THE EFFECTS OF BOARD CHARACTERISTICS ON FINANCIAL PERFORMANCE OF LISTED COMMERCIAL AND SERVICE FIRMS AT NAIROBI SECURITIES EXCHANGE

BY

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A RESEARCH PROJECT SUBMITTED TO THE UNIVERSITY OF NAIROBI IN
FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF
THE DEGREE OF MASTER OF SCIENCE IN FINANCE,
UNIVERSITY OF NAIROBI

2016

DECLARATION

I declare that this research project is my original work and has not been submitted for a degree award in any other university.

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D63/78925/2015

This research project has been submitted with my approval as supervisor for the university examination.

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ACKNOWLEDGMENT

I thank the Almighty God for life in abundance and guidance granted to me until present. Special acknowledgement goes to my family members for their endless emotional, social, financial and psychological support that they accorded during my study period. My sincere acknowledgement goes to the endless list of commercial and service firms that I interacted with during my case study. Express acknowledgement to my Supervisor Dr. Kennedy Okiro, my Moderator Dr. Lisiolo Lishenga and my department Chairperson Dr. Mirie Mwangi for their consistent support and presence whenever I needed them. Final acknowledgement to all Lecturers of the University of Nairobi School of business and my friends for their dedication and support throughout my study program. Thank you and May almighty God bless you all abundantly.

DEDICATION

I dedicate this study to my family for the great support and encouragement they showed which ensured successful accomplishment of this project and my education endeavours.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ABBREVIATIONS AND ACRONYMS

FEM   : Fixed Effect Model

GFC   : Global Financial Crisis

NIM   : Net Interest Margin

NSE   : Nairobi Securities Exchange

OECD   : Organization for Economic Cooperation and Development

REM   : Random Effects Model

ROA   : Return on Assets

ROE   : Return on Equity

UNCTAD : United Nations Conference on Trade and Development

VIF   : Variance Inflation Factors

ABSTRACT

Corporate boards are tasked with overall financial performance of firms under commercial and service sector which have for decades been at the centre of driving the economies of the developing nations as evidenced through the tremendous growth in the private sector credit over time. Unfortunately, commercial and service sector in Kenya has been witnessing a slow growth for the last five years. To realize better and improved financial performance however, it is vital to understand the nature and composition of these boards. The main aim of this study was to establish the relationship between board characteristics and financial performance of commercial and service sector in Kenya. The study used the base data collected from the NSE records which has all the annual reports of the listed firms under commercial and service sector as at December 2015. The study employed a panel data estimation technique with application of Hausman specification test which preferred Fixed Effects Regression Model as opposed to Random Effects GLS model in estimation. Significance was tested at 5% level. Results are presented through graphs and tables as deemed appropriate. From the study results, both board size and board diligence were shown to significantly increase firm financial performance while gender diversity led to a significant decline in firm financial performance. Based on the results, the study recommends for considerable proportion of directors in board since these managers have a better appreciation of the business and can therefore make better decisions. Also, there is need for more board meetings undertaken by directors as they were associated with increased financial performance and finally, firms need to set up a department which will facilitate research to have appropriate incorporation of both gender towards improving financial performance of firms.

CHAPTER ONE

INTRODUCTION

1.1   Background of the Study

Commercial and service sector play a significant role in the overall development of an economy in both short run and long run. This sector has been at the centre of driving the economies of the developing nations as evidenced by the tremendous growth in the private sector credit over time (UNCTAD, 2013). Firms mostly in developing countries rarely understood their particular needs, capacities, barriers, short and long term interest (Ikiara, Muriira, and Nyangena, 1999). This may be attributed to reluctance, slow and apprehensive in decision-making by boards managing the particular firms. According to Finegold, Benson & Hecht, (2007) boards are expected to perform not just the monitoring of management but provide strategic directions especially in times of crisis.

Considering the fundamental principle of agency theory, agents act as a result of their own interest thus self- centred giving less care to interest of shareholders which ends up causing an adverse impact on the overall firm value. As long as the principal and agent utilities coincide, there is no agent problem. However, once their interests diverge, the agents will thus capitalize on their utility at the cost of the principal according to Eisenhardt, (1989). In addressing the key agency, the opportunistic tendencies of agents can be directed. For example, the theory of agency presumes management to incorporate a huge percentage of managers who are independent for active control (Coleman, 2007). Freeman, *et al*. (2004) argues that emphasis on stockholders has experienced a variation and teams of management are now supposed to take into consideration the welfares of many other investor groups. The argument now is whether to take a comprehensive or constricted focus on stakeholders. Freeman, et al (2004), proposed a comprehensive view while Bathula (2008) provides a close

opinion implying that volunteer shareholders shoulder more or less kind of risk.

Since the 2008 Global Financial Crisis (GFC), commercial and service sector has not only been a major component of Kenya's economic growth but also has maintained its active and persistent development. Compared to the agriculture and manufacturing sectors during the same period, they have expanded by 5% annually (Serletis, 2014). This industry is composed of both medium and even small sized enterprises. The sector accounts for the largest share of employment in Kenya. The reported principal actor in this industry includes transport sub-sector and especially aviation which occupies a significant position.

Both players raise their capital in the Nairobi Stock Exchange (NSE) which was established in 1954. The improvement of the financial performance is attributed to increased attention and activities leading to upward push of the share prices. Thus the process of raising capital in the NSE allows for competition amongst listed companies. Despite this positive contribution, the sector has been dwindling at a saddening rate. All these outcomes are associated with poorly designed boards of management.

For the board to execute its functions effectively, studies concur on the significance of a competent board that contributes to the firm sustainability (Carpenter & Wesphal 2001; Carter & Lorsch 2004; and Leblanc & Gillies 2005). It should further be anticipated that companies with robust governance practices exhibited by their respective boards should have market premium. However, empirical evidence provides conflicting evidence on the effect of board individualities on the general financial performance of firms. The motivation behind this research is as a result of absence of convergence. Given the importance of the councils, it is vital therefore to identify and assess their impact on monetary performance of listed commercial and service companies at Nairobi Stock Market.

1.1.1 Board Characteristics

Board characteristics refer to features of corporate boards that are tasked with overall management of the firms. Some other studies (Bolton & Roell, 2005; Ghabayen, 2012) refer or attribute these characteristics to the concept of corporate governance. The success or collapse of firms is thus associated with the role acted by the management and firm governance as a process. While studies (Hermalin & Weisbach, 2003; Keil & Nicholson, 2003; Fan, Lau & Young, 2007) consider a broad variety of matters in corporate management, some process such as exposes, rights of voting, rules among others, this study gives an attention on the several features of the executives including ownership, board expertise, board diligence, size of board and gender about financial performance of firms under study.

In Kenya, the Capital Markets Authority provides revised code of firm governance (2011) to streamline characteristics of boards for companies listed on the NSE. The new regulations emphasised good governance and function of the boards however, the revision of the codes were done again in 2014, so as to be realigned with the world-wide best corporate practices. The formulated new codes are applicable to all publicly quoted firms in Kenya and all other firms that may seek to raise resources especially from say the capital markets authority of Kenya through provision of securities (Mbaru, 2008). The proposed guidelines give organizations the option of using them as specified or seek for exemption in line with industry demands (Business Daily, 2014). Among the expected changes include constituting the boards and how they are structured. This is in an effort to make them more effective, despite existence of internal challenges on process of their operation.

Suggestions including to lower board size, emphasize independence as well as raise meetings by the board of directors and even what to do in emergencies have yet to be found. Boards of management in firms are considered as major players in the control of their day to day

governance and thus need for clear understanding of their influence on development of the respective companies. Studies have been conducted in this field(s) (Adams & Ferreira, 2007; Hermanlin & Weisbach., 2007; Gillete et al., 2007; and Harris & Raviv., 2008) however most of them have focused towards industrialised markets. Little has been explored in relation to board characteristics concerning commercial and service sectors in the emerging markets like Kenya.

1.1.2 Firm Financial performance

Firm performance as described by Dess et al. (2006) and Wachira, (2014) is attributed to the effectiveness of the firm as the myriad of inner performance outcomes normally as a result of more efficient processes and other outside actions that connect to deliberations that are extensive than those naturally allied to economic assessment either by directors, shareholders, or clients such as corporate social responsibility. According to Wachira (2014), firms can track and measure performance in several extents such as monetary performance, client service, firm social duty and even worker stewardship.

Several other studies describe performance in many different aspects. For example Johnson et al. (2009) describes performance as the procedure of quantification of the competence and efficacy of previous actions including evaluation of how well organizations are managed and the value they deliver to customers and other stakeholders. Similarly, Lewis (2004) categorizes main performance indicators in the financial sector into; quantitative (e.g. number of outlets, branches) and qualitative indicators (Unquantifiable); leading indicators (predicts the future outcome of a process) and finally financial indicators (operating index).

A firm's financial performance (a dependent variable in this research) is measured by monetary changes. Companies monetary growth is reflected in its Return on investment or assets or value added among others (Oguda, 2015). In this case, profit is the decisive goal of

listed firms in commercial and service sector. To gauge the company's performance/productivity, a selection of ratios are employed. Some of these steps as classified by Murthy and Mouritsen, (2011) include; Net Interest Margin (NIM), Returns on Equity and/or Assets (ROE/ROA). ROA specifically indicates the capability of the bank to create revenue by using firm assets at their exposure. ROE is a proportion in the balance sheet that reflects how much turnover a firm earns relating to the equivalent quantity of stockholder equity established. Further, this is what the stakeholders get in return from the savings. In this research, ROA was used as the measure of financial/monetary performance for the firms. This variable was also employed by Khrawish, (2011) and Oguda (2015) as an indicator for financial performance in their respective studies.

