THE EFFECT OF CORPORATE GOVERNANCE ON FINANCIAL INNOVATION OF COMMERCIAL BANKS IN KENYA

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NOVEMBER, 2015

DECLARATION

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

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D63/72895/2014

This research project has been presented for examination with my approval as the university Supervisor.

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DEDICATION

I dedicate this project to most of all, to the Almighty God who gives me strength and good health and my wife Betty Muturi, my daughter Zuri Muturi and my mother and father for the moral support and also their enormous encouragement throughout my studies.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

ABBREVIATIONS

ACH	:	Automated Clearing House
ATM	:	Automatic Teller Machine
BOD	:	Board of Directors
CG	:	Corporate Governance
CBK	:	Central Bank of Kenya
CCG	:	Centre for Corporate Governance
CEO	:	Chief Executive Officer
CMA	:	Capital Markets Authority
CGPR	:	Corporate Governance Practices
CI	:	Cost to Income
CGPO	:	Corporate Governance Policies
ECB	:	European Central Bank
EFT	:	Electronic Funds Transfer
ICT	:	Information and Communication Technology
JOFI	:	Journal of Financial Innovation
KEPPS	:	Kenya Electronic Payment Settlement System
OECD	:	Organization for Economic Co-Operation And Development
RTGS	:	Real Time Gross Settlement
R&D	:	Research and Development
SRR	:	Shareholder Rights and Responsibilities
US	:	United States

ABSTRACT

A growing body of evidence shows that laws and institutions that influence corporate governance correlate with economic growth. Another strand of theory states that economic growth results from firm-level innovation. Innovation by firm managers is affected by the incentives provided by internal as well as external governance mechanisms such as the market for corporate control. Despite the undeniable importance of corporate governance in explaining financial innovation, the impact of corporate governance on innovation is still an area of study that has not been adequately researched on in Kenya. Focus on corporate governance in the financial sector is crucial mostly because the banking industry became highly exposed to scrutiny by the public and many lessons were learnt because of the risks involved including the adverse publicity brought about by failings in governance and stakeholder relations for instance. This study sought to establish the effect of corporate governance on financial innovation of commercial banks in Kenya. The objective was accomplished by assessing the effect of size of the board, independence of the board, board diversity, size of the bank and the number of committees'. The study had target population of all 43 commercial banks. The study used entirely secondary data obtained from the CBK and publicized annual reports of the individual banks. The researcher employed descriptive research design to explain the situation. SPSS software was used to present the data in tables as percentages and mean. The data for the five year study was analysed to generate multiple regression between dependent variable (financial innovation) and independent variables. The study found out that corporate governance existed in all the banks but the board structures varied with the bank. The findings also show board size, board independence and board diversity to have a significant effect on the financial innovation whereas the size of the bank and number of committees has an insignificant effect. Additionally, the study found out that corporate governance has a significant positive effect on financial innovation with a coefficient correlation of 0.6516. Further the study established that board size, board diversity, size of the bank had positive relationship with financial innovation whereas board independence and number of committees had a negative relationship. The study thus concludes that the effect of the corporate governance on financial innovation depends on the variable. The study thus recommends an evaluation of the board composition in the commercial bank as it influences financial innovation.

CHAPTER ONE: INTRODUCTION

1.1 Background to the Study

The Banking Industry is one of the most important service industries which impact the lives of millions of people. Its service is unique both in social and economic points of view of a nation. Kenya has witnessed great change in conditions surrounding the banking industry. Such transformations are results of technological changes, financial globalization and financial environment and deregulation (Francisco and Emili, 2002).

Agency theory explains the relationship between the principal who is the owner of the economic resources and the agent who is the controller and manager of the resources (Jensen & Meckling, 1976). Agency theory was developed based on the assumption that the agents have more information than the principals, which caused difficulty to the principals in monitoring the agents effectively. (Adams, 1994).Therefore, due to the advantage of having more information on the economic resources, the agents tend to maximize their self-interest rather than the owners' wealth. Corporate governance has been applied to reduce managerial opportunism.

One of the areas where managerial opportunism can occur is innovation investment expenditure. This is because managers may manipulate innovation investment when there is a conflict of interest between the principals (shareholders) and the agents (managers) of the firm. Nyathira (2012) observed that Kenya's financial sector has undergone significant transformation in the last few years and that many new more efficient and real time financial systems have come into place. With the recent innovations in the commercial banking sector in Kenya, sound governance structure makes much easier for

organisations to transform, innovate and come up with more efficient products and services.

1.1.1 Corporate Governance

Corporate Governance is the system by which companies are directed and controlled (Cadbury, 1992). It specifies the distribution of rights and responsibilities among different participants in the corporation, such as the board, managers, shareholders and other stakeholders and spells out the rules and procedures for making decisions on corporate affairs. It also provides the structure through which company objectives are set and monitoring performance attained (OECD, 1999).

