THE EFFECT OF CORPORATE GOVERNANCE ON EARNINGS MANAGEMENT IN FIRMS LISTED AT THE NAIROBI SECURITIES EXCHANGE IN KENYA

BY

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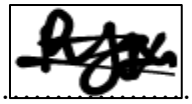
DECLARATION

I declare that this is my original work and has not been submitted to any other university or institution of higher learning other than the University of Nairobi for this examination.

Signature  Date 6th. NOVEMBER. 2022

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This research proposal has been presented for examination with my approval as the University supervisor

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This research project is dedicated to my son Adrian Adan Brighton, my parents David and Loice Too and my siblings (Sharon Cherotich, Dancun Kiprotich, Sylviah Chebet, Danstan Kibet, Danson Kipkoech) who have been so supportive through this course and for encouraging me when things got tough for me and seemed beyond my control. For the unwavering and never tiring support I received from my supervisor and friends, God bless you.

LIST OF ABBREVIATIONS AND ACRONYMS

CMA	Capital Market Authority
CBK	Central Bank of Kenya
CEO	Chief Executive Officer
CG	Corporate Governance
CSR	Corporate Social Responsibility
DA	Discretionary Accruals
EM	Earnings Management
EASE	East African Securities Exchange
ESOP	Employee Stock Option Plan
GAAP	Generally Accepted Accounting Principles
IFRS	International Financial Reporting Standards
KRA	Kenya Revenue Authority
KPMG	Klynveld Peat Marwick Goerdeler
NSE	Nairobi Securities Exchange
NI	Net Income
NDA	Non-Discretionary Accruals
OCF	Operating Cash Flows
PPE	Gross Property, Plant and Equipment
TA	Total Accruals
UK	United Kingdom

ABSTRACT

Earning management has been trending in the current financial market. The corporate governance has been utilized in ensuring that unsuspecting shareholders have different information. This is due to informational asymmetry. The research aimed at finding the effect of corporate governance on the earning management. The research optimized five predictor variables with firm size as the sixth being the control variable. The research found a significant association amid the predictors' variables and the regressed variables. The postulated predictor variable explained 53% before controlling for firm size as stipulated by R-Square. After controlling for firm size they explained 68% of changes in the regressed variable meaning firm size alone explained 15% changes in EM. The research stipulated that the variables not indicated in this research accounted for 32%. This laid a crucial foundation in the analysis of earning management.

The predictor variables analyzed showed that three repressor variables had positive association amid the earning management and corporate governance. The three variables were; board size, ownership concentration and Board Activity. However, two variables posted negative association, this include; Board independence, Audit Committee. Firm Size also had positive controlling effect on EM and corporate governance. The research postulated a great role of corporate governance on earning management. The research summarized that a unitary increase in each of the following; board size, ownership concentration and Board activity led to an increase in the earning management by 22.4%, 5.2% and 0.1% in that order all other factors constant when firm size is controlled.

The research findings postulated that a unit increase in the audit committee led to a decrease in the earning management by 10%. The research further stated that an increase in the one unit of board independence led to a decrease in the earning management by 3.4% when all factors are kept constant and firm size is controlled. The multicollinearity test opined that the data was statistically significant. The researcher recommended further research on the same topic as well the use of first-hand information. The research further clarified the importance of CMA and NSE in stipulating policies to evade the far-reaching problems.

CHAPTER ONE

INTRODUCTION

1.1Background of the Study

Corporate governance studies have risen steadily in the previous years because of rising cases of accounting and financial fraud in stock markets around the world. The International Accounting Standards Board requires companies to avail transparent, reliable and accountable financial information to stakeholders and the general public to aid them in making decisions (Lang and Lundholn, 2000). Though managers have discretion over some financial reporting guidelines which may lead them applying EM techniques to alter financial reports to their advantage, CG can be used to influence their decisions and actions for example through the board and audit committee. Brickley et al. (1997) explain that Appropriate CG like a working audit committee and taking advantage of internal controls systems can be used to tame opportunistic behaviors amongst management staff hence reduce the practice of EM in firms.

Different theories have directed the studies on how these study variables relate. The source of Agency Theory is linked to Berle and Means (1932) description by which some firms operate by having different people as owners while the firms is run and managed by different persons. It advocates for enhanced CG practices which minimize the level of conflict of interest. Stewardship theory proposes that managers are people of integrity and thus CG actions are unnecessary as they act in good faith and are assumed to make good uses of resources (Donaldson & Davis, 1991). Resource dependency theory proponents argue that boards are formed in a manner that seeks to offer maximum resources in an organization (Boyd, 1990; Hillman, et al, 2000; Pfeffer, 1972). Each

board member is assumed to bring different connections, skills and unique value to the Board to be able to control the managers' behavior.

Earnings is one very important aspect in financial reporting. It is a crucial determinant in: making predictions, dividend policy establishment, Investment decisions guideline, an effective stock pricing criteria and a key estimate of a firm's performance (Mohammady, 2012). Effective CG is expected to result in improved performance; hence CG impacts on the performance of firms and EM. To ascertain whether the established CG guidelines in Kenya are effective, it is necessary to know how earnings management practices take place in the NSE listed companies. The findings of this study will further the literature of EM therefore assist in identifying any gaps in the implementation of the CG regulations.

1.1.1 Corporate Governance

Goergen and Renneboog (2006) defines CG structures as the collective methods that guides the management (agent) to run the firm for the good of one or several stakeholders (principals) such as shareholders, creditors, suppliers, clients, employees and other parties with whom the firm engages in business. Dr. Richard Leblanc (2015) defines CG as the control of management to the benefit of the company, which includes being answerable to shareholders who take part in electing directors and auditors and determine what pay they get. The Cadbury Committee of U.K (2002) explains CG as the mechanisms whereby firms are directed and controlled with the purpose of promoting transparency and accountability and to meet shareholder's needs. CG can therefore be said to be the guiding and directing of management by the board so as to give accountability to stakeholders and to promote confidence in the company

Decisions made by managers influence greatly extensive business endeavors of a

company together with its reported financial earnings. Agency issues which cannot be settled through statutory solutions because of high transaction costs usually give rise to CG issues (Petra, 2005). Conflicts; between investors and other claimants on cash flow, between the managers and directors who have the discretion on how the cash flows are used are manifestations of agency challenges plus the current accounting principles being flexible gives managers substantial room to alter earnings. Improved corporate governance is beneficial to firms because of greater financing reach, reduced cost of capital, greater performance and better treatment of all stakeholders. Claessens et al (2002). Many studies prove that high EM levels are linked to weak CG practices (Beasley, 1996; Klein, 2002). Kenyan companies in recent years have experienced a surge in collapsed firms including Nakumatt, Webuye Pan Paper Mills, Athi River Mining Cement among others. Great emphasis on compliance of good CG practices and accountability to shareholders has therefore been put on firms listed at NSE which if not adhered to leads to the risk of sanctions by NSE or CMA. This study will highlight the extent of compliance with the CG guidelines by CMA to firms listed at NSE and the effect of those CG guidelines on EM, especially the board size, Board independence, Audit Committee independence, CEO shares and firm size

Corporate governance can be monitored by factors such as independent directors in the board, independent audit committee and other power sharing factors inside the board therefore influencing the quality of Corporate Governance and its capability to safeguard shareholders' interests (Heninger, 2001). A study of listed commercial banks in Kenya was done by Wangaruro (2014) seeking to establish the relationship between CG and EM. Board compositions, board activity, executive compensation over time were used to

measure CG while the firm's leverage level and the firm's size were used as the control variables. Muchoki (2013) in a similar study of NSE listed firms measured CG using the following independent variables; Ownership Concentration, CEO Duality, Board Size, Board Activity and Board Independence. Mululu (2005) in his study on CG structures and performance on all listed firms in the NSE noted that board activity is related to a number of corporate variables. The variables include board size, the number of executive directors, aggregate shares of the major shareholders, total shares by unaffiliated block holders, and the number of outside directors and noted that boards conduct their meetings frequently during financial crises.

1.1.2 Earnings Management

Barton (2001) defines EM as the production of financial statements and records by applying accounting techniques that paints an exaggerated productive outlook of a firm's business endeavors and financial position. Healy and Wahlen (1999), argues that EM is the modification of firms" reported economic position by management to either hoodwink some stakeholders about the company's economic performance or to sway outcomes of contracts dependent on reported accounting figures. (Ronen & Sadan, (1981) argues that EM is the accounting treatment of various transactions and events for the sake of the expected incomes using accounting discretion available to them. EM can therefore be said to be the deliberate alteration of a firm's earnings by managers by use of judgmental discretion techniques so as to lure some stakeholders about the firm's economic performance or in order to take advantage of some benefits dependent on the reported accounting numbers

EM practices involve altering earnings figures reported by applying judgmental dispositions as permitted by the Generally Accepted Accounting Principles (GAAP). This serves to hoodwink the users in consuming untrue reports regarding the earned figures amount to obtain favorable feedback (like greater demand for the firm's shares), or to sway contracts their way which depend on the earnings reported yet this technique cannot be detected easily especially by shareholders that lack expertise in accounting and financial reporting. It is through these financial reports that shareholders can make decisions by evaluating the firm's performance. Therefore it is necessary to put in place mechanisms to ensure EM are monitored so as to represent the true value of the firm so that shareholders and other stakeholders can make correct decisions based on the reports indicating the true value of the firm. A survey undertaken by Price Water House Coopers (2011) ranked Kenya among leading countries perpetrating fraud, with creative accounting being the main cause.

Firm's earnings comprise of cash inflows, outflows, and discretionary and non-discretionary accruals. Chen, Lin and Zhou (2005) stated that EM is most probably to be captured by accruals. Dechow, Sloan, and Sweeney, (1995) proved that the modified Jones model of 1991 is the most supreme measure in revealing EM amongst other models to estimate unforeseen accruals. Jones (2011) stated that earnings quality can be compromised by altering the accounting methods and the capital structure. Jones, tabulated EM using total accruals. Jaggi and Leung, (2007) came up with a cross sectional regression by modifying Jones model (1991) to get the discretionary elements of accruals used as earnings management representative. The discretionary accruals are calculated as follows: Total accruals are found by subtracting cash flows from operation

from net Income; TA = $NI_{i,t} - CFO_{i,t.}$ EM proxy, the discretionary accruals are found by subtracting non-discretionary accruals from total accruals where the lagged total assets to check for heteroskedasticity (Chen et al, 2005) scale all accrual variables. Guay et al. (2006) concluded that only the Jones and modified Jones models established the abnormal accruals that could be distinguished from the random decomposition of earnings.

1.1.3 Corporate Governance and Earnings Management

CG and EM theoretical relationship is demonstrated by various theories. The agency theory statesthat the CG and EM relationship is negative which results from separating ownership and control which in turn leads to agency costs. (Berle & Means, 1932; Jensen & Meckling, 1976). This necessitates the need for a monitoring mechanism to limit this conflict including establishing a board of directors and internal controls systems (Dibia & Onwuchekwa, 2014). Jensen and Meckling (1976) noted that the principals hold the opinion that agents will make the most favorable decisions for the company when effective monitoring mechanisms and appropriate incentives and rewards are in place. Agency theory holds that the board does better its role of oversight when independent directors make the majority and the CEO and Chairman Positions are held by separate persons. The Stewardship theory holds that the agents are trustworthy and that decisions made by them benefit the shareholders therefore does not necessitate monitoring (Donaldson & Davis, 1991). Stewardship Theory also prefers a greater number of inside directors making up the board and the CEO and Chairman positions held by one individual with directors here only holding the fiduciary duty of safeguarding shareholder's interest. The stakeholders' theory leaves plenty of uncontrolled powers to

managers which positively affect EM to their advantage. If good CG practices are applied to monitor management here: integrity, transparent and accountable financial reports free of EM will be upheld. The big bath theory of EM proposes that firms with low earnings in a certain year can undervalue discretionary to lower even further that period's earnings with the presumption that they cannot be met with an extra correction for the increased poor performance. These actions positively affect EM and good CG practices by firms can be used to control such therefore resulting in a negative relationship

The relationship between CG and EM has been explained by various Empirical studies. Concentrated power (CEO duality) leads to high levels of EM while a company with higher levels of governance results in decreased levels of EM practices (Bugshan, 2005). Jesus and Emma (2013) observed that EM is negativity affected by insider shareholding, concentrated ownership, institutional investors, independent board and high number of board meetings while family ownership and size of the board positively affects EM.