For continued business operations as well as financial capabilities Wachira (2014) emphasized on the essentiality of financial results especially in supporting firm functional strategies and making required infrastructure investments. For the last four decades, commercial and service sector has been a great contributor to the Kenya's economic growth. This industry has participated not only in the GDP growth but also in the overall contribution towards wage employment and balance of payments. For example, foreign exchange earnings from this sector have been a crucial component in Kenya's current account balance considering both inflows as well as outflows. According to Ikiara, Muriira, and Nyangena, 1999,) and Campbell and Mínguez-Vera (2008) the sectors yearly growth rate has been higher related to that of other Sub-Saharan countries since the 1970s. Further, the financial performance of the sector was shown to be doing better compared to countries whose economies were substantially stronger.

1.1.3   The Link between Board Characteristics and Firm Performance

Aspects of board characteristics have gained major consideration globally, especially after waves of company outrages and the disappointments of some major companies globally. The collapse of these enterprises has highlighted the limited role acted by the respective boards through a let-down of corporate governance processes (Ghabayen, 2012). Each wave of corporate scandals over the years has reignited the recent debate on corporate governance. For example, in 1990, the financial crisis in Asia exposed weak checks and balances and governance practices. This led to focus on insider trading (Radelet & Sachs, 1998).

The second wave of outrages exhibited by boards was at the onset of the new millennium involving companies like Worldcom (USA), Enron (USA), Parmalat (Italy) and Air New Zealand (Australia). According to France & Carney (2002) and Lockhart, (2004), the collapse of these firms brought to the fore the failure of the governance process, and this contributed to the emphasis on board composition. Later, in 2008, the financial meltdown that was triggered by the collapse of major firms globally led to the attention on administrative wage and board independence. This heightened anxiety for accountability, controlling, transparency and which led to firm and board governance/effectiveness especially among big firm issues all over the world.

Beyond corporate failures, there have been other developments that have contributed to the renewed focus on corporate boards. Heightened dissatisfactions by shareholders due to poor financial performance, falling share value have led to questions being raised on the notch of competency of the management (Sherman & Chaganti 1998). The phenomenal growth exhibited by corporate investors including banks, mutual and pension funds has also increased focus on corporate boards. These established investors have the expertise to perform fiduciary responsibility of monitoring board so as to ensure good returns (Bolton & Roell, 2005). Another factor that has led to increased focus on board characteristics is the

increase recognition whereby a considerate executive team is a basis of asset in different forms including; promoting venture, improve share development as well as provision of healthier long-run stakeholder return (Lee, 2001; Carlsoon 2001). According to Healy (2003), it is now recognized that good corporate practices are a source of economic growth. At the midst of each of these corporate scandals, there is an attribute of the ineffectiveness of boards of directors.

1.1.4 Listed Commercial and Service Firms in Kenya

Commercial and service sector refers to a category of enterprises that provide services to commercial and retail customers. Some of the businesses listed under this category include expressly limited, Nation Media Group (NMG); Kenya Airways (KQ); Standard Group (SG); TPS Eastern Africa, Scan Group (SG), Uchumi Supermarket (US), Hutchings Biemer (HB), Longhorn Publishers (LP) and Atlas Development and Support services (ADSS). Despite the assertion by Peng (2000) that the financial system plays a substantial function in the growth process, particularly in the financial intermediation process, it is of great importance for boards to redefine their strategies to achieve efficiency and thus ultimately a financial system of their firms. According to Wachira (2014), this was made even clearer during the recent GFC that made the world's largest economy and other countries to undertake collective actions to safeguard their sectors and bolster public confidence.

The fact that different firms listed in the commercial and service sector, operating in the environment of the same market and with similar regulatory provisions produce dissimilar results can be elucidated from how they are differently undertaken. How these firms are managed is usually as a result of their boards, and this has produced curiosity in understanding operation or functioning of these boards. Commercial and service sector enterprises listed on the NSE are supposed to act as investing driving tools for the public, and

they are expected to be professionally managed to attract investor confidence and safeguard the publics' interest (NSE, 2015). The responsibility for the collapse of some of them has been attributed to the general directors who were accused of engaging in malpractices and ignoring governance structures. This study seeks to begin to engage in the process of addressing the above issues raised. Indeed, comprehensions of different features of the board and its consequent role on company development will spur effective resource allocation in the company and resulting enhancement in financial growth of these firms.

1.2 Research Problem

In Kenya, the corporate failures involving listed firms at Nairobi securities exchange (NSE) such as Uchumi, CMC Motors, Mumias and most recently banks such as Imperial Bank, Dubai Bank, and Chase Bank have ignited debates on functionality of boards. In Kenya, by law and practice, the committee is responsible for overseeing and directing the company and appointing management and has substantial freedom under the law to exercise or delegate that power as it sees fit. The Capital Markets Authority Guidelines recommend that the board define the company's strategy, oversee management and performance, identify principle risks and opportunities, develop remuneration and staff policy, and review internal controls and compliance.

Agency theory about the financial performance of an organization according to Habbash (2010) has received greater attention from academic, and practitioners contend that as companies expand in magnitude, the principals lose operative control thereby allotting experts to manage the corporate affairs. Mizruchi, (1983) claim that managers steadily gain operational control over the firm. On the other hand, the stakeholder theory suggested by Jensen (2001) has not been exposed to significant empirical exploration. At the less option, two aspects may be the cause of the theoretical gap as well as evidence. To begin with,

occurrence of monopoly situation as well as externalities. The other concern is the challenge of quantification, given the difficulties related to availability of an exact long-term value of the firm (Kaur, Subramaniam, & Cooper, 2013). It is argued that prominence of executive action has to be in the evolution and conservation of all interactions of the stakeholder, and not only that associated with shareholders (Jensen, 2001).

Despite registering sharp upward development within the country, commercial and service sector in Kenya has witnessed a slow growth for the last five years (Business Daily, 2015). For instance, Kenya Airways which was formerly owned by the government and now privatized with public getting a significant portion through the Nairobi stock exchange is on the verge of demise following poor financial performance associated with the endless and unending managerial quagmires (Gichira, 2007). In particular, the persistent financial losses of the aviation sector is as result of overstaffing, escalating costs of operation, poor management, lack of skilled workforce and political interference with the commercialization of the services. Similarly, Uchumi supermarket which was listed in Nairobi stock exchange and at one point was put under receivership given the poor financial performance which saw its eventual delisting for almost the same reasons (Ngugi, et al., 2012). Some other firms listed as commercial and service at the Nairobi stock exchange and whose contribution to the Kenya's economic growth as well as the development have been delisted as a result of the inadequate quality of service and poor marketing as well as slow technological adoption.

Literature conducted linked to the board management with its respective features and performance of firm(s) have been, however, inconclusive in nature. For example some established limited proof (Weir and Laing., 1999; Weir, et al., 2002) propose that these characteristics influence performance of the firms. In additional past studies, there is sufficient proof to back the argument that certain features of board impact on performance of the firms (Bhagat and Black, 1999; Kiel and Nicholson, 2003; and Bonn, 2004). In Africa,

Ujunwa, (2012) revealed that size of the board, duality of the C.E.O and diversity of gender were positively associated to firm performance in Nigeria. Further, Ogbechie et al., (2009) revealed that nationality and ethnicity of the board and their expertise were negatively linked to firm performance in Nigerian perspective. In Kenya, a research by Ongore (2011) examined organizations listed in the Nairobi Securities Exchange (NSE). The final findings showed a positive and significant linkage between managerial discretion and firm performance. In addition to the inadequacy of studies focusing on African context, and in Kenya in particular, there is no study which is sector specific considering sector dynamism focusing on performance (financial) of companies listed in commercial and service sector. It is on this basis that this study investigates nexus of board characteristics and monetary performance of commercial and service sector in Kenya. This further steered by the fact that publicly listed companies urge to be competitive enough to ensure growth and retention of market share in the industry because this would certainly translate to increased sales and profits. This study, therefore, sought to respond/answer this inquiry: what is the influence of board characteristics on financial development of listed commercial and service firms at Nairobi Securities Exchange?

1.3 Objectives of the study

This study primarily sought to explore the relationship between board characteristics and financial performance of commercial and service firms listed in Nairobi Securities Exchange.

1.4 The Value of the study

This study has suggestions for theory building as it contributes to the discussion on liberalization and commercialization in the commercial and service industry. The study results may provide to the inconclusiveness and the huge controversy surrounding the debate on the performance of retail and service sectors. The study findings also validate theories of

behavioural finance such as modern portfolio theory and prospective theory among other theories about commercial and service industry.

