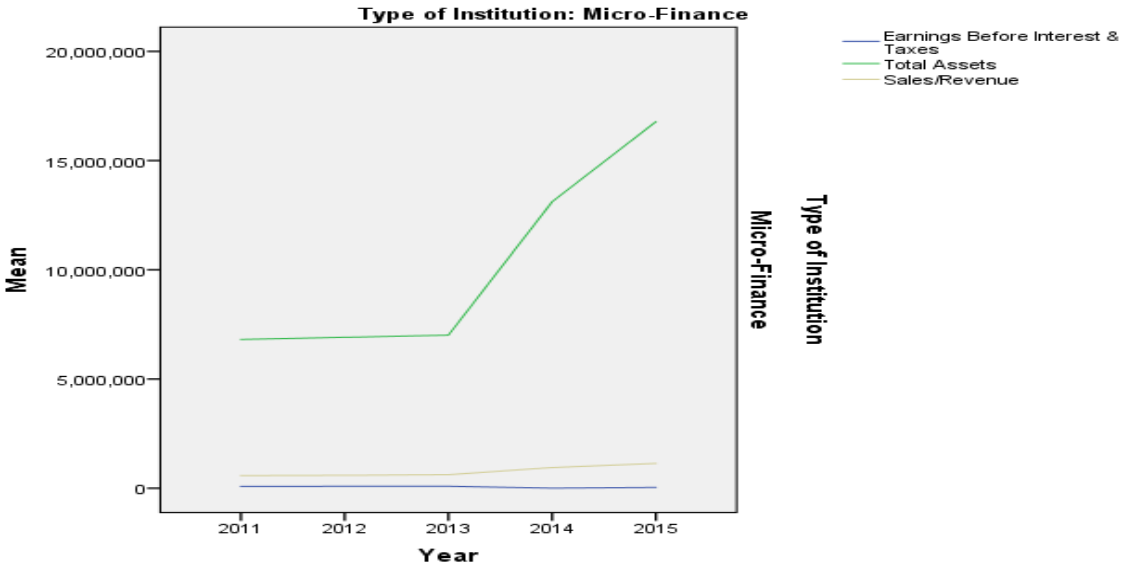
Graph 1: Commercial banks mean earnings before interest & taxes, total assets and sales/revenue by year



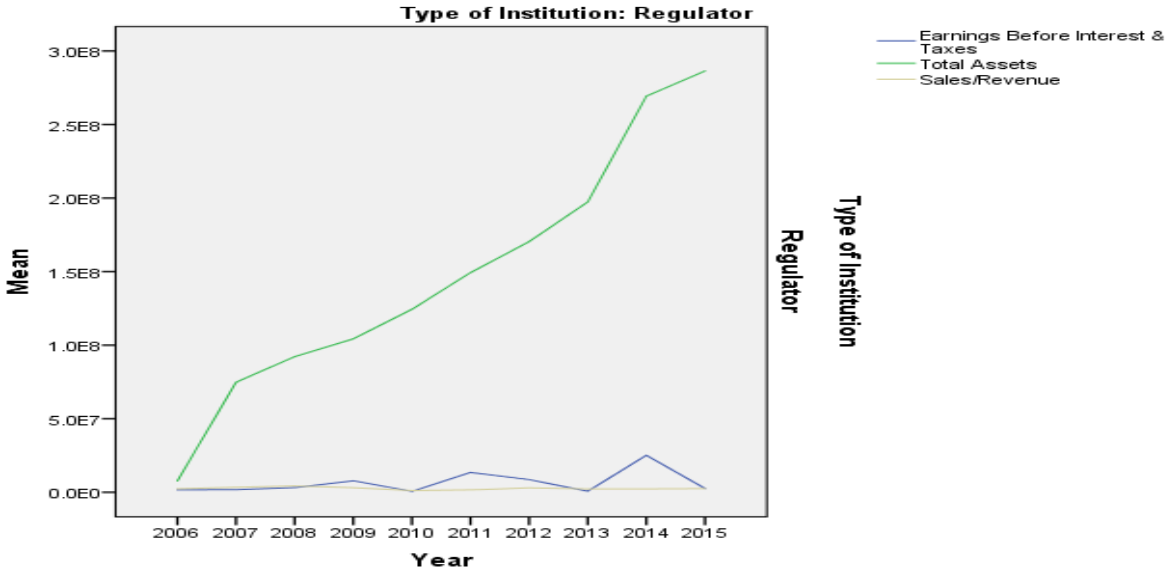
Graph 2: Mortgage mean earnings before interest & taxes, total assets and sales/revenue by year



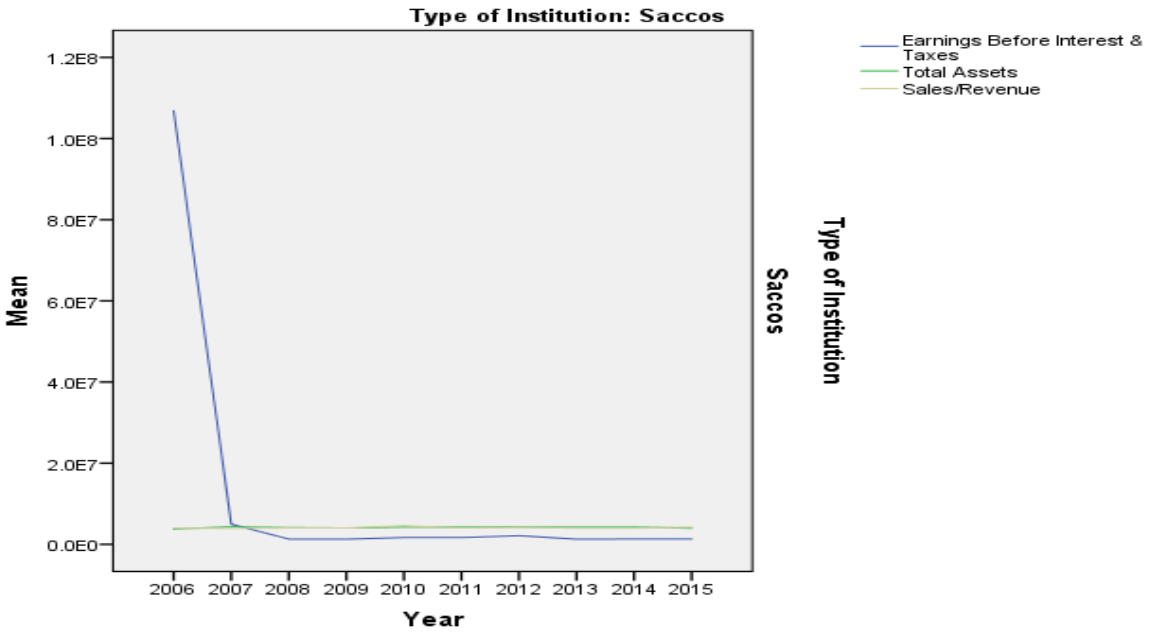
Graph 3: Micro-finance mean earnings before interest & taxes, total assets and sales/revenue by year



Graph 4: Regulators mean earnings before interest & taxes, total assets and sales/revenue by year



Graph 5: Saccos mean earnings before interest & taxes, total assets and sales/revenue by year



Graph 6: Insurance mean earnings before interest & taxes, total assets and sales/revenue by year