1.1.4Listed Firms at the Nairobi Securities Exchange

The NSE is a member of the EASE Association and the World Federation of Exchanges. NSE is one major securities exchange in East Africa. It was incorporated in 1992 and began its operations in 1994. There are 66 listed companies at the NSE as at 2021 which are subdivided into: agriculture based, automobiles and accessories, banking, commercial and services, construction and allied, energy and petroleum, insurance, investment, manufacturing and allied and telecommunication and technology sectors (www.nse.co.ke)

Companies are listed at NSE after complying with the requirements of CG practices of the CMA Act of Kenya whereby every listed company is required to establish a board of directors and an effective audit committee. Other considerations include the size of the board, activities of the board characterized by board meetings, directors' remuneration, procedures of appointment and independence of the board requiring the board to have not less than a third of outside non-executive and of different backgrounds be implemented. Several guidelines have been put in place by Kenyan Government to limit the practice of EM including implementation of the IFRS effective January 1999 and the issue of CG Guidelines (CMA, 2002).

1.2 Research Problem

Corporate Governance is a great determinant of a company's performance and is expected to alleviate the probable agency problems in listed firms. Managers use EM to deceive unsuspecting shareholders with false financial reports. Management is therefore monitored by members of the board to ensure credible financial statements are reported by complying with the GAAP therefore ensuring collusion incidents by management to defraud the company through EM are avoided therefore upholding earnings integrity (Davidson & DaDalt, 2003). A CG structure therefore regulates the utilization of a firm's assets and also makes sure financial reports are up to standard. (Lin & Hwang, 2010). And since managers have the option in coming up with some accounting preferences, some unethical financial heads exploit such chances to alter the financial reports to look appealing than they are. An effective board is therefore necessary to monitor the financial reporting process to make sure that financial reports are done correctly.

In Kenya, some companies have collapsed due to earnings mismanagement resulting from weak CG mechanisms. According to Iraya et al. (2014) some of the firms in Kenya which have experienced corporate failures resulting in corporate scandals include Euro Bank collapsing in 2004, National Bank of Kenya and Unga group disagreements by the board, Uchumi Supermarkets being bankrupt in 2004 because of poor management and also disagreements in the board and revelation of bank accounts outside the country for draining money from company by some directors at CMC Motors (Madiavale, 2011). Other companies which have experienced scandals resulting in resignations/ convictions of CEOs include Petrobras, 2015; Mumias Sugar, 2015; Toshiba, 2015; Worldcom, 2002; Enron 2001; Imperial bank, 2016; Chase bank, 2016; Kenya Airways; Nakumatt Supermarket, 2017 Uchumi supermarket, among others. It is therefore necessary to carry out more research in this field to understand how and to what extent EM is practiced in Kenya so as to set up measures necessary to make sure those running the firms are accountable and companies adopt good CG practices.

A considerable number of studies on CG have been done in Kenya, though the majority inclined towards the firm's performance. A few studies on the effect of CG on EM have been done locally including (Muchoki, 2013) on the relationship between CG and EM on companies quoted at NSE, (Bulle, 2014) on the effect of CG on EM of companies listed at the NSE, (Wangaruro, 2014) on the effect of CG practices on EM on the listed commercial banks and (Mwendwa, 2020) on the effect of CG on EM in firms listed at the NSE. Since these studies are few, have different conclusions and were conducted during different times in Kenya using different data, the findings of the relationship between the study variables in this research provided additional literature. This study collected data

from recent years which will differ with the available literature. The study will employ a mix of different corporate governance mechanisms to answer the question: amongst the mechanisms of corporate governance (board size, board independence, audit committee independence and CEO shares), which one affects management of Earnings of companies listed at the NSE?

1.3 Research Objective

The objective of this study is to investigate the effect of corporate governance on earnings management of companies listed at NSE.

1.4Value of the Study

The results of this study will help investors to take more keen interest in financial reports by firms so as to be able to make informed decisions. This research will also enhance awareness and understanding on how financial reporting is influenced by corporate governance in developing countries like Kenya. The study would also inform shareholders of companies about the necessity of setting up effective CG to be able to maximize their wealth. With regards to regulations, the empirical results of these direct key measures of corporate governance are useful for KRA, NSE, CMA and CBK. This study shall also add knowledge to existing literature on the topic therefore useful for future researchers.

CHAPTER TWO

LITERATURE REVIEW

2.1Introduction

This chapter gives an insight into how some selected CG variables affect EM amongst companies listed at the NSE. It also discusses previous studies on the subject matter and analyzes critically applicable studies. The chapter is composed of five sections; theoretical framework, earnings management determinants, empirical review, and summary.

2.2Theoretical Review

Under this subsection, corporate governance practices and EM theories that hold different opinions are discussed. They include: Agency Theory, Stewardship Theory, Stakeholder Theory and the Resource Dependency Theory and are discussed as below;

2.2.1 Agency Theory

Agency is the relationship between an agent and the principal. Agency Theory origin is believed to be from when Berle and Means (1932) described ownership and control separation between the owners and the managers. The principals entrust the managers rights to manage the organization by controlling the operations of the firm (Jensen & Meckling, 1976; Ross, 1973). Issues however arise in determining whether the agents are conducting business for their benefit or the principals' benefit. In listed companies, shareholders are the principals while managers are their agents (Anthony & Govindarajan, 2007). Generally, shareholders' goal is to maximize their wealth, managers also want to increase their wealth which leads to discord between shareholders and managers (Laksmi & Kamila, 2018).

Agency is a contract between managers and investors whereby ownership is separated from control which may bring about agency problems where managers pursue selfish interests and not as assigned by shareholders (Jensen and Meckling, 1976). Managers use their day-to-day knowledge from managing the firm and the skills and proficiency from firm management to obtain an upper hand over shareholders, who are not present in the firm's activities daily (Dibia and Onwuchekwa 2014). The concern of Agency theory is to resolve the agency issues that emanate from the different goals and desires between the principals and the agents. The major issue is to come up with regulations and motivations depending on the implied and direct agreements, to do away with conflict of interest. (Eisenhardt, 1989) opinionated that agency theory widened sharing of risks among individuals and groups to even cover for agency problems that may arise when groups in the contract have different objectives. Since the firm is controlled by managers, the fear is that they may advance their own personal interest, and not those of the owners (Jensen and Meckling, 1976). Perrow (1986) criticized agency theory arguing that its proponents only viewed the cause of the Agencyproblem to be the agent and ignored the fact the same could be caused by the principal. Other critics of this theory developed a behavioral agency theory suggesting the inclusion of agent's motivation and fair compensation (Sanders & Carpenter, 2003; Pepper& Gore, 2012).In the CG and EM subject, managerial decisions have been affected by agency issues leading to imbalanced information and asymmetry of information between management and owners which creates an enabling environment for managers to manage earnings hence misrepresenting the true financial status of the company (Sari & Mimba, 2015). Agency theory resolves two problems, First, when the interests of agents and principal conflict and secondly,

when the principal finds it costly to ascertain what the agent does due to lack of knowledge. This theory demonstrates that EM practices are under managers' discretion and it additionally provides ways to mitigate EM practices. Prudent CG practices align directors' goals to those of shareholders and all the stakeholders in the firm. Agency theory posits that the board should be composed of independent directors and the Chairman and CEO position occupied by separate persons. This theory deepens understanding on why managers engage in earnings management (Njogu, 2016). A positive relationship is projected between CG and EM on the basis of this theory.

2.2.2Stewardship Theory

Donaldson and Davis (1991 & 1993) came up with Stewardship Theory as a new development in understanding ownership and management relationship of the company. It has been discussed as a behavioral theory that contradicts the theories of rational conduct by management (Donaldson and Davis, 1991 & 1993). Its main assumption is that managers act honestly and make decisions befitting shareholders therefore no need for monitoring. It argues that there can't be any conflict of interests between the management and owners since directors and managers actions are assumed to be in line with those of the owners. This theory proposes that the board should be made up of more inside than outside directors since inside directors are involved in the organization's daily operations, understands more the firm's operations therefore are able to make better decisions (Donaldson & Davis, 1991; Donaldson, 1990). It also proposes The Chairman and CEO positions to be occupied by one person so as to strengthen executive authority, protect high performance aspect and so as not to have a negative impact of a division of responsibilities

Slyke (2006) stated that Stewardship Theory aims at achieving the same goal among parties involved in CG therefore ruling out the existence of conflict of interest between the parties. It does not put the managers under owner's control but empowers them to take autonomous executive action. Managers are not driven by greed but by their identification with the aspirations of the company (Davis & Donaldson, 1997). This theory is focused on non-quantified rewards, such as growth, achievement, and duty that are intrinsic motives rather than extrinsic like in Agency Theory. Stewards regard the benefit gained from goal alignment with that of principal is higher than one gained through self-driven behavior (Davis et al., 1997). McEvily et al. (2003) criticized the theory arguing that such a stewardship relationship based on trust prevents the much-needed scrutiny of the managers' actions. It also makes it unnecessary to evaluate the financial information by managers to the board because of trust.

A negative relationship is predicted between CG and EM from this theory since it perceives that management is driven by managers who seek to maximize the wealth of shareholders. Concluding that managers cannot involve themselves in EM with or without sound CG since managers are the Stewart's of the company.

2.2.3 Resource Dependency Theory

This theory is derived from the open system theory which holds that firms rely on the external environment for its resources. This Theory according to Pfeffer (1972), proposes that actors will establish relationships with others in areas they are lacking expertise. This shows the extent a firm can go to acquire resources to implement its plans to achieve the organization's goals making it important to the study. Board members are chosen in a manner that will add value to the firm by maximizing the benefits each member brings to

the board (Boyd, 1990; Pfeffer, 1972). Each board member is assumed to bring different connections, skills and unique value to the Board to be able to control the managers' behavior and are considered as a resource due to the social and business networks they offer (Pearce & Zahra, 1992).

Critics of this theory argue that it assumes some important roles played by the board including offering advice on various matters and providing policy direction (Lorsch &Maclver, 1989; Westphal, 1999). A large board size is also recommended by the theory to bring in greater connections to access more resources. This theory was used to champion how resources available can be used to promote CG mechanisms of the listed firms making it hard for management to take part in earnings management.

2.2.4 Stakeholder's Theory

Freeman (1984) came up with this theory. He argued that companies should identify groups who are stakeholders and not focus on shareholders alone since the company's affairs can influence or be influenced by stakeholders. Lots of Research has recognized Stakeholder's theory recommending organizations be accountable to all stakeholders since their activities impact on the external environment. McDonald and Puxty (1979) argued that companies exist within a society and thus are no longer subject to shareholders alone but to the society as a whole. Hetherington (1973) criticized this theory stating that shareholders should not tolerate nonprofit making activity in the name of considering other stakeholders since in a way lessens their return or the performance of the company's stock in the market. Jenson (2001) also critiqued this theory for presuming focus on one goal arguing that the performance of a firm is not only calculated by benefits accrued to its stakeholders but is influenced by many other factor

The theory thus gives emphasis for the company to also be responsible to other stakeholders and not only focus on profit maximization including taking part in corporate social responsibility (CSR) and undertaking environment-friendly investments. This theory will be important in undertaking a wholesome evaluation of organizations.

2.3 Determinants of Earnings Management among Listed Firms in Kenya

The credibility of financial reports issued by management is important since stakeholders decide based on this information. This section examines literature on EM determinants among listed companies at the NSE. The following paragraphs gives insight into the basic doctrine between each variable and EM.

2.3.1Corporate Governance Structures

Corporate governance variables are reviewed in this section. The common corporate governance variables include the board size, Board independence, Audit Committee Independence, Audit Quality, CEO shares, Ownership Concentration and Board Activity and are discussed below.