The research has also consequences for both policy and practice. First, the study assists the potential investors in the commercial and service industry to make wise decisions and avoid excessive trading and the tendency to disproportionately hold on to losing. The study actually provides the necessary insights into what investment managers in the commercial and service sector should look for in a turbulent market when guiding their clients in constructing optimal portfolios. The scholars and academicians who are also researchers in the area of business management are now able to access this study from the public repositories i.e. Universities and other public libraries. Hopefully, they can be able to add value on the gaps identified in this research. It also leads to the corpus of literature on behavioural finance. Finally, study identifies further research gaps which trigger knowledge generation by other scholars. The policy makers, on the other hand, will thus find such recommendations quite useful in crafting well informed and evidence-based policy recommendations.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This section examines past studies on firm's board and performance. The section was planned as follows; after introduction, second part involves reviewing and summarizing popular theories related to the study objective. The third part explores empirical evidence on firm financial development and finally the fourth section summarizes both theoretical and empirical reviews, consequently providing gaps to be filled.

2.2 Theoretical Literature Review

The contribution and influence of boards have been considered by researchers of different disciplines including organization and management theory according to Kiel & Nicholson, (2003). The existent studies has mainly concentrated on boards features in influencing performance of companies (Daily, et al., 2003). In the meantime, other researchers too gave consideration to other aspects like possession (Bathula, 2008), MD turnover and remunerations (Lausten, 2002) in impacting the performance of a firm. Four main theoretical viewpoints of boards and management crescendos well-thought-out as pertinent to this research namely: the agency, theory of stewardship, the resource dependence as well as theory of stakeholder.

2.2.1 The Agency Principal Theory

In contemporary corporations the shareholders (principals) are dispersed widely and are therefore not commonly included in the day to day processes and administration of their respective firms, rather, they hire managers (agent) to govern the companies on their behalf. The officials are engaged to manage the daily tasks of the organization. The separation of ownership and controlling rights may result in disputes of interest between agent and

principal (Habbash, 2010). Being an annex of the agency view, the theory anticipates agents to manage the welfare of the principals.

However, this tapered attention on stakeholders has experienced a disparity and managers are now expected to consider the welfares of several other investor groups (Freeman et. al 2004). The discussion amongst academics is which way to go that is either extensive or thin focus on stakeholders.

2.2.2 The Stewardship Theory

This theory proposes that agents are trustworthy custodians of resources entrusted to them which make monitoring obsolete. This is in divergence with the theory of agency which makes an assumption that agents and principals possess conflicting interests (Bathula, 2008). In this theory, managers are viewed as stewards. And as stewards, they most likely seek to maximize value for shareholders. Davis et al. (1997) argues that by maximizing value for shareholders, the stewards will attain organizational success which in turn satisfies their personal needs. The theory also proposes that autonomy should be given to stewards who in turn lower the cost of monitoring (Donaldson & Davis, 1991).

The theory portends that managers are impelled by reasons that are not financial such as the requirement for accomplishment, acknowledgement and inherent fulfilment of effective performance. These concepts are well documented in the work of scholars like McClelland (1961) and Herberg (1966). Steward is keen to defend their standing as skilful decision makers (Daily et al., 2003). Consequently, the directors run the firms in a manner that capitalize on monetary performance as this performance influences on discrete performance.

2.2.3 Stakeholder Theory

Davis and Donaldson (1991) argue that from the viewpoint of investor theory, the greater performance of the company is attributed to possessing a huge part of sovereign managers in the board since these directors are allied with greater appreciation of the firm issues and can, therefore, make healthier decisions. Boyd (1994) and Baysinger, Kosnick & Turk (1991) also support this view that inner directors have huge deal of value information for decision making. Companies with a higher number of external directors are associated with poor performance in comparison with companies that have less percentage of independent directors (Bhagat and Black, 1999). The stewardship theory considers the organisation of the management, the role of the C.E.O and board size as essentials for ensuring operative company governance within any institution, (Coleman et.al, 2007).

2.2.4 Resource Dependency Theory

The dependency theory provided a theoretical basis for the roles of the board as a resource to the company (Hillman el., al 2000). Therefore, appointment of directors can lead to social capital and competence to the enterprise which is a valuable quality that a manager can make to the board (Stevenson and Radin, 2000). From this point of view, board inclusivity is regarded as a means that can increase worth to the firm.

A fundamental dispute of this philosophy is that firms try to apply control on the environment by bringing on board resources desirable to last (Pfefer & Salanik, 1978). Critical resources are often added to the management as a way of management dependence and therefore benefiting the firms. External directors attract assets to the firm, including facts, expertise, entrance to major constituents (for example buyers, suppliers, decision makers on public strategy, communal teams etc.) and legality (Hillman et al., 2000). Following the financial meltdown of 2008, various financial institutions included directors with risk organisational

knowledge of the boards. Once in the boards, these directors work to aid the firm (Hillman and Dalzie, 2003).

Resource dependency theory also adopts a broad view that expertise and knowledge of managers add to the resources meant to improved firm performance. The resource provision also includes provision of advice to managing of strategic actions (Poppo and Zenger, 1998). Businesses that are struggling with affluence issues have high probability of appointing a representative of financial organisations to their board (Mizruchi and Stearns, 1988). This theory, therefore, portends that expertise as well as know-how of directors are resources that can help the firm perform better. The next section uses the four theoretical viewpoints to classify exact features and the consequent effect on growth of the firm.

2.3 Determinants of Firm Performance

Performance and the scope of board among firms have received a lot of practical considerations in the earliest works. Lipton & Lorch (1992) put forth a recommendation that a board need to be composed of between 7 to 8 members. They concluded that larger boards may lead to time-consuming energy in making decision. Their study is corroborated by Jensen (2001) who found that companies with oversized boards tend to become less efficient. Lorsch, however, recommends a size of the board size to be of twelve members which may lead to productive deliberations while allowing board committee(s) staffing. Bathula (2008) conducted a study focusing on approximately 158 companies quoted in the stock exchange of New Zealand with a conclusion of existence of a progressive linkage between the board size and the firm performance.

Other scholars support the argument of larger boards. The premise of these arguments is that larger boards can allocate workloads by using committee so as to ensure comprehensive analysis of issues and avert breakdown. VanNess, et al., (2010) researched listed firms in

America and found that larger boards had a positive correlation to firm performance. According to Cole et al. (2008), superior and differentiated companies have a greater number of managers on their boards. Also, a study by Rechner and Dalton (1991) supported large boards even as the literature shows mixed results. Other studies support the idea of small boards. Finally, concentration of board action is also a relevant board attribute that can be indicated by the number of meetings held by the board (Vafeas, 1999). Board diligence here denotes to the frequency or the number of meetings held by the council in a calendar year. However, there are mixed theoretical and empirical opinions on the effect of boards meeting on company performance.

2.4 Empirical Literature Review

According to Gosh (2007), a ten percent improvement on council meetings resulted in a one percent increase in performance. Lipton & Lorsch (1992), posits that boards that meet regularly have a higher chance of executing their duties to enhance the welfare of shareholders. The frequency of council meetings has also been found to contribute to the quality of output of audit (Carcello, et al., 2002). According to Carcello, et al., (2002), audit committees that meet regularly exhibit few financial statement fraud. A study conducted in Malaysia by Joln, et al., (2013) reported a different association between diligence of board and performance of firm. This is further backed by Carcello et al. (2002) who concede that frequency of board meetings include more than board meetings which include preparation and follow up. In summary, it can be posited that board diligence contributes highly in board performance.

The independence of the managers at the board is often denoted by the number of directors who are not executive vis-a-vis that of the executive (Lawal, 2012). Despite the argument that managerial and non-managerial individuals have pros as well as cons, the majority of

researchers favor independent directors (Andres et al., 2005). This is because of the perceived benefit that independent directors provide management due to their independence (Baysinger and Butler, 1985). Independent directors contribute to impartiality in board's strategic decision making including providing independent oversight of the management (Fama and Jansen, 1983).

Although the independence of boards is considered a key factor, there is absence of facts that board independence is directly linked with firm performance (Adams et al., 2010). In a study undertaken by Randoy & Jenssen (2004), board independence was found to negatively correlate with the firm performance. It is critical to note that from recent research, board independence had an impact of increasing the cost to a company which could be due to communication breakdown (Adams & Fereira, 2009). The effect of board independence on financial performance is, however, inconclusive (Davidson III & Rowe, 2004). A challenge in gauging the link between independence of managers and firm performance is that their relationship is endogenously determined (Hermalin & Welsbach, 2001).

Yusoff and Fauzia (2010) describe board expertise as the individual skill and knowledge of individual board member, and this could have developed from education and various experiences. The combined expertise and knowledge of the members is an intangible asset of the board and is a proxy that is associated with firm performance (Hillman and Dalziel, 2003). According to Igneley & van der Walt (2001), the expertise of a board member is essential in decision making. For instance, oversight role can be successfully implemented if the board members are qualified and experienced.

In examining the resource dependency theory, skilled and experienced members of the council are a strategic resource and their experience and knowledge is found to be critical for firm performance (Hansell, 2003.) This is because these board members would ensure an

active board which needs "high levels of intellectual ability, experience, and soundness of judgment" (Hilmer, 1998).

Some past researches established a positive correlation between expertise of the board members and firm performance (Hunt, 2000 & Ljungquist, 2007). Experienced and qualified members of the board would be able to stimulate the boards to consider more alternatives when reviewing different positions (Cox & Blake, 1991). Agrawal and Chadha (2005), found out in their study that boards with higher levels of expertise exhibited reduced incidences of restated earnings.