Board size is the cumulative total of all board members in relation to the size of the firm. Different results concluded the relationship between board size and EM. Beasley (1996) and Dechow (1995) observed that when the board size is larger, the effectiveness of supervising managers lessens and the chances of EM increases. Peasnell, Pope, and Young (2004) on the contrary suggested that organizations with large board sizes are more efficient and thus increase the quality of earnings reported. Most researchers however agreed that large boards with diversified expert bases are more productive in minimizing EM compared to smaller boards. The effectiveness of the board size is dependent on ensuring sizeable members are capable of overseeing managerial functions

Board independence is the ratio of independent outside directors as compared to inside directors on the board and is commonly known as non-executive (independent) directors. The company's board is responsible for checking on management to safeguard interests of shareholders. Therefore, when the board is highly independent the chances of the company engaging in EM is very low. Several studies have also upheld that independent directors boost the overseeing of managers' actions by the board and that a higher number of non-executive directors would lower the prospects of EM including: Beasley (1996), Jebet (2001) and Klein (2002). The view that the board should be dominated by independent directors, is based on an agency viewpoint i.e the board's potential to monitor effectively is dependent on its independence (Davidson et al., 2004). Firstenberg and Mikiel (1980) however argued that directors who are non-executive are not involved in the daily running of the firm.

Audit committee Independence on the other hand is required to fulfill its oversight mandate including overseeing financial reports and acting as external control system. CMA Kenya developed guidelines for firms listed at NSE requiring boards to put in place an audit committee made up of not less than a third independent directors who reports to the board. Various explorations on the audit committee have been dealt in past studies and its association with EM. Madawaki and Amran (2013) found that improved financial reports were positively associated with establishment of audit committees, a chair who has independence empowerment and skilled members. Hasan and Ahmed (2012) stated that to safeguard shareholders' interests an effective independent audit committee has to be in place to assess the management decisions. Lin (2006) found out that EM level is negatively impacted by an effective audit committee.

Audit quality another CG mechanismensures that financial reports are of high quality and restrains managers from engaging in EM. Auditors demonstrate their competence and independence through audit quality. Audit quality is affected by: the firm's audit habit, skills and attributes of the audit personnel, audit procedure effectiveness, and how useful and reliable audit reports are (The Financial Reporting Council, 2006). KPMG, PriceWaterHouseCoopers, Akintola Williams &Deloitte, and Ernest and Young are considered as the Big4 auditors and their role in restraining EM is considered to be better in relation to audit firm's not among the Big4 (Becker et al., 1998; Krishnan, 2003).

CEO shares is where shareholders are able to align their interests with those of management through holdings of stocks and stock options by managers. Core and Larker (2002) demonstrated that incentives based on equity motivate CEOs to work and maximize returns to shareholders. Agency theory proponents argue that the percentage of managers' ownership in a company has an effect on how they align their goals to the company's objectives arguing that when managers have some substantial ownership of the company through ESOP, the levels of EM lessen since they limit their managerial opportunism: Fama & Jensen (1983), Warfield et al., (1995). The viability of incentives based on equity has however come under criticism in recent years after EM occurrences and the frequent collapse of many highly recognized companies. Critics argued that since CEOs have freedom to sell their equity stock, CEOs might be tempted to manage earnings by inflating short term stock prices so as to boost the stock value of their equity for that period at the expense of long-term goals (Levitt, 1998; Brown, 2002).

Ownership concentration shows the largest shareholders shares in a firm (Thomsen & Pedersen, 2000). Shareholders who have the most shares have more motivation to follow

up on management, the expected returns to their large equity holdings are more compared to the cost of monitoring. High concentration levels are expected to decrease EM by managers and improve the quality of earnings. On the other hand, shareholders with little stake have less or no motivation to check on management actions since the cost of checking on management's actions may exceed the benefits accruing from the monitoring (Ramsay & Blair, 1993; Hart 1995). Critics argue that concentrated equity ownership is not good for a firm's governance because it gives shareholders with the most shares a lot of authority at their disposal to employ the resources of the firm more for their own benefits at the other shareholders expense.

Board activity is the number of meetings by the board in a given period. Regular board meetings are beneficial since they enhance greater monitoring and supervision of management actions which leads to improved quality of earnings, reduction in reported financial fraud and greater firm's performance ultimately (Beasley et al, 2000)

2.3.2Firm Size

Shen, and Chih (2007) found that big firms are likely to engage in financial smoothing if strong internal mechanisms are not in place though good CG can help mitigate. Beasley, et al (2000) also concluded that since larger firms usually put in place strong tools for monitoring and internal checks than smaller firms therefore better quality of earnings reported. Large firms have reduced levels of EM since they are able to hire well established audit firms because of their financial prowess; the quality of their financial reports is better compared to smaller firms (Heninger, 2001).

2.3.3The Leverage Level of a Firm

Some empirical studies have proposed leverage as one way to check on powers under

management disposal. Jensen (2001) argued that leverage is one effective way in which management's powers are controlled. Increased debt level leads to reduced accrual earnings management since it constrains the opportunistic behavior of managers because the burden of repaying the debt reduces the cash flow available for investing in unnecessary projects (Jelinek, 2007). Additionally, a highly leveraged firm faces close monitoring from its lenders hence the management properly controls its expenditure levels.

2.3.4Management Bonus

Notable connection between management bonus and EM exists since some managers' increase reported earnings until a certain level to be able to earn more bonuses. Gaver et al., (1999) argued that some managers intentionally inflate reported earnings so as to increase their compensation since they are usually promised great bonuses by shareholders when the company does well (Nurdiniah & Herlina, 2005).

2.4 Empirical Review

Various studies have been done in connection to the subject matter under study. Below are some of the international and local empirical reviews.

2.4.1 International Evidence

Uwuigbe, Peter & Oyeniyi (2014) in their study on the effects of CG mechanism on EM in Nigerian 40 listed companies found the size of the board and board independence to affect EM negatively and found CEO duality to positively affect EM. They applied judgmental sampling techniques. The study was carried out on Nigerian listed companies in a different context from the study under consideration. The current study aims to find out if the results are consistent with this Nigerian context empirical results.

Shah, Butt and Hassan (2009) in their study on the effects of CG mechanisms on EM among Pakistan listed companies for 2006 found EM and CG to be positively related. Modified Cross-sectional Jones Model was applied to determine the DA and results analyzed using the ordinary least square estimation. This empirical study is relevant to this study especially since they both apply similar techniques to find out the DA and will therefore apply the same in Kenyan listed companies' context so as to find out the true levels of DA in Kenyan context

Jesus and Emma (2013) on their study on the relationship between the two variables countries in Latin America between 2006 to 2009 found that EM is negatively affected by: inside shareholders, concentrated ownership, institutional investments, independence of the board and frequent meetings by the board while it is positively affected by board size and ownership by same family members. 435 firms were under study and 1740 total observations made. Descriptive analysis was used while the modified Jones model version by Dechow et al. (1995) was used to measure EM. This study was conducted in a different geographical region from the current study with also very different times. The current study will seek to find out if these findings and conditions are the same especially since it's in different geographical regions.

Swastika (2013) also carried out a study on the relationship between Firm Size, CG and EM in Indonesia Stock Exchange using 51 food and beverage listed companies using data from the year 2005. He found out that the board of directors, firm size, and quality of audit has a great effect on the EM levels. Though this empirical study suggested that larger firms mostly engage in EM because they are usually under pressure of capital market monitoring, some studies have suggested this not to be true since bigger firms are

usually exposed to very rigorous internal control systems hence this study will seek to find out if this applies in these kinds of large firms.

Shen & Chih (2007) on their study on the impact of CG on EM in Asian countries found that Strong Corporate Governance practices leads to less EM levels. They applied a Regression analysis method. Their results are key in emphasizing on accounting disclosures amongst listed firms so as to build trust in their financial reports by stakeholders. They had put forward that the most effective method to understand variations of EM across countries is by considering accounting disclosure.

Dibia and Onwuchekwa (2014) did a similar study in Nigeria for 90 companies chosen for the period between 2006 and 2011. Their observation was that board size and firm size had a great effect on EM level and found no significant effect of: an independent board, an independent audit committee, the type of audit and CEO shares on EM level. Some studies however have found some correlation between all these CG variables and EM and this current study will add it's input on whether all the CG mechanisms impacts on EM

The above studies reveal the existence of literature review between corporate governance and earnings management. These international studies nonetheless do not reflect the situation in Kenyan context because of different economic conditions, laws and regulations among others. This therefore necessitates the need to review Kenyan studies so as to understand Kenyan situation.

2.4.2Local Evidence

Mwendwa (2020) in her study on the effect of CG on EM in firms listed at the NSE

found ownership concentration, board size and firm size to positively and strongly affect EM while independent audit committee, an independent board and activities of the board moderately and positively impacted on EM of the listed firms in Kenya. Therein inferring that CG mechanisms are positively related with EM. The study used a population of all the 65 firms quoted for a period of 5 years between 2015 to 2019 adopting descriptive research design with a longitudinal approach. Mwendwa's study is relevant in the current study since they are both conducted in the same country and apply to most similar firms and will seek to find out if the results are consistent

Were (2018) in his study on effects of CG on EM of firms quoted at NSE found board independence and board activity to negatively impact on EM while firm size positively correlated with EM of NSE listed firms. The study used a population of all the 64 firms quoted for the period 2013 to 2017 adopting the descriptive cross-sectional research design and the financial structure model, a modification of the revised Jones model to ascertain the degree of EM. This study by Were added literature to the already growing interest on the topic in Kenya that indeed strengthening CG structures helps mitigate against Earnings Management by firms

Wangaruro (2014) also in her input amongst listed commercial banks in Kenya observed that with effective CG practices firms are likely to take part in less EM unlike without when CG is not in place when they will undertake EM more. The study was carried out on 11 commercial banks listed as at 2013 at the NSE for a period of 5 years between 2009-2013. Linear regression and correlation analysis was used for analysis. Warunguro's results proved that commercial banks have to strengthen CG mechanisms so as to boost financial reporting levels therefore build trust amongst stakeholders.

Bullet (2014) in his study on effects of CG on EM of firms listed at NSE found that EM is positively influenced by concentrated ownership, CEO dualism, board size, board independence and board activity. The study was carried out on a sample size of 49 companies which had been actively and continuously trading at the NSE between 2010 and 2012 and was analyzed using linear regression and correlation analysis.

Muchoki (2013) in a similar study with a sample size of 49 firms listed at the NSE for the period 2010-2012 using descriptive research design found that concentrated ownership, size of the board and board independence negatively affects EM while board activity and CEO duality positively affects EM levels. Analysis of the variables to test their relationship was carried out using linear regression and correlation. This study by Muchoki added to the few existing empirical Studies in Kenya by then and added basis for further research amongst researchers in the field. It provided evidence that indeed there exists a relationship between CG mechanisms and EM

The above local studies provide evidence of the existence of earnings management amongst Kenyan firms. This necessitates for tthorough scrutiny of financial reports before being released for use by various stakeholders. The existing financial reporting regulations should be reviewed to minimize earnings management.

2.5 Conceptual Framework

A conceptual framework explains the relations between variables. The dependent variable in this case is earnings management while corporate governance practices are the independent variables. Corporate governance mechanisms are: audit committee independence, board independence, board size, board activity and ownership concentration. Firm size is the control variable in this study.

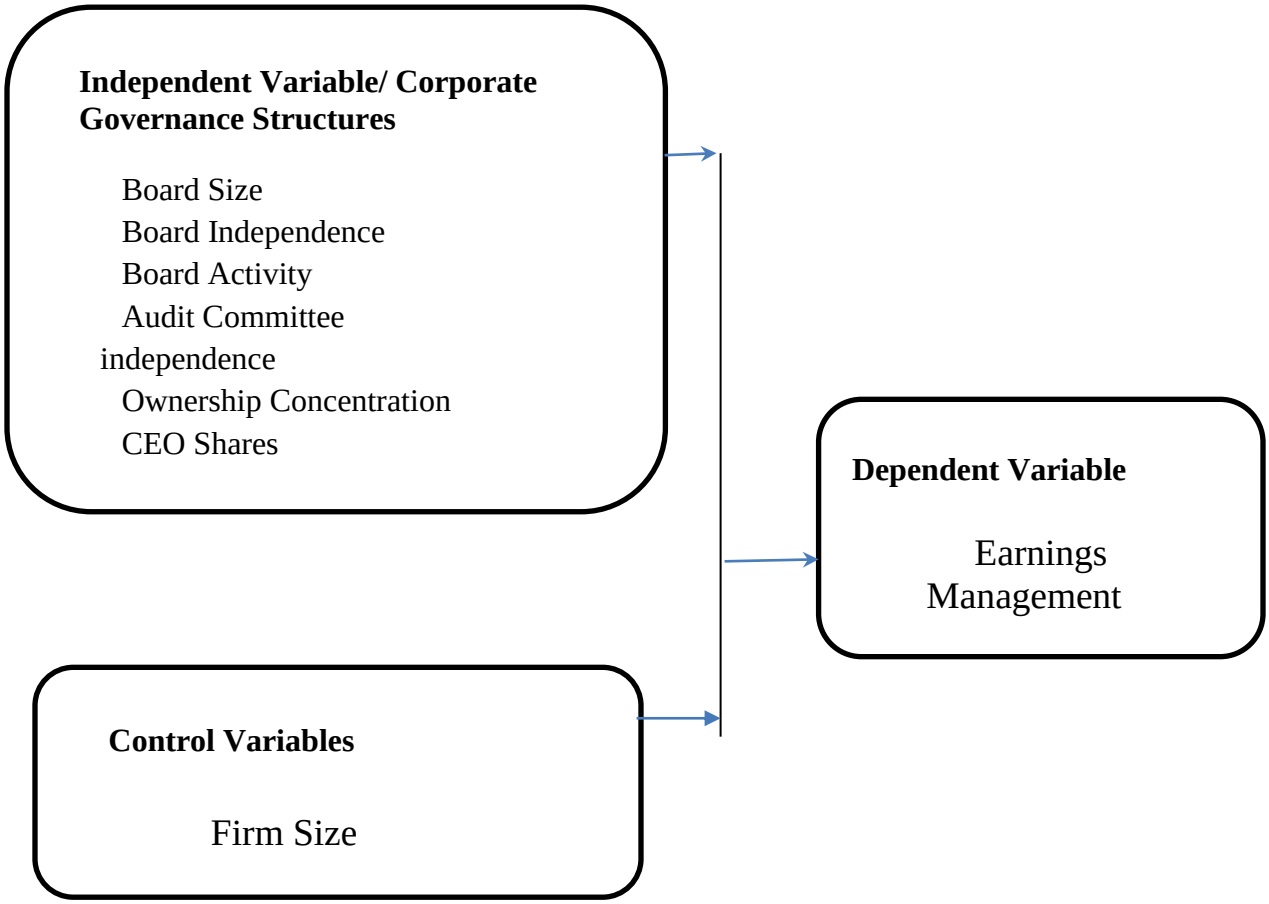

Figure 2.1: Conceptual Framework

2.6Summary of Literature Review

A review of the various empirical studies shows that CG plays a role in EM. The empirical studies however have resulted in mixed outcomes; some show a positive relationship, others negative while some do not show any relationship between the variables. These empirical studies however have been characterized by a lack of standardization; different country focus and even industry, different governance mechanisms choice, population choice, data sources and the statistical methodology choice being applied.

To implement good CG mechanisms there is need to understand the importance of these CG mechanisms and understand issues each organization has so as to achieve maximum benefit especially in establishing effective internal controls and governance structures to counter fraudulent activities that may impact on the financials of the firm.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This research methodology chapter is made up of these sections: research design, target population, sample design, procedures of collecting data and techniques of analyzing. These sections are presented as follows;

3.2 Research Design

So as to examine well how corporate governance mechanisms and earnings management amongst listed companies at the NSE relate, a descriptive research design was adopted. According to Mugenda and Mugenda (2003) Descriptive research is the collection of information without tampering with the environmental settings. It is also known as “correlational” or “observational” studies. Descriptive study demonstrates how these variables under study (CG and EM) relate hence the preferred design. A longitudinal study is employed on the selected companies over a period of 5 years.

3.3 Population

This study's population is made up of the NSE listed companies for a 5 year period from 2016 to 2020. A census approach is adopted for the 66 companies listed as at December 2020 (Appendix I).

3.4 Data Collection

Secondary data obtained from the listed companies' published annual reports sourced from the NSE database was used. Corporate Governance practices information was obtained from the Corporate Governance statement. Information captured include board size, executive and non-executive directors’ percentage in the board, non-executive and executive directors’ percentage in the audit committee, board activity

and ownership concentration. Discretionary accruals data was obtained from; cash flow from operations, accounts receivables, net income, and net PPE. This data is for a 5 years period between2016 to 2020

3.5 Data Analysis

Analysis of the extent of board independence was done using Descriptive statistics (percentages and means scores). Analysis by linear regression and correlation was used to test the dependent variable Discretionary Accruals used here as an EM tool against specific corporate governance variables to fit the NSE. The data collected will be analyzed using descriptive statistics since the data is quantitative, SPSS application was used to stimulate data for the purpose of conducting the correlation and multiple regression analysis.

3.5.1Diagnostic Tests

The study assumed linearity in the parameters meaning that they are not multiplied, divided squared or cubed together. Models are transformed to linear by a suitable substitution. To test whether the data is normally distributed, a Normality test was conducted. Normality test is carried out using either Kolmogorov-Smirnov for more than 200 samples and Shapiro-Wilk for less than 200. The rule of thumb is that p-values greater than 0.05 indicate presence of normality in the data (Schmidt& Finan, 2018).

To find out whether the error term variance is constant, homoscedasticity is carried out while Heteroscedasticity which is the opposite of homoscedasticity may be caused by omitted variables, outliers and parameter variation caused by the variable transformation. Graphical method is utilized by plotting residuals against fitted values to carry out these tests. If the plotted graph is cone-shaped, heteroscedasticity presence is assumed (Jochmans, 2018).

Multicollinearity is where more than one independent variable is highly correlated with each other which is an undesirable situation as it violates regression analysis assumption. To test for multicollinearity, the study used the values of Variance of Inflation Factors (VIF). The rule of thumb was that values of VIF within range of 1-10 signified absence of multicollinearity in the data (Daoud, 2017).

Autocorrelation on the other hand is where one observation of the error term can predict the next observation and can either be negative or positive. This situation is undesirable and is usually common in time series data. Durbin Watson Statistic (d) is applied to test it. Its value usually ranges from 0 to 4 whereby it can be negative or positive. If (d) value is closer or equal to 2 then absence of autocorrelation is assumed. (Vatcheva, Lee,McCormick & Rahbar, 2016). To eliminate autocorrelation, omission of a key predictor is investigated or Cochrane-Orcutt used.

3.5.2Analytical Model

This study measures the discretionary accrual (Earnings Management tool) applied to a Model based on Dechow et Al. (1995) cross-sectional Jones discretionary accruals model but modified by Jesus and Emma (2013) is used.

The following multiple regression model is used:

$DAit=\beta_0+\beta_1X_1+\beta_2X_2+\beta_3X_3+\beta_4X_4+\beta_5X_5+\beta_6X_6+£$ Where DA_{it} represents Discretionary Accruals, for Company i in year t. From this multiple regression model;

β_0 – Constant coefficient

β_1 –β_6 - Beta coefficient of independent variables

X_1-X_5 - Independent variables

X_6–Control variable

X_1 - Board Size, given by the sum total of all board directors.

X_2 - Board Independence, given by the portion of outside directors in relation to the entire board numbers.

X_3 - Audit Committee Independence, is given by the ratio of outside directors to all audit committee members in the audit committee.

X_4–Ownership Concentration, is shown by the percentage of the major shareholder's ownership of a firm.

X_5–Board activity is shown by the number of meetings held by the board in a year.

X_6 - Firm Size, is the measurement of the asset's book value as reported in the annual reports and is given in natural logarithm

£ - Standard Error term.

DA is found by subtracting Non-Discretionary Accruals from Total Accruals. The first step of computation of DA using modified Jones model is to determine total Accruals using cash flow approach as shown in equation 1:

$TA_{jt} = NI_{jt} - OCF_{jt}$ ----------(1)

Where;

TA_{jt} is total accruals for firm j in year t.

NI_{jt} is net income for firm j in year t.

OCF_{jt} is operating cash flow for firm j in year t.

The second step is the computation of NDA. Before computing NDA, the model parameters were determined using equation 2

$$\frac{TAjt}{Ajt-1} = \beta_0\left(\frac{1}{Ajt-1}\right)+\beta_1\left(\frac{REVit-RECit}{Ajt-1}\right)+\beta_2\left(\frac{PPEjt}{Ajt-1}\right) + £_{jt} \quad \text{----------(2)}$$

Where:

A_{jt-1} is total assets for firm j in year t-1

ΔREV_{jt} is change in net revenue for firm j in year t

ΔREC_{jt} is change in accounts receivable for firm j in year t

PPE_{jt} – is gross property, plant and equipment for firm j in year t

The values of the coefficients β_0, β_1, β_2 found in equation two above are then replaced in equation (3) below to determine NDA:

$$\frac{NDAjt}{Ajt-1} = \beta_0\left(\frac{1}{Ajt-1}\right) + \beta_1\left(\frac{REVit-RECit}{Ajt-1}\right) + \beta 2\left(\frac{PPEjt}{Ajt-1}\right) \text{----------(3)}$$

The final step is to determine DA by deducting NDA from TA as shown in equation (4)

$$DA_{jt} = \frac{TAjt}{Ajt-1} - \frac{NDAjt}{Ajt-1} \text{----------(4)}$$

3.5.3 Significance Tests

The P – values of results obtained from the multiple regression analysis will be used to test whether the relationship between the variables is significant or not. A 5% significance level is used to determine the rejection or acceptance region of the null hypothesis whereby p – value of less than 0.05 indicates a significant relationship.

CHAPTER FOUR

DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

This Chapter focuses on analysis of data that was obtained from financial reports in order to find out the effect of corporate governance on earning management. The research covered: firms selected, diagnostic tests, descriptive statistics, regression analysis and the correlation to compute our findings.

4.2 Firms Selected and analyzed

The study targeted all the 66 firms listed at the Nairobi Stock Exchange (NSE), where published financial statements were utilized to arrive at the conclusions. Analysis was conducted on 42 firms listed at the NSE whose data was complete for the period under study which represent 63.3% of the target. The data collected resulted to 210 firm-year total observations for the 5-year period for the 42 firms analyzed. The analysis was crucial in blueprinting the research finding.

4.3 Diagnostic Tests

The study performed the diagnostic test on the data obtained at a 95% confidence level so as to ascertain the truth or the falsity of the data. The researcher aimed at finding; Multicollinearity through the use Variance of Inflation (VIF), normality by the utilization of Kolmogorov-Smirnova while the Autocorrelation optimized Durbin Watson.

4.3.1 Test for Multicollinearity

Multicollinearity is where more than one independent variable is highly correlated with each other and is not a desired situation since it goes against assumptions of regression analysis. Multicollinearity was tested using the values of Tolerance and that of Variance of Inflation Factors (VIF). The thumb rule is that VIF values that

falls between 1-10 shows that the data lacks multicollinearity (Daoud, 2017). VIFs of 10 or more suggests that multicollinearity is present in the data (Newbert, 2008). For Tolerance values of more than 0.2 suggests lack of multicollinearity. In a scenario where the values does not fall as above, one of the independent variables should be omitted in the regression model.

Table 4.1: Multicollinearity Test

	Collinearity Statistics	
	Tolerance	**VIF**
Board Independence	.436	1.553
Board Size	.413	1.805
Audit Committee Independence	.712	1.335
Ownership Concentration	.833	1.230
Board Activity	.589	1.633
Firm Size	.491	2.041
Overall Value	**.579**	**1.600**

a.Dependent Variable: Earnings Management

Source: Research (2022)

The VIF test result shown in Table 4.1 range between 1.230 and 2.041 and the overall value being 1.600 hence all the VIFs were less than 10. The Tolerance values ranged between 0.413 and 0.833 hence greater than 0.2. This indicates that the model had no multicollinearity and is therefore fit to use to carry out other analysis in the sections that follow.

4.3.2: Test for Autocorrelation

Autocorrelation is where one observation of the error term can predict the next observation and can either be negative or positive but is usually undesirable situation since it violates the assumption of regression analysis. Durbin Watson Statistic (d) is

applied to test it. Its value usually ranges from 0 to 4 whereby it can be negative or positive. If (d) value is closer or equal to 2 then absence of autocorrelation is assumed. (Vatcheva, Lee,McCormick & Rahbar, 2016).