Other studies have however found an inverse relationship between skills of the board of directors and performance of the firm. In a survey carried out by VanNess, et al. (2010) on board structure and firm performance, it was found that the expertise at the board negatively correlated with the company performance. This implies that the intricacies of daily business may transcend professional expertise. The growth may require more entrepreneurial skills. Gentebein and Voltante (2012) focusing on firms in Switzerland, reported an inverse link between firm performance and expertise of the board.

According to Adams & Ferreira (2009), women representation at the board level is still low. Concerned by the low representation of women at the board, a number of countries are enacting laws to foster increased participation of women. The argument on the table involves a presumption of existence of a relationship between women board representation and firm performance. According to Carter et al., (2003), a higher percentage of female directors on the board correlate with better firm performance.

In West Africa, Ehikioya (2009) explored firms approximately 107 quoted in the Nigeria Stock Exchange between 1998 and 2002. From the empirical investigations, the study exposed no evidence to support the effect of board structure on firm performance. There is

however high positive correlation between duality of C.E.O and firm performance in Nigeria although Leverage ratio of the firm as well as the size contributed to firm performance.

In Kenya, Miyienda et al., (2012) explored the relationship between performance and director remuneration in the NSE between 2006 and 2010. A sample of 57 listed firms was used. Estimation was used to provide evidence on the association between three financial performance indicators and board remuneration measures: earnings after taxes, Tobin's Q and Return on Equity (ROE). The findings showed a positive link between financial performance and remuneration of the board; however, there was a weak association with Tobin's Q and ROE, but a moderately strong relationship with earnings after taxes.

The board composition and monetary performance of listed firms at the Nairobi Securities Exchange was explored by Wetukha (2013). A positive association between board independence, board size and duality of C.E.O and financial performance of companies listed in the NSE was revealed. On the other hand, diversity of the gender and the proportion of executive directors were found to have an inverse relationship with the financial performance of organizations in the NSE. The present study, therefore, investigates the board characteristics that have not been focused on by local studies like board diligence and board expertise to study the relationship between board characteristics and financial performance of commercial and service sector in Kenya, taking the case of firms listed on the NSE.

Aduda, Chogii, and Magutu (2013) explored competing firm governance theories on the performance of firms in Kenya. From the findings, board composition variables are significant predictors of firm performance. Similarly, Ogeno (2013) examined the effect of board characteristics on the financial performance of companies listed in the allied and manufacturing sector of the Nairobi Securities Exchange. The author showed that board independence has a significant and negative relationship with financial performance while

board diversity was found to have a significant positive effect on financial performance

Ruparelia and Njuguna (2016) considered companies listed in the NSE from 2003 to 2013. Ordinary least square was used on pooled cross-sectional time-series data. In the insurance sector, board remuneration was statistically significant while in the sector of investment, the board compensation and financial performance measures were insignificant.

2.5 Conceptual Framework

This is an essential research tool intended to support a researcher to create awareness and understanding of the condition under investigation (Kombo and Tromp, 2006). It is very useful in research as it sets the foundation of how concepts are related. It explains, diagrammatically the key dimensions under investigation, or the presumed relationships among them. It is derived from theory to identify the concepts included in the complex phenomena and show relationships.

The relationship among the various variables in the study is as depicted below.

Independent variables

Board characteristics

- Board Size
- Board Independence
- Board Expertise
- Board Diligence
- Gender Diversity

Dependent variable

Firm Financial Performance

Control variables

- Size of the Firm
- Age of the Firm
- Leverage of the Firm
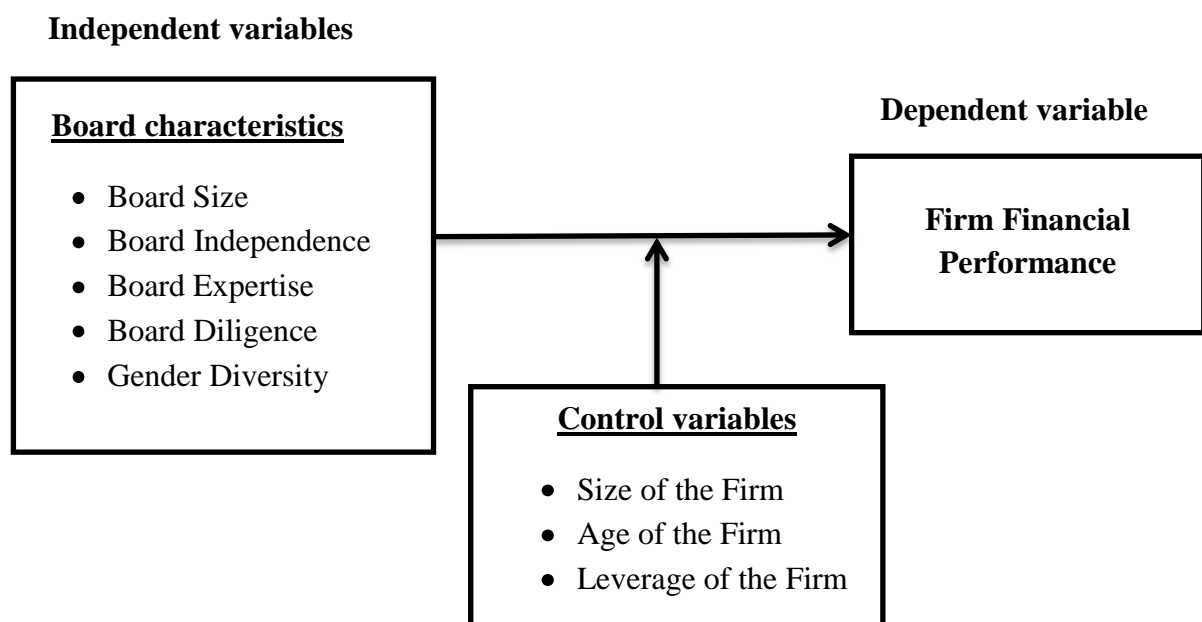
The above diagram shows the relationship between board characteristics and company performance. Hence, depending on the significance of the decisions made, the financial value of a firm rises or fall to a new level affecting the performance of whole sector. Previous studies for example indicate that decisions on rights issue has a relationship with company's share performance, (Olesaaya, 2010; Shahid et al., 2010). However, company's stock performance and trading volume are also influenced by a change in interest rates, inflation rates, and government policy and even currency fluctuation and not only on managerial decisions.

2.6 Summary of Literature Review

Considering both theoretical underpinnings and empirical evidence explored in this study, the top management teams (boards) who are agents are tasked to make strategic decisions on behalf of the stakeholders. According to Lewis (2004) the products of their decision making ultimately influence firm performance. However, the majority fail to debate appropriate courses of action sufficiently. Wachira (2014) refers this as a subtle paradox which is embedded in the nexus between their composition and organizational performance in that case. Although one can comfortably attribute the conflicts (boardroom wrangles) witnessed and ineffective strategies, they are also connected to the limited resources available for implementation of the right and expensive policies.

Many studies have expansively investigated different facets of corporate governance dynamics. They include disclosures, regulations including audit committee, board characteristics, financial reporting, ownership structure and the general board control level, and have revealed that such features having a significant effect on firm performance (Eisenberg, et.al, 1998; Vafeas, 1999; Boyd, 1994; Yermack, 1996). However, following the reviewed literature, sector specific studies are absent. Of the existing literature of which most

are from developed economies, there is apparent inconclusiveness especially on the impact of these various board characteristics on firm performance especially financial results. This study thus focused on the board characteristics and financial performance of firms enlisted in commercial and service sector in Kenya. These features include board size, board diligence, board expertise, board independence and gender diversity (Miyienda et al., 2012; Wetukha, 2013; Aduda, Chogii and Magutu, 2013 and Ruparelia and Njuguna, 2016). However, intervening characteristics of firm such as firm size, firm age, and firm leverage were also shown to be associated with company financial performance.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This section presents research design, population target, data collection, model specification including estimation techniques as well as statistical diagnostic tests which are the tests of the regression model, and data source and type which shows where the data is sourced.

3.2 Research Design

This refers to the overall design for conducting research as well as detailing the measures essential for obtaining the facts needed to structure or solve study problems, (Lewis, et al., 2007). In seeking to understand the impact of board features on financial performance of firms listed in the commercial and service sector, a quantitative approach was used to provide empirical evidence. The method is preferred as it allows the researcher to draw inferences about cause and effect.

Further, in quantitative research, numerical data is used to deduce facts from theory. Data in quantitative research is gathered from natural setting in the field (Bryman and Bell, 2007). The data units in quantitative research are predominantly numerical; therefore statistical analysis tools are used. This study assumes the condition of causal relationship whereby the dependent variable (ROA) is supposed to be associated with independent variables (Size of the board, board diligence, board independence, the expertise of board and gender diversity).

3.3 Population of Study

The population consists of all the companies under commercial and service sector listed on NSE as at 2015 which were ten by then but one (Uchumi Supermarkets) had no full information. Publicly traded commercial and service companies were chosen for this study

because these firms are considered as the leading firms in Kenya. These companies potentially attract experienced and skilled individuals to their boards. The publicly listed company was preferred due to the availability of enough data that can be analysed for this study.

This survey utilized secondary data from the NSE reports and a library whereby the specific information was collected from the identified commercial and service firms listed for the recent period from 2011 to 2015. Companies under this sector that do not have information on some key variables as stated earlier were excluded from the study.

3.4 Data Collection

Data was obtained from the several secondary data sources. However, most information comes from the NSE which has all the yearly reports of the firms listed in commercial and service sector. The data for the study was a combination of cross sectional and time series data from the identified firms listed on the NSE from 2011 to 2015.

3.5 Data Analysis

Secondary data from Nairobi Securities Exchange reports and the library was reviewed for completeness and consistency to apply the statistical analysis. In accordance to Mugenda (2003), data must be cleaned, coded and properly analysed to obtain a meaningful report. The NSE data was analysed using descriptive and inferential statistical approach. The Excel software was used to alter the variables into a format appropriate for analysis after which the STATA software was employed for further analysis. Different statistics was applied to analyse the quantitative data concerning mean, standard deviation and the range. Tables and charts were also used to summarize responses for further analysis and facilitate comparison. The unit of analysis was at the firm level that is listed in the Nairobi Securities Exchange. Specifically, the study applied multiple liner regression analysis to find the relationship

between Board characteristics and financial performance and to identify the direction of the relationship.

3.5.1 Analytical Model

The study permits all explanatory variables to be considered in the model due to their main focus in the long run relationship with the dependent variable.

Following, Bolbol et al (2004); Ehikioya (2009); Heenetigala and Armstrong (2011); Ujunwa (2012) and Illaboya and Obaratein (2015), the empirical model and thus econometric model is specified as follows;

$$FP_{it} = \beta_0 + \beta_1 BI_{it} + \beta_2 BS_{it} + \beta_3 BE_{it} + \beta_4 BD_{it} + \beta_5 G_{it} + \beta_6 FA_{it} + \beta_7 FS_{it} +$$

$$\beta_8 FL_{it} + \varepsilon_{it} \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots 1$$

Where:

FP is financial performance of the firm (ROA); **BI** is the Board Independence; **BD** is the Board Diligence

BS is the Board Size; **BE** is the Board Expertise; **G** represents Gender Diversity

FA=firm age; **FS**= firm size and **FL**=firm leverage;

β_0 is the constant coefficient and β_1 to β_8 are the coefficients for respective variables while ε_{it} is the error term.

Table 3:1: Board, Firm Characteristics and Firm Performance

Variable Name	Operationalization of the variable
Dependent Variable	
Return on Assets (ROA)	This is a ratio of net income to total assets of a firm
Explanatory/Independent Variables	
Board Independence	The number of non-executive directors on the board relative to the total number of directors.
Board Size	Total number of directors serving on the board of directors
Board Diligence	The frequency number of meetings held during a year for the board directors
Board Expertise	The number of different professions of members in the board
Gender Diversity	The number of women directors on the board.
Control Variables	
Firm Size	The natural log of total assets.
Firm Age	No of years of a firm since incorporation
Leverage	Ratio of debts to firm's total assets

3.5.2 Diagnostic Tests

The study used a panel data estimation technique because of its several advantages that it has a greater degree of freedom and less multicollinearity leading to more efficient estimates, (Hsiao, 2003) and gives greater flexibility in modelling differences in behaviour across the firms under study which enables us to control for unobserved heterogeneity.

The panel data analysis method has two main approaches, namely; the Fixed Effects Model (FEM) which assumes omitted effects unique to cross-sectional units are constant over time

and the Random Effects Model (REM) which assumes the overlooked effects are random over time. Hausman test was conducted so as to choose between the fixed and random effects. It examines correlation of the different errors with the explanatory variables (Greene, 2008).

The specified model was thus be estimated using statistical program (STATA) and the study objects was investigated through regular tests. Other primary assumptions that were examined before the regression analysis include unit root test, homoscedasticity, normality, and independence of the error terms. Before assumptions testing, the study investigated the presence of multicollinearity and outliers. For Unit root test, the study used Levin Lin Chu unit root test.

3.6 Tests of Significance

Parametric tests were conducted to establish the importance of the relationship instead of the two variables under the study: board characteristics and financial performance of commercial and service sector firms listed at NSE. The study employed the coefficient of determination (R^2- explores the goodness of fit in regression analysis), the coefficient of multiple correlations to determine the strength and the direction of a linear relationship among variables ANOVA using F-Test to test for overall significance, it shows if variances of two variables are equal and the two-tailed test will be used to verify against the alternative that the variances are not equal.

CHAPTER FOUR

DATA ANALYSIS, RESULTS AND DISCUSSIONS

4.1 Introduction

This chapter details the findings analysed from the consolidated data of the NSE under the study period (2011-2015). Since the data has taken panel dimension, a total of ten firms were sampled on board characteristics and respective financial performance of a firm.

A comprehensive fundamental regression is undertaken in exploration of board characteristics on significance of exogenous and endogenous factors relating to the expected returns from the stock market and the nature of such causation among the nine listed commercial and service firms with full information. The findings are presented using descriptive cartographic in the form of tables and graphs and organized according to the objectives of the study.

4.2 Descriptive Statistics

The study considered descriptive statistics for overall panels. Table 4.1 depicts ROA of an average of 0.0486 points with a minimum of 0.008 points and a maximum of 0.223 points. Board size and board independence were on average 10.22 and 7.42 with a standard deviation of 21.3 and 1.8 respectively. The board with the least number of individuals had 7 directors while the board with maximum number of individuals had 13 directors.

On assessing the different professions represented in the board, it was found that professionals ranged between four and seven. The average number however was at least 5 among firms listed under commercial and service sector. Similarly, on board diligence, the results show that approximately 8 board meetings were held per year. The highest number of

board meetings was 33 while other firms held only 4 boards meetings. Table 3.1 shows other features regarding these firms.

Table 4.1 shows other features (standard deviations and range) for within and between firms.

Table 4:1: Summary Statistics

Variable	Mean	Std. Dev.	Min	Max
ROA	0.0486	0.0474	0.008	0.223
Board Size	10.2222	1.3123	7	13
Board Independence	7.4222	1.8277	4	11
Board Expertise	4.9556	0.6013	4	7
Board diligence	8.3333	5.4564	4	33
Gender Diversity	1.8444	1.1472	0	5
Firm Size	18339.9	12541.36	4807.948	57949.86
Firm Age	55.7778	25.3735	16	100
Firm Leverage	0.5044	0.1767	0.235	0.837

Total Observation = 45

Further technical analysis on the return on assets is conducted to investigate the pattern of firms listed under commercial and service sector as indicated earlier. From the graphical analysis (figure 4.1), nation media, scan group and standard group were shown to possess similar characteristics such that their ROA increased at a decreasing pace over time. On the contrary, express limited, Kenya airways and TPS Eastern Africa decline with a decreasing rate.

Longhorn publishers and atlas development and services were shown to maintain constancy over the study period. Hutchings Biemer only indicated a symmetrical increase and decrease during the study period. For more details, see figure 4.1 indicating the trends of financial performance of some selected commercial and service firms at NSE as at December 2015.

Figure 4:1: Graphical scrutiny of financial performance of Listed Commercial and Service Firms as at December 2015

Graphs by compcode (Commercial and service sector as listed at NSE)
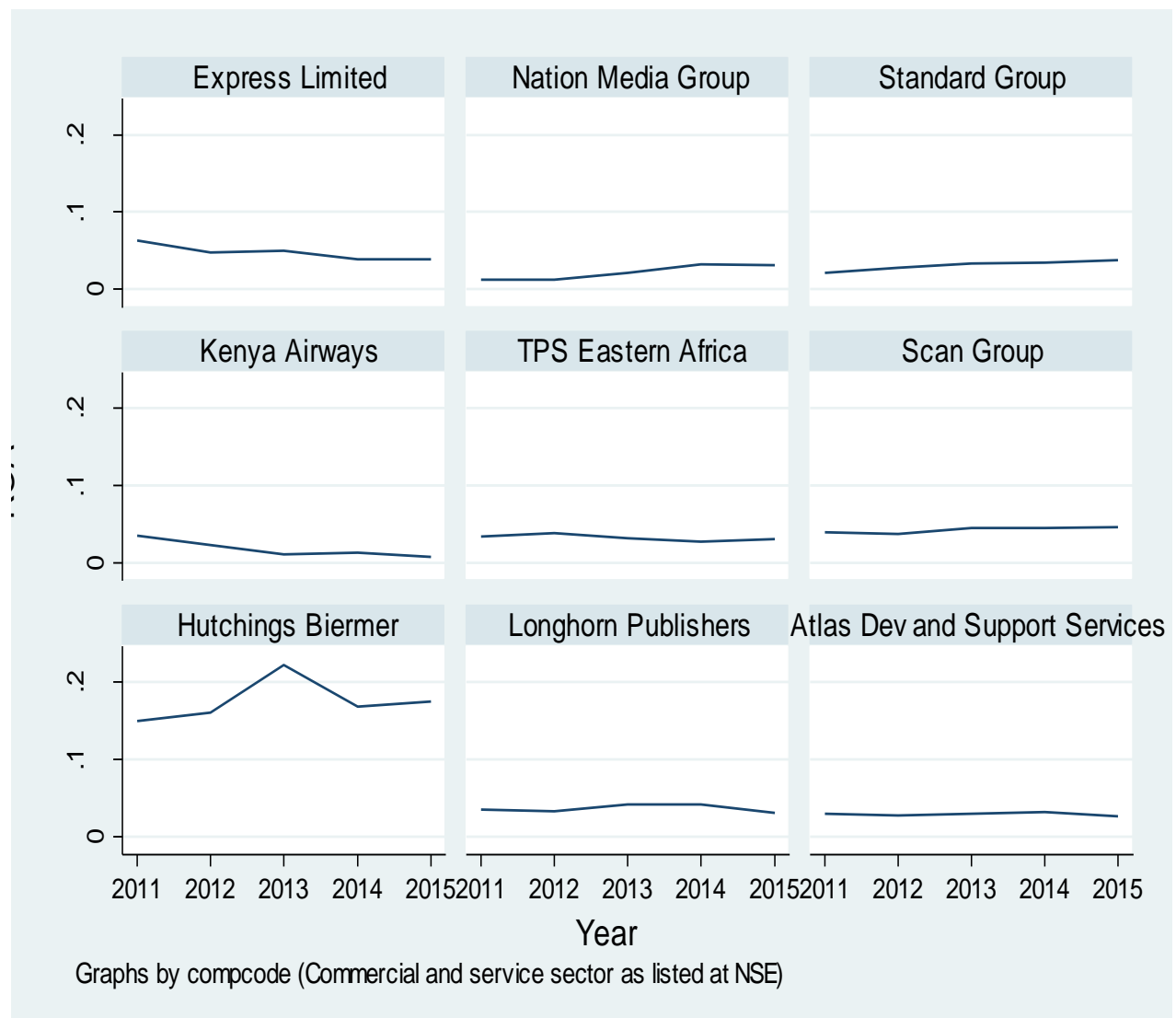
4.3 The effects of board characteristics on the financial performance at NSE