Durbin Watson statistics was used to test whether there's presence of autocorrelation as shown in table 4.2 below.

Table 4.2: Autocorrelation Test

Model	Durbin-Watson
1	1.760[a]

a. Predictors: (Constant), Firm Size, Ownership Concentration, Audit Committee Independence, Board Activity, Board Independence, Board Size
b. Dependent Variable: EM

Source: Research (2022)

The results in Table 4.2 above shows Durbin Watson's value being 1.760. This is approximately taken as 2. This shows there's absence of autocorrelation in this study and therefore it is safe to do regression analysis.

4.3.3: Normality Tests

Testing whether the data is normally distributed was done by conducting normality tests of Kolmogorov-Smirnov and Shapiro-Wilk. The null hypothesis for the test is that the data is distributed normally. If the p-value is less than the 0.05 significance level, then the null hypothesis is rejected, and in turn is concluded that the data lacks normal distribution. The opposite is that if the p-value is more than the significance level of 0.05, the null hypothesis is accepted implying that the data has normal distribution. These tests were therefore conducted with the assumptions that:

Ho: The data follows a normal distribution

Ha: The data does not follow a normal distribution.

The illustrations of the findings of the tests are in table 4.3 below. Both Kolmogorov-

Smirnova and Shapiro-Wilk show that all the variables used had p-values of ($p>0.05$), which means the data is distributed normally.

Table 4.3: Normality Test

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	**Df**	**Sig.**	**Statistic**	**df**	**Sig.**
Firm Size	.215	2.210	.015	.511	0.510	.068
Ownership Concentration	.210	4.139	.160	.715	3.740	.356
Audit Committee Independence	.225	40.000	.016	.640	44.500	.123
Board Activity	.234	4.139	.017	.710	3.740	.354
Board Independence	.192	8.535	.059	.723	8.047	.213
Board Size	.152	20.000	.204	.823	19.800	.328

Source: Research (2022)

4.4 Descriptive Statistics

The descriptive statistics below table 4.2 postulates the maximum, minimum and the average values of variables applied together with their respective standard deviations. The analysis below was reached using the SPSS software for the period of five years between 2016 and 2020 for the 42 firms analyzed the total number of observation being 210.

Earnings management posted an average of 0.0359 with the least discretionary accruals results being -1.6630 and the maximum being 1.2134 for the period under study. This shows that different firms partake in management of earnings at different

levels. The extent of the preferred modification is based on the projected status of current earnings comparable to what is considered normal (Beidleman, 1973). It also shows that the firms carry out management of earnings and on average; they apply income-decreasing earnings management nonetheless at negligible degree. Similar observation were made in Hassan and Ahmed (2012) where they concluded that averagely, the firms sampled moderate earnings downwards (income-decreasing accruals) and that over a long period of time the average value should be close to zero (Tehranian et al, 2006). Grassa (2017) also added his observation that managers use techniques of decreasing income for purposes of leveling income and tax motives. The standard deviation of 0.4403 confirms the spread, showing that firms take part in varying levels of management of earnings.

On board Independence, the leading firm had the most independent board members at 92% at some point during the five year period and on the extreme opposite too another firm had the least number of Independent board members of 25% at some point during the period. The study revealed that on average, the firms sampled under analysis comprised of an average of 81% independent board members. This shows a high level of board Independence amongst the studied firms which is in line with the agency theory by Jensen and Meckling (1976) and Ross (1973). They had opined that boards should comprise of majority independent directors to heighten oversight role so as to mitigate conflicts of interests especially since they do not take part in the day to day running of operations. Fama and Jensen (1983) also weighed in that non-executive directors improve efficient overseeing of managerial deeds by the board therefore making sure the interests of shareholders are taken care of.

On board size the results in Table 4.2 below shows the board with the most members

being 14 and the board with the least comprising of 4 members amongst the analyzed firms listed. On average the analyzed firms had a mean of 8 board members. Board size literature by Barnhart and Rosenstein (1998) and Jensen (1993) suggests that boards with fewer members in number perform more efficiently than boards made up of more members because they are large boards since they are easy to manage. On the other hand proponents of larger boards like Peasnell, Pope, and Young (2004) were of the view that larger boards by size improve the reported quality of earnings and also opinioned that they were more efficient.

The study analysis on Ownership Concentration revealed varying levels of ownership concentration amongst the listed firms with the least being at 1.35% and the most at 92.30% and the average being 42.43%. This is fairly sufficient enough to administer monitoring and minimize any chances of executive undertaking any tactful adjustments on the earnings reported. Shareholders play very vital and important role in putting pressure on the executive to perform better and work towards yielding better results always since they want better returns and dividends for their investment in the company.

The mean of firm size was 16.90. Minimum firm size was found to be 12.21 while the maximum being 20.74. This shows a lot of differences in firm size amongst firms listed at the NSE. Firm size was found by measuring the log of total assets of each year for each firm. Firms can use their asset base as collateral to access external loans from financial institutions. Large asset base translates to firms being large in size. Large firms are most likely to have internal control mechanisms which are stronger than for smaller firms which means better quality of earnings reported as noted by Beasley, et al (2000). Larger firms also have advantage since they can hire expert

auditors who are established well hence the quality of the financial reports will be much better because of their prowess in matters finance as reported by Heninger (2001)

Board activity had an average of 6 meetings per financial year with the least number of meetings having been 3 and the most number of meetings done by a firm listed at the NSE having been 21. The results from this study also exhibited a standard deviation of 3.0600. Ntim(2009) and Vafeas (1999) had opinioned that board meetings done regularly are of benefit since the board can monitor and supervise the executive more hence improving performance of the firm and the quality of its earnings as well. Abbott and Parker (2000) also argued that high quality of earnings reported are also attributed to frequent number of meetings held by the board to check on executive actions.

The mean of the Audit Committee Independence (ACI) was 96.44% which showed a good representation of independent directors in the Audit committees. This is an indication that the audit committee's output is unlikely to be compromised since they are free and independent which translates to credibility in financial reports. Though while some listed Firm's audit committee did not have any independent directors some firms had as high as being made up of independent directors only in the Audit committee. The dispersion in terms of ACI for the firms was 14% and can be interpreted to be relatively high mainly because of the differences in size and composition of the committee members. Independence of the audit committee is vital since they play important role in strengthening the entire firm's accounting system. Hasan and Ahmed (2012) weighed in that audit committee's assessment of management decisions is important since they safeguard shareholders' interests’they however they have to be given space to monitor independently.

Table 4.4: Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Earning management	210	-1.6630	1.2134	.0359	.4403	-.2507	.134	16.163	.268
Board Independence	210	.2500	.9170	.8100	.1296	-1.8431	.134	13.650	.268
Board Size	210	4.0000	14.0000	8.6620	2.0182	-.2507	.134	16.638	.268
Ownership conc	210	.0135	.9230	.4243	4.6799	2.275	.134	3.336	.268
Firm Size	210	12.2100	20.7400	16.8974	2.2261	-.1658	.134	15.638	.268
Board Activity	210	3.00	21.00	6.0190	3.0600	2.0960	.134	24.250	.268
Audit Committee independence	210	.0000	1.0000	.9644	.1401	2.275	.134	3.336	.268
Valid N (listwise)	210								

4.5 Correlation analysis

The relationship between corporate governance variables under this study and earnings management amongst listed firms at the NSE was conducted using correlation analysis. The relationship can either range from (-) strong negative correlation to (+) perfect positive correlation. To analyze this level of association between corporate governance variables and earnings management, Pearson correlation was employed.

Table 4.5: Correlation Analysis

	Earnings Management	Board Size	Board Independence	Audit Committee Independence	Ownership Concentration	Board Activity	Firm Size
Earnings Management	1						
Board Size	.672	1					
Board Independence	-.313	.516**	1				
Audit Committee Independence	-.371	.363	.534	1			
Ownership Concentration	.886	.013	.047	-.024	1		
Board Activity	.354	.407	.264	.141	.153	1	
Firm Size	.847	.679	.452	.355	-.039	.388	1

**Correlation significance is at the 0.05 level (2-tailed).
Source: Research (2020)

The results as shown above in table 4.5 observed that board size, ownership concentration and firm size had a significantly strong positive relation with EM of (r=0.672, r=0.886 and r=0.847) respectively. Board Activity had moderately positive relation with EM of (r=0.354). Board independence and Audit Committee Independence had moderately negative relation with EM of (r=-.313, r=-.371). These results show different levels of relationship between the corporate governance variables and EM.

4.6 Regression Analysis

Corporate governance variables were used to predict EM through regression resulting from any change in the predictor variables in model 1. Control variable of Firm Size was then introduced in model 2 alongside corporate governance variables to see any change in EM. The coefficient of determination that is R squared showed how the response variable deviated due to any change in the predictor variables of corporate governance. A significance level of 5% was used to execute the regression analysis.

Table 4.6: Model Summary of regression

Model	R	R Square	Adjusted R Square	Std. Error of Estimate	Observations
1	.659[a]	.530	.401	.76612	210
2	.763[b]	.680	.672	.62285	210

Predictors: (Constant), Board Activity, Audit Committee Independence, Ownership Concentration, Board Size, Board Independence
Predictors: (Constant), Board Activity, Audit Committee Independence, Ownership Concentration, board Size, Board Independence, Firm Size
Source: Research (2022)

A summary of two models is given in table 4.6 above; the first model was applied before the control variable that is firm size was introduced. Before introducing control variable, R Square was 0.530 meaning that 53% changes in earnings Management amongst listed Firms resulted from changes in corporate governance variables in place. The remaining 47% changes in earnings Management is explained by other variables not captured in the model. When control variable of firm size was introduced, R Square changed by 0.150 meaning that firm size alone explained 15% change in earnings Management.

Table 4.7 ANOVA Analysis Of Variance

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	98.308	5	18.736	37.338	.000[b]
	Residual	86.762	205	.612		
	Total	**185.070**	**210**			
2	Regression	107.135	6	20.847	71.645	.000[c]
	Residual	77.935	204	.403		
	Total	**185.070**	**210**			

Dependent Variable: EM

Predictors: (Constant), Board Activity, Audit Committee Independence, Ownership Concentration, Board Size, Board Independence

Predictors: (Constant), Board Activity, Audit Committee Independence, Ownership Concentration, Board Size, Board Independence, Firm Size

Source: Research (2020)

The researcher findings in table 4.7 above shows the sum square findings in the regression opined 98.308with the mean of 18.736 with the 5 degrees of freedom before controlling for firm size in the first model. The Residual analysis being 86.762 in this case and the regression analysis had the p-value as 0.000 which is less than p=0.05. This implies that the first model before controlling for firm size was statistically significant in predicting how Board Independence, Board Size, Ownership concentration, Audit Committee Independence and Board Activity affects earning management among the companies listed in the NSE. After controlling for firm size the sum square findings in the regression opined 107.135 with the mean of 20.847 and 6 degrees of freedom in the second model. The Residual analysis being 77.935 in this second model and the regression analysis having the p-value as 0.000 also which is less than p=0.05. This implies that the second model after controlling for firm size was statistically significant in predicting how Board Independence, Board Size, Ownership concentration, Audit Committee Independence, Board Activity and Firm Size affects earning management among the companies listed in the NSE. Both

analysis were crucial in the assessment of the 95% level of significance

4.8 Coefficient of Determination

This study was carried out to show the direction of the relationship between the independent variables and the dependent variable among the companies listed in the NSE. The p-value under the significance column was used as an indicator of the associations between the dependent and the independent variable. At 95% level of confidence, the p-value is less than the conventional value 0.05 was interpreted as a measure of statistical significance. As such, a p-value above 0.05 indicates that the dependent variables have a statistically significant association with the independent variables.