The study elucidates the contribution of the size of a board, board independence, board expertise, board diligence and gender diversity on financial performance of listed firms at NSE. The descriptive statistics show how variations across panels and among the parameters elucidate this predisposition. In this objective, the study mainly concentrates on exploring how the said variables with their stochastic nature relate with financial performance in either

firm under study. The conceptualized model was estimated by fixed effects regression with pre-estimation of multicollinearity, unit roots and Hausman model specification test.

4.3.1 Correlation Analysis

Correlation analysis is used to establish the extent of the correlation of different pairs of variables under study. It measures/calculates the correlation coefficient between 1 and -1. This further predicts the presence or absence of multicollinearity which is considered to exist when there is perfect linear relationship between the variables under the study. The correlation matrix was used to determine if any pair of independent variables was highly collinear through the magnitude of the correlation coefficient of the pairs of variables established. This bias arises when one or more pairs of independent variables are perfectly correlated to each other.

Table 4:2: Correlation Matrix

Variables	ROA	Board Size	Board Independence	Board Expertise	Board Diligence	Gender diversity	Firm Age	Firm Leverage	Firm Size
ROA	1								
Board Size	0.0922	1							
Board Independence	0.0007	0.782*	1						
Board Expertise	0.0652	0.7805*	0.572*	1					
Board Diligence	-0.0926	0.3285	0.2958	0.3068	1				
Gender diversity	0.1159	0.6386*	0.4907	0.5139*	0.3516	1			
Firm Age	-0.2289	0.3665	-0.4154	-0.13837	-0.1046	-0.2148	1		
Firm Leverage	-0.1688	0.2309	0.0933	0.1956	0.2022	0.1418	-0.0001	1	
Firm Size	-0.1053	0.1621	0.0532	0.1518	0.0888	0.1977	-0.1585	0.3923	1

Multicollinearity would be considered present if the correlation coefficient was equal to or above 0.5 as it may lead to spurious regression. As indicated in Table 4.2, the study found that some pairs had a correlation of more than 0.5 (starred correlations) which is the threshold to permit retaining of those variables. To correct that, the study applied step wise differencing to variables exhibiting this characteristic (see Hsiao, 2003; Green, 2008). The results are as indicated using a confirmatory VIF test in table 4.6.

4.3.2 Unit root test

To avoid change of the estimates over time due to non-stationarity, unit root tests were applied to investigate or detect non stationarity in all the study variables which in turn leads to spurious estimates. In this case, all board specific characteristics under study were subjected to Levin-Lin-Chu unit-root test. In this test if variables are found to be non-stationary, first differencing or successful lagging is applied until the bias is eliminated. Presence of unit root leads to spurious regressions. The null hypothesis in this case was that the variable under consideration was non-stationary or has unit root and in this study, it was stated as; null and alternative hypothesis state that Panels contain unit roots and Panels are stationary respectively. Table 4.3, the Levin-Lin-Chu unit-root test revealed that all variables had p values less than significance level of 0.05 which led to rejection of the null hypothesis (that the variables had unit root).

Table 4:3: Levin-Lin-Chu Unit-Root Test

Variables	Unadjusted t-statistic	P value at lag(0)
ROA	-28.2947	0.0000
BD size	-20.7370	0.0000
BD independence	-17.0413	0.0000
BD expertise	-15.8846	0.0000
BD diligence	-6.1223	0.0004
Gender diversity	-8.8886	0.0011
Firm size	-36.7598	0.0000
Firm age	-7.8976	0.0000
Leverage	-9.5e+02	0.0000

Source: Author's computation. Significance pegged at 5% level.

4.3.3 Hausman Specification Model

In order to determine the best fitting model of firm performance, this study adopted Hausman specification test where the fixed effects model specification was compared to the random effects model. According to Woodridge (2004) under fixed effects, there is an assumption that all the dispersion in observed effect is due to sampling error whereas under random effects, there is allowance that some of the dispersion observed may illustrate real differences in effect of size across firms (Baltagi, 2005), in this case listed firms under NSE. The null hypothesis was that the differences in estimates are not systematic. Consequently, on conducting the test, it was shown that P-value of 0.0001, at 0.05 level of significance, implied that the individual level effects are best modelled using the fixed effects method.

Table 4:4: Test for Model Selection: REM versus FEM

| | ── Coefficients ── | | | |
	(b) random	(B) fixed	(b-B) Difference	sqrt(diag(V_b-V_B)) S.E.
B_Size	.0010251	.0067769	-.0057517	.0068399
B_Independ~e	-.0067431	-.0052747	-.0014685	.
B_Diligence	-.0013178	-.0001265	-.0011913	.0008365
B_Expertise	.0205205	.0001781	.0203424	.0076025
B_gender	-.0140035	-.0006503	-.0133532	.
Firm_Size	2.38e-06	1.69e-06	6.87e-07	5.60e-07
Firm_Lever~e	.016042	.0176518	-.0016099	.0192981
Firm_Age	-.0012502	-.0040182	.002768	.

```
                    b = consistent under Ho and Ha; obtained from xtreg
        B = inconsistent under Ha, efficient under Ho; obtained from xtreg

    Test:  Ho:  difference in coefficients not systematic

            chi2(8) = (b-B)'[(V_b-V_B)^(-1)](b-B)
                    =        33.28
        Prob>chi2 =       0.0001
        (V_b-V_B is not positive definite)
```

In this study, the Hausman test preferred fixed effects model to random effects model which restricts estimation effects of the mean of the distribution effects to one true effect (Hausman, 1978). Despite varied information about a different effect size each commercial and service firm represented in the study, it was thus necessary to ensure that all these effects size are represented in the summary estimate.

4.4 Regression Results for fixed Effects Model

The adoption of fixed effects model was based on commercial and service firms established to be sharing the common effect size in terms of financial performance and the core objective of establishing the contribution of board characteristics on firm financial performance. After undertaking necessary pre-estimation diagnostic tests and model selection test, the fixed effects invariant is considered valid for interpretation. Note that in this model, it is assumed strict exogeneity as suggested by Anderson and Hsiao, (1982). This study also concurs with

Bertrand and Schoar (2003) that sometimes explicitly estimating fixed effects can be useful because the fixed effects can inform about parameters of interest. Table 4.5 indicates the results of the estimated model.

Table 4:5: Results for Fixed-Effects (within) Regression Model

```
Fixed-effects (within) regression           Number of obs      =         36
Group variable: compcode                    Number of groups   =          9

R-sq:  within  = 0.5981                      Obs per group: min =          4
       between = 0.1039                                     avg =        4.0
       overall = 0.0882                                     max =          4

                                             F(8,8)             =    8074.09
corr(u_i, Xb)  = -0.8551                     Prob > F           =     0.0000
```

(Std. Err. adjusted for 9 clusters in compcode)

ROA	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf. Interval]	
B_Size						
D1.	.0064913	.0020884	3.11	0.014	.0016755	.0113071
B_Independence	.0057237	.0075829	0.75	0.472	-.0117625	.0232099
B_Diligence	.0006849	.0002571	2.66	0.029	.000092	.0012778
B_Expertise						
D1.	-.0011497	.0047237	-0.24	0.814	-.0120426	.0097432
B_gender	-.0167918	.0071784	-2.34	0.047	-.0333453	-.0002384
Firm_Size						
D1.	5.21e-06	1.83e-06	2.85	0.022	9.92e-07	9.43e-06
Firm_Leverage						
D1.	-.0189898	.0183046	-1.04	0.330	-.0612004	.0232208
Firm_Age	.0024964	.0018777	1.33	0.220	-.0018337	.0068264
_cons	-.1223065	.1203559	-1.02	0.339	-.3998477	.1552346
sigma_u	.09445248					
sigma_e	.00811182					
rho	.99267819	(fraction of variance due to u_i)				

1

---

[1] D1 represents first difference

The results in Table 4.5 shows the total variations of 8.82% explaining financial performance of firms while the other proportion may have been factored in by other factors not considered by this study. Also, 10.39% of the variations explain firm financial performance in between the panels and approximately 59.81% of the variations explain firm financial performance within the panels. Despite low variations (Overall variation) in respective panels which is expected due to cross sectional component, the study revealed overall significance of 0.0000 which means that all variables (board characteristics) utilized in the model were statistically significant at the selected significance levels (0.1, 0.05 and 0.01 in explaining the financial performance of listed commercial and service firms at NSE.

The final estimated model is as indicated below;

$$FP_{it} = -0.1223 + 0.0065BS_{it} + 0.00068\text{BD}_{it} - 0.0167G_{it} + 5.21e^{-06}\text{FS}_{it} \ldots\ldots\ldots\ldots 2$$

Further, the results specifically indicated that the coefficients of the board size, board diligence, gender diversity and firm size as being statistically significant in influencing firm performance at NSE since their *t* statistics were 3.11, 2.16, 2.34 and 2.85, respectively and none of their confidence intervals included zero. However, board independence, board expertise, firm age and firm leverage were found to be statistically insignificant in influencing financial performance of commercial and service firms at NSE. This was after their respective p value exceeded the selected significance levels. Also, the standard deviation of residuals within groups and between groups were 0.0945 and 0.0081 respectively. Variance attributable to the differences across the panels was 0.9927. However, there was absence of correlation between the stochastic term and the regressors.

Due to time series component, the fixed effects model makes assumptions on normal distribution of the stochastic random error term, linearity, constant variance of error terms across observations and no serial autocorrelation of the error terms. However, regarding

heteroscedasticity and autocorrelation, Waldinger (2011) suggests that standard regression packages (such as STATA) will do the adjustment of standard errors automatically if one specifies a fixed effects model. This implies that panel data approach takes care of the presence of varying variance of the stochastic terms across all the observations in the panels and any suspected or proved correlation between random error terms of the subsequent time periods. Therefore, the following post estimation diagnostic tests were undertaken so as to validate the yielded estimates.

4.4.1 Multicollinearity test

Following the correlation analysis, the study suspected presence of multicollinearity which made the researcher to conduct the confirmatory VIF test. All those pairs of variables which exhibited high correlation coefficient of more than 0.5 in absolute terms were differenced as indicated in Table 4.6. Upon conducting VIF test, actually all of them exhibited VIF of less than 10 as recommended by Mukras (1993). This implies that multicollinearity was well addressed. Table 4.6 indicates more other details.

Table 4:6: VIF Test

Variable	VIF	1/VIF
Firm_Age	5.39	0.185478
B_Independ~e	5.26	0.189956
B_gender	4.09	0.244359
B_Diligence	3.24	0.308285
Firm_Size D1.	2.13	0.469106
B_Size D1.	1.22	0.820968
Firm_Lever~e D1.	1.10	0.906883
B_Expertise D1.	1.06	0.944674
Mean VIF	2.94	

4.4.2 Normality Test

To proceed with estimation, this study applied the Shapiro Wilk test for normal data or distribution of the stochastic random error terms. Table 4.7 below revealed that at 10% significance level, overall residuals of the variables were normally distributed.

Table 4:7: Test for Normality

Variable	Observations	W	V	z	Prob>z
Residuals	36	0.98873	0.411	-1.860	0.96853

Table 4.7 indicates the p-value of the residuals of 96.853 exceeds 5% level of significance implying that the null hypothesis of normality of residuals is not rejected. Therefore, data was normally distributed.

4.4.3 Linearity

The study adapted scatter plot to these effects. The scatter plot of estimated residuals square against the fitted values is shown by Figures 4.2 below. It can be observed that the plots are fairly symmetrical around 45 degree lines which imply that when making unusually large or small prediction, the model fails to make systematic errors.

Figure 4:2: Graph of Residual Squares against the fitted values of Firm Financial Performance
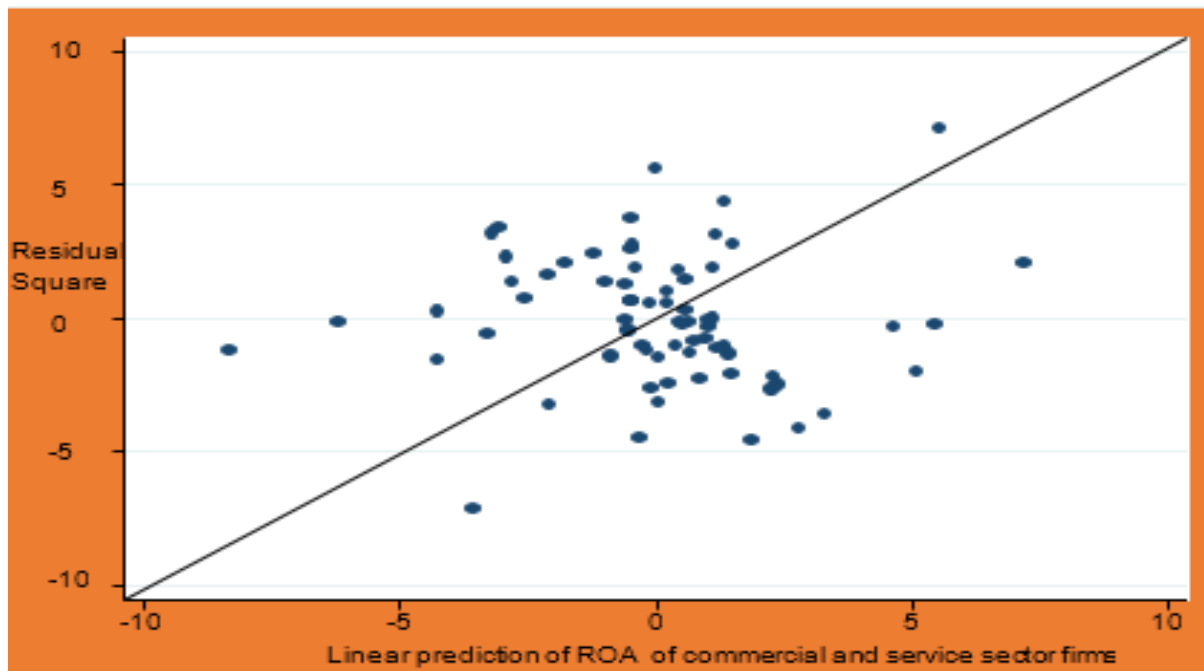
4.5 Discussion of the findings from fixed effects model

Upon specifying the fixed effects model, the findings are ready for discussion. The study explores significant board characteristics only as revealed in Table 4.5. The insignificance board characteristics are not discussed as they do not contribute to any working policy in this study. From the results, if all factors were kept constant, firm financial performance would be less by 0.1223 points. Board size was also shown to significantly increase firm financial performance at 5% significance level by 0.65% holding other board and firm characteristics constant. As explored in theories considered in this study, the stewardship theory reflects board size as essential elements for safeguarding actual corporate authority within any organization (Coleman et.al, 2007). This finding concurs with the study results of Bathula (2008) and Wetukha (2013) who established a positive association.

The strength of board initiatives that is a relevant board attribute measured by the number of executive meetings held by the firm is meant to improve productivity. From the study

findings revealed that board diligence significantly improved financial performance of the firm whereby at 5% significance level, an additional board meeting led to a significant rise in the financial performance of the firm by 0.068% holding other board and firm characteristics constant. This may be attributed to the fact that boards that meet regularly have a higher chance of executing their duties in line with the interests of shareholders. This result concurs with the findings of Carcelo, et al., (2002) who showed that the occurrence of board meetings contributed to the quality of output of audit. The regular meetings by firm committees exhibit few financial statement fraud. Finally, Gosh (2007), also showed that an increase in board meetings led to a one percent increase in performance of the firms.

The representation of women at the board level is still low (Adams &Ferreira, 2009). Gender was also revealed to have a significant but inverse relationship with financial performance of the firm. Firms with more number of women representatives on the board led to a significant decline at 5% level of significance by 1.68% holding other board and firm characteristics constant. This is contrary to the study results obtained by other scholars who revealed that a higher percentage of women have had a statistically significantly positive effect (Erhardt et al., 2003; Campbell and Minquez-Vera, 2008) while it concurred with other studies that showed a inverse relationship (Adams & Ferreira, 2009; Ahren & Dittmar, 2012).

Finally, firm characteristic that is size of the firm was also revealed to have a negative but significant effect at 1% significance level of $5.21e^{-06}$ points holding other factors constant. The study results are in line with the findings by Ehikioya (2009) whose empirical investigations revealed that firm performance in Nigeria was significantly affected by firm size and leverage.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This section conducts a recap of the study findings. Comprehensive conclusions are thereafter made with a key focus on the established linkage between board characteristics and financial performance of listed commercial and service firms at NSE. Later, relevant recommendations and areas of future research are provided.