Table 4.8: Regression Beta Coefficients and Significance

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std.Error	Beta	t	Sig.
1	Earnings Management	2.165	.347		6.489	.000
	Board Size	.238	.028	.587	9.387	.000
	Board Independence	.076	.459	-.011	.171	.858
	Audit Committee Independence	-.764	.382	-.153	2.524	.012
	Ownership Concentration	-.002	.002	.012	-.258	.793
	Board Activity	.024	.017	.084	1.529	.126
2	(Constant)	-.374	.361		-1.043	.295
	Board Size	.103	.026	.224	3.847	.000
	Board Independence	-.249	.361	-.034	-.701	.479
	Audit Committee Independence	-.419	.297	-.100	2.058	.038
	Ownership Concentration	.001	.002	.052	.764	.442
	Board Activity	.000	.012	.001	.012	.989
	Firm Size	.284	.023	.635	11.187	.000

a. Dependent Variable: Earnings Management

Source: Survey Data (2020)

To interpret the beta coefficients above standardized values was used and the unstandardized ones left considering some data had not been standardized. From Table 4.8 above before firm size was controlled and corporate governance held constant, EM amongst listed Firms at the NSE is 2.165 units. When a unit of board Size is changed and all variables held constant it leads to an increase in EM by 0.587 units amongst firms listed at the NSE. When a unit of board Independence is changed and other variables held constant it leads to a decrease in EM by 0.011 units amongst

firms listed at the NSE. Other variables held constant and audit committee Independence is changed, a 0.153 unit decrease in EM is achieved amongst the NSE listed firms. Also other variables held constant and ownership concentration is changed, a 0.012 unit increase in EM is achieved amongst NSE listed firms. When Board Activity is increased and other variables held constant it leads to 0.084 unit increase in EM amongst NSE listed firms. It was however noted that board size ($p<0.05$) proved to be significant at 5%.

In the second model when firm size was controlled it gave the following results. If all variables are held constant and board size is increased by one unit it resulted to EM increasing by 0.224 units amongst the NSE listed firms. When board independence was changed by a single unit it lead to EM decreasing by 0.034 units amongst the NSE listed firms. Change of audit committee independence by a unit and other variables held constant lead to EM decreasing by 0.100 units. When ownership concentration is increased by a unit and all other variables are held constant, EM increased by 0.052 units amongst the NSE listed firms. Increasing board activity by one unit at the same time holding other variables constant leads to 0.001 units increase in EM amongst the NSE listed firms. The control of firm size lead to the highest beta being board size ($\beta=.224$), ownership concentration ($\beta=.052$), board activity ($\beta=.001$), board Independence ($\beta=-.034$), audit committee Independence ($\beta=-.100$) respectively. It was noted from the above that board size ($p<0.05$) effected significantly on EM at level of significance of 5%. Firm Size also proved to have significant effects on EM.

4.9 Discussion of Findings

The model summary showed that independent variables explained 53% of variation in the dependent variable as shown by R-Square. This demonstrated that 47% of changes in earning were caused by factors not captured in the study. The model was fit at 95% confidence level with an F- ratio of 0.00. This implied that the data generated was positive statistical significance hence can be used for model generation.

The Pearson correlation between the variables revealed that board size, ownership concentration and firm size had a significantly strong positive relation with EM of (r=0.672, r=0.886 and r=0.847) respectively. Board Activity had moderately positive relation with EM of (r=0.354). Board independence and Audit Committee Independence had moderately negative relation with EM of (r=-.313, r=-.371). This is consistent with Lin (2006) findings that audit committee has negative impact on EM. Different findings by Jesus and Emma (2013) however showed that among other corporate governance practices ownership concentration affected EM negatively. Generally these results show different levels of relationship between the corporate governance variables and EM.

When firm size was controlled the research findings indicate that an increase in one unit of board independence led to a decrease in the earning management by 3.4% while an increase in one unit of board size led to an increase in the earning management by 22.4%. Furthermore, an increase in one unit of ownership concentration led to an increase in the earning management by 5.2%. The increase in the one unit of audit committee Independence led to a decrease in the earning management by 10% while the increase in one unit of the board activity led to an increase in the earning management by 0.1% all other factors being kept constant

The ANOVA results showed that before the firm was controlled the F calculated was 37.338 with $p<0.000$ while after controlling the F value was 71.645 with $p<0.000$ too. It demonstrates that EM is significantly influenced by corporate governance. The findings were in concurrence with finding of Klein (2002) postulations that corporate governance played an integral part in earning management. The findings anchored the preceding studies that showed a paramount role played by the board size and firm size in enhancing earning of a company. The research promoted the findings of Mwendwa (2020) who stipulated the crucial advancement achieved in earning management by the help of corporate governance.

The regression results revealed that after firm size was controlled, R Square changed by 0.15. This means that 15% changes in EM amongst firms listed at the NSE is explained by firm size. The other corporate governance variables under study explained 53% changes in EM while together with firm size was 68%. It was explained by Heninger (2001) that bigger firms have greater advantage since they have the ability to hire way established audit firms since they have greater financial muscles hence better quality of financial reports. EM in such cases will be limited because of the great expertise. A study by Naz, Bhatti, Ghafoor, and Khan (2011) in a similar research amongst Pakistan listed firms however found no significant relationship between firm size and EM levels.

This study revealed that board size significantly affected EM. Firm Size on the other hand also proved to be a significant controlling factor on the relationship between EM and corporate governance variables amongst firms listed at the NSE. Both Board Independence and Audit Committee Independence had a negative impact on EM while board size, board activity and ownership Concentration had a positive effect on

EM. The results seem not to be consistent with Muchoki (2013) who found that both concentration of ownership, board size and board independence had negative impact on EM while on the other hand CEO duality and board activity had positive impact on EM levels. The results however on board Independence is in agreement with research done by Iraya et al., (2015) on corporate governance practices effects on EM. Their study revealed a negative relationship between board Independence and EM.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter blueprints fundamental details, comprehensive and summarized findings that informed the results. The study seals the gap through illustration via conclusive findings and erecting yardsticks for future research. It provides areas for concentration, recommendation and elucidates the shortcoming of the study while elaborating the pivotal research areas.

5.2 Summary of the Findings

The research aimed at establishing concrete and conclusive evidence to support the corporate governance and earning management. The findings incorporated six predictor variables. The Pearson Correlation depicted a positive association amid four predictor variables and earning management. The research however had two regressor's' variables that postulated negative correlation. Board independence, Audit Committee, had negative and insignificant correlation amid the earning management. The study showed that board size, ownership concentration, Board Activity and Firm Size posted a positive association amid the predictor and the predicted variables. The research showed the importance of corporate governance in the earning management. Earnings management is guided much by corporate governance. Corporate governance is the roadmap and the yardstick for the excellent overseeing of earning management amongst listed Firms at the NSE in Kenya.

The study further revealed that when firm size is controlled, a unitary incremental in the board independence whenever all other factors are kept constant led to the decrease in the earning management by 3.4%. Furthermore, a unitary increment in board size led to an increase in the earning management by 22.4% all factors constant. Moreover, an increase in one unit of ownership concentration all other factors

constant caused an increase in the earning management by 5.2%. The incremental in one unit of audit committee Independence led to a decrease on the earning management by 10%. Furthermore, a unitary increase in the board activity caused an increase in the earning management by 0.1% all other factors constant.

The results of regression revealed that when firm size was controlled, R square changed meaning that firm size had controlling impact on the relationship between corporate governance and EM amongst firms listed at the NSE. Corporate governance had significant effect on EM as shown by the ANOVA results of p-value which was less than 0.05. The results of beta coefficients from the regression before firm size was controlled showed that board size had the largest beta followed by board Activity, ownership concentration, board independence and lastly Audit Committee Independence. However, only board size was significant. The control of firm size lead to the highest beta being board size, ownership concentration, board activity, board Independence, audit committee Independence respectively. Furthermore, board size significantly impacted on EM aside from firm size too. It was also shown that the relationship between corporate governance and EM amongst listed Firms at the NSE is controlled significantly by firm size.

5.3 Conclusion

The findings postulated concrete findings that informed the decision making. The research findings showed that corporate governance influences the earning management. From the analysis Board Size affected EM significantly amongst the NSE listed firms. It was followed by Ownership Concentration and board activity when not controlled for firm size. When controlled for firm size board size had the highest effects on EM, followed by board activity then ownership concentration. The

study also indicated that two predictor variables posted a negative association with the earning management. The two predictor variables were board independence and audit committee Independence. This implied that when a unit of each is increased that is audit committee and board independence d it leads to a decrease in EM hence has an inverse relationship. This means it discourages the earning management practices in the company.

The research opined that corporate governance has been a great contributor in influencing earning management practices. Although corporate governance is a factor in earnings management of the listed firms, their level has to be carefully considered so as to have a positive impact on the company. This is so since each predictor variable had different levels of influence on EM same case with firm size which had controlling effect on the relationship between EM and corporate governance variables. The research advocated for great audit committee Independence and board Independence to eliminate the fictitious information in the business operations. The research stated the importance of policies and regulation to eliminate the challenges in the prudential management of the firms listed in NSE.

Klein (2002) opined that the audit committees were change makers in the earning management. The findings of this research showed inverse association amid earning management and audit independence. The presence of audit committee independence enable the prudent and productivity of corporate governance. The research further found out that board Independence discourages earning management. This showed that board independence is crucial in making informed decisions for the progress of the firms listed in NSE. The research was an eye opener in the progressive development and management of firms listed in NSE. It stipulates the important role

of corporate governance and boosts the board independence and audit committee Independence. The research postulated that irrespective: board size, ownership concentration and Board Activity remain the key drivers in the continuity and incremental growth of earning management. Firm Size remains a key controlling factor on the relationship between EM and corporate governance variables amongst firms listed at the NSE.

5.4 Recommendations

The research recommends further control measures and policies that mitigate EM. The research recommends for transparency, policies formulation and performance stimulation through other means that promote the going concern of the company. The researcher advocates for risk assessment and mitigation measures to eliminate challenges of mismanagement.

The researcher recommends the independent institutions such as Capital Market Authority and Nairobi Security Exchange to stipulate the rules and regulation that enhance adherence to accountability and true and fairness of the company financial position. The research also states the building of firms' profitability framework to accelerate growth. Furthermore, the strategic plans must be put in place to accelerate innovation and strive for the success of the firms listed in NSE. The research advocates for risk management and identification measures. This will eliminate the reporting of fictitious profits and evaluations of the level of risk exposure to put in place enough shock absorbers to help in business continuity.

The progressive growth of corporate governance should translate to wide-spectrum elimination of business fraudulent activities. Corporate governance should create a holistic working environment to encourage growth. There should be continuous benchmarking, brainstorming and progressive discoveries among the firms listed in

NSE.

5.5 Limitation of the study

The research utilized secondary data which was retrospective in nature. Moreover, the research concentrated on the 2016-2020 which may not represent the current prevailing circumstances. The secondary data is a great subject of biasness and unfairness in the research of the current and prospective forecasting. The research process was costly in obtaining the information since some data were not readily available.

The research analyzed six predictor variables that informed the earning management. There are numerous factors that need further analysis for making sound decisions. The research was crucial since it provided the fact-finding process and determined the correlation amid the independent variable and the dependent variables. The research relied on the multiple regressions to arrive at the conclusive findings.

5.6 Areas of Further Research

The researcher recommends the study of the same topic while optimizing questionnaires to arrive at the other findings. The researcher also recommends the use of both qualitative and quantitative descriptive research design to reach conclusive findings. The research advocates for interviewing management of listed companies and while utilizing content analysis to arrive at the first-hand information.

The research recommends the study of influence of corporate governance on the operational performance of telecommunication firms listed in NSE. The research further recommends the critical scrutiny of the impact of corporate governance and employee turnover in the firms listed at the NSE. The research concludes by recommending the role of corporate governance on the financial innovation of firms listed in NSE.

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APPENDICES

Appendix I: NSE Listed Firms

	Company	Sector	Year of Incorporation	Inclusion status
1.	Eaagads Ltd	Agricultural	1946	Excluded
2.	Kakuzi Plc	Agricultural	1906	Included
3.	Kapchorua Tea Co. Ltd	Agricultural	1869	Included
4.	Limuru Tea Co. Plc	Agricultural	1895	Included
5.	Sasini Plc	Agricultural	1952	Included
6.	Williamson Tea Kenya Ltd	Agricultural	1952	Included
7.	Car & General(K) Ltd	Automobiles & Accessories	1936	Included
8.	Marshalls East Africa Ltd	Automobiles & Accessories	1947	Excluded
9.	Sameer Africa Ltd	Automobiles & Accessories	1969	Included
10.	ABSA Bank Kenya Plc	Banking	1916	Included
13.	Co-operative Bank of Kenya Ltd	Banking	1965	Included
14.	Diamond Trust Bank Kenya Ltd	Banking	1945	Included
15.	Equity Group Holdings Plc	Banking	1984	Included
16.	HF Group Plc	Banking	1965	Included
17.	I&M Holdings Plc	Banking	1950	Excluded
18.	KCB Group Plc	Banking	1896	Included
19.	National Bank of Kenya Ltd	Banking	1986	Included
20.	National Industrial Credit Bank (NIC) Group Plc	Banking	1959	Included
21.	Stanbic Holdings Plc	Banking	1955	Excluded
22.	Standard Chartered bank	Banking	1911	Excluded

	Kenya Ltd			
23.	Atlas African Industries Ltd	Commercial & Services	2012	Excluded
25.	Eveready East Africa Ltd	Commercial & Services	1967	Included
26.	Express Kenya Ltd	Commercial & Services	1918	Included
27.	Hutchings Biemer Ltd	Commercial & Services	1982	Excluded
28.	Kenya Airways Ltd	Commercial & Services	1977	Included
29.	Longhorn Publishers Plc	Commercial & Services	1965	Included
29.	Nairobi Business Venture Ltd	Commercial & Services	2012	Excluded
	Nation Media Group	Commercial & Services	1959	Excluded
30.	Standard Group Plc	Commercial & Services	1902	Included
31.	TPS Eastern Africa Ltd	Commercial & Services	1970	Included
32.	Uchumi Supermarket Plc	Commercial & Services	1975	Excluded
33.	WPP Scangroup Plc	Commercial & Services	1996	Included
34.	ARM Cement Plc	Construction & Allied	1974	Excluded
35.	Bamburi Cement Ltd	Construction & Allied	1951	Included
36.	Crown Paints Kenya Plc	Construction & Allied	1958	Included
37.	East Africa Cables Ltd	Construction & Allied	1966	Excluded
38.	E.A Portland Cement	Construction & Allied	1933	Excluded
39.	KenGen Co. Plc	Energy & Petroleum	1954	Included
40.	Kenol Kobil	Energy & Petroleum	1959	Excluded
41.	Kenya Power & Lighting	Energy & Petroleum	1922	Included

	Co Ltd			
42.	Total Kenya Ltd	Energy & Petroleum	1955	Included
43.	Umeme Ltd	Energy & Petroleum	2004	Excluded
44.	Britam Holdings Plc	Insurance	1965	Included
45.	CIC Insurance Group	Insurance	1968	Included
46.	Jubilee Holdings Ltd	Insurance	1937	Included
47.	Kenya Re Insurance Corporation Ltd	Insurance	1971	Included
48.	Liberty Kenya Holdings	Insurance	1964	Excluded
	Pan Africa Insurance Holdings Ltd	Insurance	1946	Included
49.	Sanlam Kenya Plc	Insurance	1918	Excluded
50.	Centum Investment Co Plc	Investment	1967	Included
51.	Home Afrika Ltd	Investment	2008	Included
52.	Kurwitu Ventures Ltd	Investment	2006	Excluded
53.	Olympia Capital Holdings ltd	Investment	1968	Included
54.	Trans-century Plc	Investment	1997	Excluded
55.	Nairobi Securities Exchange Plc	Investment Services	1954	Included
56.	A.Baumann Co.	Manufacturing & Allied	1959	Excluded
57.	B.O.C Kenya Plc	Manufacturing & Allied	1940	Included
58.	British American Tobacco Kenya Plc	Manufacturing & Allied	1907	Included
59.	Carbacid Investments Ltd	Manufacturing & Allied	1961	Included
60.	East African Breweries Ltd	Manufacturing & Allied	1922	Included
61.	Eveready East Africa Ltd	Manufacturing & Allied	1967	Included

62.	Flame Tree Group Holdings Ltd	Manufacturing & Allied	1989	Included
63.	Kenya Orchards Ltd	Manufacturing & Allied	1959	Excluded
64.	Mumias Sugar Co	Manufacturing & Allied	1971	Excluded
65.	Unga Group Ltd	Manufacturing & Allied	1908	Included
66.	Safaricom Plc	Telecommunication	1993	Included

Appendix II: SCHEDULE FOR DATA COLLECTION

			YEARS FROM 2016 TO 2020				
No.	**VARIABLE**	**INDICATOR**	**16**	**17**	**18**	**19**	**20**
1.	Board Size	Sum total of board directors	✓	✓	✓	✓	✓
1.	Board Independence	No. of outside directors in the board / Sum total of board directors	✓	✓	✓	✓	✓
	Audit Committee Independence	No. of outside Directors in audit committee / Total No. of Directors in audit committee	✓	✓	✓	✓	✓
	Ownership Concentration	Percentage of major shareholder's ownership of the firm	✓	✓	✓	✓	✓
	Board Activity	No. of meetings held by the board in the year	✓	✓	✓	✓	✓
	Firm Size	Natural logarithm of total Assets	✓	✓	✓	✓	✓
	Firm Age	Year 2020 minus the year of incorporation	✓	✓	✓	✓	✓
	Earnings Management	Net Income	✓	✓	✓	✓	✓
		Cash-flow from operations	✓	✓	✓	✓	✓
		Total Assetst-1	✓	✓	✓	✓	✓
		Revenues t-1	✓	✓	✓	✓	✓
		Receivables t-1	✓	✓	✓	✓	✓
		Property Plant and Equipment	✓	✓	✓	✓	✓

Appendix III: DATA COLLECTION

COMPANY	Year	E.M.	B.I	B. Size	A.C.I	O.C	Firm size	B. Activity
Kakuzi Plc	2016	0.074787	0.875	8.000	1.000	0.2888	15.440	4.00
	2017	0.093845	0.875	8.000	1.000	0.2968	15.560	4.00
	2018	0.092019	0.875	8.000	1.000	0.3073	15.600	4.00
	2019	0.079763	0.875	8.000	1.000	0.3220	15.680	4.00
	2020	0.107059	0.875	8.000	1.000	0.3230	15.750	5.00
Limuru Tea	2016	0.001532	0.250	4.000	0.000	0.5200	12.550	4.00
	2017	-0.01500	0.400	5.000	0.000	0.5200	12.480	4.00
	2018	-0.01845	0.500	6.000	0.000	0.5200	12.230	4.00
	2019	0.002123	0.500	6.000	0.500	0.5200	12.370	4.00
	2020	0.001759	0.500	6.000	0.500	0.5200	12.345	4.00
Kapchorua Tea	2016	-0.02912	0.750	8.000	1.000	0.3956	14.660	4.00
	2017	0.374364	0.750	8.000	1.000	0.3956	14.520	4.00
	2018	-0.10102	0.710	7.000	1.000	0.3956	14.730	4.00
	2019	0.28358	0.710	7.000	1.000	0.3956	14.530	3.00
	2020	-0.20077	0.710	7.000	1.000	0.3956	14.480	4.00
Sasini Plc	2016	0.218631	0.875	8.000	1.000	0.4184	16.640	4.00
	2017	0.176428	0.857	7.000	1.000	0.4184	16.400	4.00
	2018	0.046538	0.889	8.000	1.000	0.4184	16.380	4.00
	2019	0.066539	0.875	8.000	1.000	0.4184	16.500	4.00
	2020	0.482635	0.875	8.000	1.000	0.4184	16.495	4.00
Williamson Tea	2016	-0.13540	0.714	7.000	1.000	0.5146	15.940	4.00

COMPANY	Year	E.M.	B.I	B. Size	A.C.I	O.C	F. Size	B. Activity
	2017	0.154863	0.714	7.000	1.000	0.5146	16.067	4.00
	2018	-0.09395	0.714	7.000	1.000	0.5146	15.928	4.00
	2019	0.191393	0.714	7.000	1.000	0.5146	15.882	3.00
	2020	-0.07055	0.714	7.000	1.000	0.5146	15.901	4.00
Car & General (K) Ltd	2016	0.134322	0.7778	9.000	1.000	0.3247	16.090	6.00
	2017	0.200802	0.7778	9.000	1.000	0.3250	16.040	4.00
	2018	0.141620	0.7778	9.000	1.000	0.3250	16.140	4.00
	2019	0.313401	0.7778	9.000	1.000	0.3250	16.280	4.00
	2020	0.242450	0.7778	9.000	1.000	0.3250	16.290	4.00
Sameer Africa Ltd	2016	-0.00417	0.857	7.000	1.000	0.7215	15.010	5.00
	2017	-0.51892	0.875	8.000	1.000	0.7215	14.900	4.00
	2018	0.103114	0.875	8.000	1.000	0.7215	14.770	4.00
	2019	-1.34351	0.875	8.000	1.000	0.7248	14.240	4.00
	2020	-0.73658	0.875	8.000	1.000	0.7248	13.860	4.00
ABSA Bank Kenya Plc	2016	0.113729	0.750	8.000	1.000	0.6850	19.370	10.00
	2017	0.149396	0.750	8.000	1.000	0.6850	19.420	10.00
	2018	0.132828	0.818	11.000	1.000	0.6850	19.600	8.00
	2019	0.124690	0.778	9.000	1.000	0.6850	19.740	8.00
	2020	0.102827	0.750	10.000	1.000	0.6850	19.750	8.00
Diamond Trust Bank Kenya Ltd	2016	0.126226	0.909	11.000	1.000	0.1732	19.610	4.00
	2017	0.234235	0.909	11.000	1.000	0.1650	19.710	5.00
	2018	0.128997	0.830	12.000	1.000	0.1650	19.750	4.00
	2019	0.161848	0.830	12.000	1.000	0.1650	19.770	4.00

COMPANY	Year	E.M.	B.I	B. Size	A.C.I	O.C	F. Size	B. Activity
	2020	0.238530	0.830	12.000	1.000	0.1650	19.870	5.00
Equity Group Holdings Plc	2016	0.114789	0.778	9.000	1.000	0.1199	19.980	5.00
	2017	0.146652	0.800	10.000	1.000	0.1199	20.080	4.00
	2018	0.126117	0.818	11.000	1.000	0.1199	20.170	7.00
	2019	0.150738	0.778	9.000	1.000	0.1199	20.330	5.00
	2020	0.120690	0.778	9.000	1.000	0.1199	20.740	4.00
HF Group	2016	0.153837	0.8889	9.000	1.000	0.1943	18.090	4.00
	2017	0.185009	0.8889	9.000	1.000	0.1942	18.030	4.00
	2018	0.034726	0.8889	9.000	1.000	0.1941	17.940	4.00
	2019	-0.28075	0.8889	9.000	1.000	0.1941	17.850	4.00
	2020	-0.04432	0.8750	8.000	1.000	0.1941	17.830	5.00
KCB Group Holdings Plc	2016	0.146288	0.818	11.000	1.000	0.1753	20.200	10.00
	2017	0.223739	0.778	9.000	1.000	0.1753	20.290	9.00
	2018	0.150336	0.818	11.000	1.000	0.1753	20.390	8.00
	2019	0.208972	0.818	11.000	1.000	0.1976	20.620	12.00
	2020	0.151993	0.833	12.000	1.000	0.1976	20.710	10.00
National Bank of Kenya Ltd	2016	-0.21616	0.889	9.000	1.000	0.4805	18.560	14.00
	2017	0.029087	0.889	9.000	1.000	0.4810	18.510	11.00
	2018	0.247833	0.889	9.000	1.000	0.4810	18.560	13.00
	2019	-0.04710	0.889	9.000	1.000	0.4810	18.530	13.00
	2020	-0.64123	0.889	9.000	1.000	0.4810	18.660	12.00
NIC Group Plc	2016	0.162041	0.818	11.000	1.000	0.1584	18.950	6.00
	2017	0.260222	0.818	11.000	1.000	0.1584	19.140	5.00