5.2 Summary of the study findings

Literature reviewed in this study considered the different facets of corporate governance dynamics of which most of the studies however demonstrate inconclusiveness with regard to the effect of these factors on financial development of the firm (Boyd, 1994; Eisenberg, et.al, 1998; Vafeas, 1999; Yermack, 1996; Thomas and Pirman, 2003; Ehikioya, 2009; and Illaboya and Obaratein, 2015). Since in Kenya, there is no study conducted relating to these aspects on financial performance of commercial and service firms, this study concentrated on testing empirically the contribution of board characteristics on firm's financial performance. These board characteristics that were examined include board size, board diligence, board expertise, board independence and gender diversity on board. This is because board characteristics form the core framework of firm financial performance (Oguda, 2015; Ruparelia and Njuguna, 2016).

The study used Fixed Effects Regression Model in estimating the relationship. The results revealed that board characteristics have an effect on firm financial performance. The findings relating to size of the board can also be interpreted in relation to the stewardship and resource dependency theory that views number of directors on board as a technical resource that

increases value of the firm and that they bring resources to the firm. Secondly, another positive relationship exhibited by board diligence implies that lessons learnt from within and outside the firm are integrated more often. This improves the financial well-being of the firm. Finally, gender diversity with the representation of the women surprisingly lowered firm financial performance significantly. The study used secondary data obtained from the records of NSE to investigate the relationship at 5% level of significance. It was further revealed that board independence and board expertise were statistically insignificant in influencing financial performance of commercial and service firms at NSE whereas apart from firm size, firm age and firm leverage were not significant intervening variables.

5.3 Conclusions of the study

The board defines the company's strategy, oversees management and performance, identifies principle risks and opportunities, develops remuneration and staff policy, and reviews internal controls and compliance. Despite existence of working framework, a recent global competitive report ranked Kenya lowly on governance and accountability, competitiveness, and investor protection thus an indication of a need for a serious need to push forward on corporate governance reform. In addition to providing support to existing theories, this study has empirically contributed knowledge where most studies present conflicting evidence. However, major challenges still remain on weak corporate governance practices as revealed through board characteristics that have seen the firms perform poorly in international comparative rankings of governance and competitiveness. In this regard, this study proposes strong policies on size of the boards, frequency of board meetings and review of gender diversity.

5.4 Recommendations

In Kenya, by law and practice, the board is responsible for overseeing and directing the company and appointing senior management, and has substantial freedom under the law to exercise or delegate that power as it sees fit. Based on the estimated model, there is a need for the government to consider re-evaluating the size of their boards by emphasising on considerable number of directors so as to generate better outcomes. This should be in tandem with the structures of their day to day running of the operations. The empirical findings also support stewardship theory who argued that from the theoretical perspective, superior performance of the firm had higher likelihood of having a large proportion of directors (managers) in board since these managers have a better appreciation of the commercial activities and can therefore make informed decisions.

The study also recommends an increase in the number of consultations held by the board of directors since board diligence was associated with increased financial performance. Also it is of essence to consider the fact that too much of these meetings by board members may negatively hinder performance generally. However, increase in the number of the meetings with regard to pertinent issues affecting company will positively influence its financial performance. Frequency of board meetings despite requiring more resources may give directors enough time to deliberate on various aspects effecting firms and thus provide solid and valid conclusions that may impact on the financial performance of the firms under commercial and service sector.

The firms need to set up a team which will facilitate research to keep firms up to date on role of gender diversity characteristics. This will reverse the negative trends or impacts experienced from the estimated findings. Actually, a more varied board of directors enhances good understanding of markets that are differentiated in terms of growing creativity and innovativeness, improved decision-making provided evaluation of more other alternatives.

This also need to be done with a consideration of selecting a more productive members of the board and improve the image of the firm. This may further minimize overhead costs of meeting governance requirements as described in the constitution and thus reverse the negative trends in terms of financial performance.

5.5 Areas for further study

This study mainly focused on board characteristics with regard to their potential influence on financial performance of listed commercial and service firms in Kenya. Similar studies are required covering commercial and service firms across East Africa and even showing comparisons with respect to these characteristics. There is also a need for more studies of the same nature utilizing other indicators like political instability and corruption, factors which are more pronounced in Africa continent given weak judicial and social structures. Finally, there is a need to contemplate more other measures of financial performance for comparative purposes to reconnoitre the effect of various parameters of board characteristics.

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APPENDICES

APPENDIX 1: LIST OF COMMERCIAL AND SERVICE SECTOR AT NSE IN KENYA AS AT DECEMBER 2015

1. Express Ltd

2. Kenya Airways Ltd

3. Nation Media Group

4. Standard Group Ltd

5. TPS Eastern Africa (Serena) Ltd

6. Scan-Group Ltd

7. Uchumi Supermarket Ltd* (No full data-excluded)

8. Hutchings Biemer Ltd

9. Longhorn Kenya Ltd

10. Atlas Development and Support services

APPENDIX 2: DATA SET USED WITH BOARD CHARACTERISTICS AND FINANCIAL PERFORMANCE OF COMMERCIAL AND SERVICE FIRMS LISTED AT NSE AS AT DECEMBER 2015

Company Name	Year	ROA	Board Size	Board Independence	Board Expertise	Board Diligence	Gender	Firm Age	Firm Leverage	Firm Size
Express Ltd	2011	0.063	8	5	4	6	2	96	0.421	29569
Express Ltd	2012	0.048	10	6	4	7	2	97	0.327	26339
Express Ltd	2013	0.05	10	6	4	7	2	98	0.369	27424
Express Ltd	2014	0.039	7	5	5	8	2	99	0.367	27922
Express Ltd	2015	0.039	10	8	5	8	5	100	0.388	28288
Nation Media Group	2011	0.013	10	9	5	5	3	21	0.429	4807.948
Nation Media Group	2012	0.013	10	9	5	5	3	22	0.436	6042.024
Nation Media Group	2013	0.021	11	8	5	5	3	23	0.473	6542.787
Nation Media Group	2014	0.032	11	8	4	5	3	24	0.394	7542.114
Nation Media	2015	0.031	11	8	4	4	3	25	0.499	8461.945

Group									
Longhorn Kenya Ltd	2011	0.035	12	11	5	6	1	46	0.561	9189
Longhorn Kenya Ltd	2012	0.033	12	11	5	6	1	47	0.65	11885
Longhorn Kenya Ltd	2013	0.042	12	11	5	5	1	48	0.593	15676
Longhorn Kenya Ltd	2014	0.042	12	11	5	6	1	49	0.593	18626
Longhorn Kenya Ltd	2015	0.031	12	11	5	7	1	50	0.629	21276
Atlas Development and Support Services	2011	0.03	9	8	5	4	1	65	0.32	7706.904
Atlas Development and Support Services	2012	0.028	9	8	5	4	1	66	0.306	9522.289
Atlas Development and Support Services	2013	0.03	9	8	5	4	1	67	0.322	12240.34
Atlas Development and Support Services	2014	0.032	9	8	5	4	1	68	0.275	14380.39

Atlas Development and Support Services	2015	0.027	8	8	5	4	1	69	0.292	16584.33
Hutchings Biemer Ltd	2011	0.15	10	7	5	7	1	16	0.73	11713
Hutchings Biemer Ltd	2012	0.161	10	7	5	7	1	17	0.734	16223
Hutchings Biemer Ltd	2013	0.223	12	8	6	6	1	18	0.691	23964
Hutchings Biemer Ltd	2014	0.169	12	8	6	5	1	19	0.703	26491
Hutchings Biemer Ltd	2015	0.175	13	9	7	7	2	20	0.714	29175
Standard Group Ltd	2011	0.021	12	7	5	16	4	87	0.837	30661.39
Standard Group Ltd	2012	0.028	11	7	5	12	3	88	0.784	39907.81
Standard Group Ltd	2013	0.033	11	7	5	13	2	89	0.784	46257.12
Standard Group Ltd	2014	0.035	11	7	4	11	2	90	0.783	50110.27
Standard Group Ltd	2015	0.038	12	7	4	9	3	91	0.782	57949.86

Kenya Airways Ltd	2011	0.036	10	7	5	18	2	46	0.597	7099.916
Kenya Airways Ltd	2012	0.024	10	7	5	23	2	47	0.519	7795.139
Kenya Airways Ltd	2013	0.011	10	7	5	33	2	48	0.501	7633.99
Kenya Airways Ltd	2014	0.014	10	7	5	16	2	49	0.488	8495.152
Kenya Airways Ltd	2015	0.008	10	7	5	8	2	50	0.401	9934.194
TPS Eastern Africa (Serena) Ltd	2011	0.035	10	8	5	8	0	51	0.259	5268.185
TPS Eastern Africa (Serena) Ltd	2012	0.039	10	8	5	8	0	52	0.235	6661.132
TPS Eastern Africa (Serena) Ltd	2013	0.032	9	7	4	8	0	53	0.29	8380.398
TPS Eastern	2011	0.02	9	7	5	8	0	54	0.253	10486.

Africa (Serena) Ltd	4	8								3
TPS Eastern Africa (Serena) Ltd	2015	0.031	9	7	5	8	0	55	0.245	11571.3
Scan-Group Ltd	2011	0.04	10	5	6	8	3	56	0.423	13902.73
Scan-Group Ltd	2012	0.038	10	4	6	7	3	57	0.586	15913.51
Scan-Group Ltd	2013	0.045	9	4	5	7	3	58	0.577	20671.44
Scan-Group Ltd	2014	0.045	9	4	5	6	3	59	0.588	23417.44
Scan-Group Ltd	2015	0.047	9	4	5	6	3	60	0.552	25587.02