COMPANY	Year	E.M.	B.I	B.Size	A.C.I	O.C	F. Size	B.
	2018	0.191899	0.778	9.000	1.000	0.1584	19.160	7.00
	2019	0.216069	0.778	9.000	1.000	0.1584	20.020	7.00
	2020	0.166306	0.833	12.000	1.000	0.1320	20.080	5.00
Stanbic Holdings Ltd	2016	0.150418	0.900	10.00	1.000	0.4141	19.175	4.00
	2017	0.158542	0.900	10.00	1.000	0.6000	19.332	4.00
	2018	0.134582	0.900	10.00	1.000	0.6905	19.487	4.00
	2019	0.173577	0.900	10.00	1.000	0.6915	19.531	4.00
	2020	0.143001	0.889	9.00	1.000	0.7116	19.610	6.00
The Cooperative Bank of Kenya Ltd	2016	0.110838	0.917	12.000	1.000	0.6456	19.680	5.00
	2017	0.163676	0.917	12.000	1.000	0.6456	19.770	7.00
	2018	0.147263	0.917	12.000	1.000	0.6456	19.840	7.00
	2019	0.135633	0.917	12.000	1.000	0.6456	19.940	7.00
	2020	0.149187	0.917	12.000	1.000	0.6456	20.100	7.00
Express Kenya Ltd	2016	-0.37657	0.500	5.000	1.000	0.6043	12.850	4.00
	2017	-0.77025	0.500	4.000	1.000	0.6043	12.790	4.00
	2018	-0.68052	0.750	4.000	1.000	0.6043	12.680	4.00
	2019	-0.42817	0.750	4.000	1.000	0.6043	13.060	4.00
	2020	-0.09565	0.750	5.000	1.000	0.6043	14.120	4.00
Longhorn Publishers Plc	2016	0.144589	0.889	9.000	1.000	0.6020	14.440	6.00
	2017	0.133967	0.889	9.000	1.000	0.6020	14.440	7.00
	2018	0.080633	0.889	9.000	1.000	0.6020	14.700	3.00

	2019	0.137996	0.889	9.000	1.000	0.6020	14.690	4.00
	2020	0.096384	0.889	9.000	1.000	0.6020	14.740	4.00
Kenya Airways Ltd	2016	-4.66295	0.818	11.000	1.000	0.2980	18.880	5.00
	2017	-3.39306	0.818	11.000	1.000	0.2980	18.800	5.00
	2018	-0.36034	0.818	11.000	1.000	0.4890	18.730	8.00
	2019	-0.14582	0.909	11.000	1.000	0.4890	19.090	10.00
	2020	-1.09029	0.909	11.000	1.000	0.4890	18.960	9.00
Standard Group Plc	2016	-0.12655	0.625	8.000	1.000	0.6903	15.300	7.00
	2017	0.147208	0.8889	9.000	1.000	0.6903	15.310	8.00
	2018	-0.06972	0.8889	9.000	1.000	0.6903	15.360	6.00
	2019	0.108368	0.8750	8.000	1.000	0.6903	15.250	6.00
	2020	-0.21498	0.8750	8.000	1.000	0.6903	15.220	5.00
TPS Eastern Africa Ltd	2016	-0.06161	0.800	10.000	1.000	0.4504	16.650	6.00
	2017	0.03463	0.778	9.000	1.000	0.4504	16.680	4.00
	2018	0.020178	0.889	9.000	1.000	0.4504	16.680	3.00
	2019	0.042722	0.750	8.000	1.000	0.4504	16.710	5.00
	2020	0.056846	0.750	8.000	1.000	0.4504	16.670	4.00
WPP Scan Group Plc	2016	0.024222	0.714	7.000	1.000	0.4669	16.420	4.00
	2017	0.05973	0.714	7.000	1.000	0.4669	16.440	4.00
	2018	0.071131	0.714	7.000	1.000	0.4669	16.480	4.00
	2019	0.085136	0.714	7.000	1.000	0.4669	16.370	4.00
	2020	0.066111	0.875	7.000	1.000	0.4094	15.980	5.00
Bamburi Cement Ltd	2016	0.066721	0.700	10.000	1.000	0.2930	17.520	5.00
	2017	0.061078	0.700	10.000	1.000	0.2930	17.670	5.00

	2018	0.09897	0.727	11.000	1.000	0.2930	17.730	8.00
	2019	0.011894	0.727	11.000	1.000	0.2930	17.710	8.00
	2020	0.012364	0.750	12.000	1.000	0.2930	17.720	8.00
Crown Paints Kenya Ltd	2016	0.01375	0.571	7.000	0.750	0.4806	15.437	4.00
	2017	0.078079	0.571	7.000	0.750	0.4806	15.586	4.00
	2018	0.040331	0.500	6.000	0.750	0.4842	15.516	4.00
	2019	0.030647	0.500	6.000	0.750	0.4842	15.524	4.00
	2020	0.029809	0.500	6.000	0.750	0.4842	15.544	4.00
KenGen Co Plc	2016	3.213366	0.909	11.000	1.000	0.7392	19.720	12.00
	2017	0.178029	0.909	11.000	1.000	0.7000	19.750	12.00
	2018	0.150359	0.909	11.000	1.000	0.7000	19.750	8.00
	2019	0.157440	0.909	11.000	1.000	0.7000	19.810	8.00
	2020	0.165172	0.909	11.000	1.000	0.7000	19.840	8.00
KPLC	2016	0.288515	0.8889	9.000	1.000	0.5009	19.510	14.00
	2017	0.452487	0.8889	9.000	1.000	0.5009	19.650	15.00
	2018	0.297349	0.8889	9.000	1.000	0.5009	19.630	15.00
	2019	0.241486	0.8889	9.000	1.000	0.5009	19.610	15.00
	2020	0.127045	0.9000	10.000	1.000	0.5009	19.600	14.00
Total Kenya Ltd	2016	0.140568	0.857	7.000	1.000	0.9226	17.400	4.00
	2017	0.208769	0.857	7.000	1.000	0.9226	17.450	4.00
	2018	0.185087	0.857	7.000	1.000	0.9226	17.490	4.00
	2019	0.133579	0.857	7.000	1.000	0.9226	17.440	4.00
	2020	0.146400	0.889	9.000	1.000	0.9226	17.580	4.00
Britam Holdings Plc	2016	-0.04006	0.750	8.000	1.000	0.2334	18.240	7.00

	2017	0.12795	0.780	9.000	1.000	0.1873	18.410	10.00
	2018	0.01827	0.818	11.000	1.000	0.1755	18.460	10.00
	2019	-0.08759	0.818	11.000	1.000	0.1755	18.650	10.00
	2020	0.155985	0.818	11.000	1.000	0.1755	18.550	10.00
Jubilee Holdings Ltd	2016	0.107664	0.889	9.000	1.000	0.3798	18.320	4.00
	2017	0.125253	0.889	9.000	1.000	0.3798	18.470	4.00
	2018	0.123951	0.889	9.000	1.000	0.3798	18.550	4.00
	2019	0.140680	0.889	9.000	1.000	0.3798	18.680	5.00
	2020	0.15794	0.900	10.000	1.000	0.3798	18.800	4.00
Kenya Re Insurance	2016	0.165439	0.909	11.000	1.000	0.60000	17.465	14.00
	2017	0.178901	0.909	11.000	1.000	0.6000	17.570	13.00
	2018	0.139150	0.909	11.000	1.000	0.6000	17.610	21.00
	2019	0.180546	0.909	11.000	1.000	0.6000	17.730	11.00
	2020	1.130116	0.909	11.000	1.000	0.6000	17.790	8.00
Centum Investment Co Plc	2016	0.256679	0.875	8.000	1.000	0.3094	18.170	7.00
	2017	0.404025	0.909	11.000	1.000	0.3094	18.300	4.00
	2018	0.285449	0.900	10.000	1.000	0.3094	18.380	5.00
	2019	0.143438	0.900	10.000	1.000	0.3094	18.440	4.00
	2020	0.209890	0.900	10.000	1.000	0.3094	18.440	4.00
Home Afrika Ltd	2016	-0.37022	0.857	7.000	1.000	0.0500	15.180	5.00
	2017	-0.34640	0.857	7.000	1.000	0.0500	15.310	5.00
	2018	-0.31979	0.857	7.000	1.000	0.0500	15.320	5.00
	2019	-1.22041	0.857	7.000	1.000	0.0500	15.290	4.00
	2020	-3.65534	0.857	7.000	1.000	0.0500	15.300	4.00

Olympia Capital Holdings Ltd	2016	-0.15391	0.500	6.000	0.667	0.2547	14.240	4.00
	2017	0.130123	0.400	5.000	0.500	0.2547	14.290	4.00
	2018	0.277486	0.500	4.000	0.500	0.2580	14.310	4.00
	2019	-0.04152	0.600	5.000	0.500	0.2590	14.300	4.00
	2020	0.07143	0.600	5.000	0.500	0.2620	14.350	4.00
NSE	2016	0.084616	0.909	11.000	1.000	0.1609	14.520	8.00
	2017	0.048335	0.909	11.000	1.000	0.1609	14.560	7.00
	2018	0.042801	0.909	11.000	1.000	0.1609	14.610	7.00
	2019	0.049623	0.909	11.000	1.000	0.1609	14.620	10.00
	2020	0.01940	0.909	11.000	1.000	0.1609	14.650	5.00
BOC Kenya Plc	2016	0.030892	0.7780	9.000	1.000	0.6540	14.520	5.00
	2017	0.027074	0.8750	8.000	1.000	0.6538	14.520	6.00
	2018	0.009371	0.8750	8.000	1.000	0.6538	14.480	6.00
	2019	0.017798	0.8750	8.000	1.000	0.6538	14.500	5.00
	2020	0.01892	0.8750	8.000	1.000	0.6538	14.550	5.00
BAT	2016	0.089441	0.700	10.000	1.000	0.6000	16.720	5.00
	2017	0.067652	0.700	10.000	1.000	0.6000	16.690	5.00
	2018	0.042422	0.750	8.000	1.000	0.6000	16.690	5.00
	2019	0.049544	0.750	8.000	1.000	0.6000	16.900	5.00
	2020	0.078119	0.750	8.000	1.000	0.6000	16.890	5.00
Carbacid Investments Ltd	2016	0.011673	0.800	5.000	1.000	0.3041	14.940	4.00
	2017	0.047807	0.800	5.000	1.000	0.3041	15.010	4.00
	2018	0.069910	0.800	5.000	1.000	0.3425	15.030	5.00

	2019	0.07407	0.833	6.000	1.000	0.3539	15.070	4.00
	2020	0.133257	0.833	6.000	1.000	0.4038	15.100	4.00
EABL	2016	0.031626	0.800	10.000	1.000	0.4282	17.930	6.00
	2017	0.045209	0.800	10.000	1.000	0.4282	18.050	7.00
	2018	0.032832	0.818	11.000	1.000	0.4282	18.080	6.00
	2019	0.02971	0.800	10.000	1.000	0.4282	18.280	5.00
	2020	0.093946	0.818	11.000	1.000	0.4282	18.300	7.00
Eveready	2016	0.856369	0.875	8.000	1.000	0.3496	13.900	8.00
	2017	-0.27378	0.857	7.000	1.000	0.3496	13.560	6.00
	2018	0.356883	0.830	6.000	1.000	0.3496	13.260	9.00
	2019	-0.15013	0.830	6.000	1.000	0.3496	12.420	9.00
	2020	0.31404	0.857	7.000	1.000	0.3496	12.210	8.00
Flame Tree Group Holdings Ltd	2016	0.089878	0.400	5.000	1.000	0.0135	14.240	4.00
	2017	0.078203	0.400	5.000	1.000	0.0189	14.330	4.00
	2018	0.019978	0.400	5.000	1.000	0.0185	14.420	4.00
	2019	0.022012	0.400	5.000	1.000	0.0161	14.640	4.00
	2020	0.065267	0.400	5.000	1.000	0.0161	14.730	4.00
Unga Group Ltd	2016	0.513486	0.8750	8.000	1.000	0.5093	16.030	4.00
	2017	0.214278	0.8750	8.000	1.000	0.5093	16.140	4.00
	2018	-0.0022	0.8750	8.000	1.000	0.5093	12.820	4.00
	2019	0.30048	0.8750	9.000	1.000	0.5093	16.180	5.00
	2020	0.211652	0.9000	10.000	1.000	0.5093	16.300	4.00
Safaricom Plc	2016	0.048803	0.890	9.000	1.000	0.4000	18.890	4.00

	2017	0.049663	0.900	10.000	1.000	0.4000	18.910	4.00
	2018	0.045201	0.900	10.000	1.000	0.4000	18.940	5.00
	2019	0.062161	0.900	10.000	1.000	0.4000	19.080	7.00
	2020	0.049515	0.890	9.000	1.000	0.4000	19.180	5.00