A corporate governance system can be a set of processes and structures used to direct a corporation's business. A key objective of a corporate governance system should be the enhancement of shareholder wealth. Once implemented, an effective corporate governance system can help to ensure an appropriate division of power among shareholders, the board of directors and management (McConomy et al., 2000)

Corporate governance is defined and practised in different ways globally depending upon the relative power of owners, managers and provider of capital (Craig, 2005). It details the procedures, customs, laws and policies that affect the way corporations are directed, administered and controlled. An important objective of CG is to ensure accountability and transparency for those who are involved in the policy implementation of organizations through mechanisms that will reduce principal agent conflict. Keasy and Wright (1993) define CG as a framework for effective monitoring, regulation and control of companies which allows alternative internal and external mechanisms for achieving

the laid down objectives. The internal mechanisms include the board composition, managerial ownership and non managerial shareholding including the institutional shareholding while external mechanisms includes; statutory audit, the market for corporate control and stock market evaluation of corporate performance.

1.1.2 Financial Innovation

Financial innovation can be defined as the action of creating and popularizing new financial instruments as well as new financial technologies, markets and institutions (JOFI, 2015). This includes innovation in the level of product, process and/or the institution. Financial innovation is primarily a product and organizational innovation, which allows cost or risk reduction for banks and/or a service improvement for the financial industry as a whole (ECB, 2003). Innovation at the product level is related to new products such as mortgages. Innovation at the process level has come to new ways of doing financial business including online banking and mobile banking. (JOFI, 2015).

Financial innovation is the unanticipated improvement in the array of financial products and instruments that are stimulated by unexpected change in customer needs and preferences, tax policy, technology and regulatory impulses (Bhatacharya & Nanda, 2000). The development in the Commercial Banking sector has improved the level of sophistication with new payment systems and asset alternatives to holding money. This has resulted mainly from technological advancement and increase in competition as the number of institutions increase. Development in payment systems have started to create close substitutes for hard currency, thus affecting a core part of banking.

According to Oloo (2007) other innovations in the banking industry include: increased use of paper based money instead of cash. Cheques are the main paper based mode of payment accounting for for 48% of non-cash payments. The Central Bank of Kenya (CBK) launched Real Time Gross Settlement (RTGS) system known as the Kenya Electronic Payments and Settlement System (KEPSS) in July 2005 in an effort to modernize the country's payment in line with global trends. Noyer (2007) noted that financial innovation has not only opened up new opportunities for the sector participants, but also increased new market players arising from new products in the financial market. New financial innovations in the banking sector include mobile banking, internet banking and agency banking.

1.1.3 Corporate Governance and Financial Innovation

A growing body of evidence shows that laws and institutions that influence corporate governance correlate with economic growth (La Porta et.al, 2000). Another strand of theory states that economic growth results from firm-level innovation (Aghion and Howitt, 2006). Innovation by firm managers is affected by the incentives provided by internal as well as external governance mechanisms such as the market for corporate control. Aghion et al (2008) finds that higher institutional ownership leads to greater innovation. Empirical study by Aghion et al (2008) shows that ownership by institutional investors lead to greater innovation. There exists a positive relationship between block holder ownership and firm-level innovation.

Muriithi (2004) did a study on corporate governance mechanisms and firm performance. Empirical results of the study showed that the board size has a positive relationship with

stock market returns portraying strong firm performance. Nyathira (2012) did a study that confirmed that there exist a positive relationship between financial innovation and firm performance. Using regression analysis and correlation analysis, the study results indicated that the independent variables (RTGS and ACH) can predict the financial performance of commercial banks. Study results showed that financial innovation in payment systems resulted into improved financial performance. There was a positive correlation between profit after tax and exceptional items and RTGS transactions turnover. Therefore, from the study done overseas by Aghion (2008) and the empirical studies by Muriithi (2004) and Nyathira (2012), the expected relationship between corporate governance and financial innovation is a positive one.

1.1.4 Commercial Banks in Kenya

As at 31st December 2014, there were 44 banking institutions (43 Commercial banks and 1 mortgage finance company). Out of the 44 banking institutions, 30 were locally owned banks comprised 3 with public shareholding and 27 privately owned while 14 were foreign owned. Of the 14 foreign owned banking institutions, 10 are locally incorporated subsidiaries of foreign banks and 4 are branches of foreign incorporated banks. Further, 10 of the 44 banking institutions are listed in the Nairobi Securities Exchange (CBK, 2014).

Kenya Commercial Banks are classified into three peer groups using a weighted composite index that comprises net assets, customer deposits, capital and reserves, number of deposit accounts and number of loan accounts. A bank with a weighted composite index of 5 percent and above is classified as a large bank. A medium bank has

a weighted composite index of between1 percent and 5 percent while a small bank has weighted composite index of less than 1 percent. For the period ended 31st December 2014, there were 6 large banks with a market share of 49.9 percent, 16 medium banks with a market share of 41.7 percent and 21 small banks with a market share of 8 percent

(CBK, 2014).

There have been key developments in Kenya's banking sector. These developments have been made as a result of increased investment in innovative products and services. Two key developments in the sector include; Increased convergence of banking and mobile phone platforms as banks explored more convenient and cost effective channels of banking; Impressive increase in the volumes of banking business transacted through agents by both commercial banks (CBK, 2014). Adhiambo (2014) did a study on the effects of product innovation on financial performance of commercial banks in Kenya whose findings suggest a negative relationship between formal product innovation and the financial performance of commercial banks.

Focus on corporate governance in the financial sector is crucial mostly because the banking industry became highly exposed to scrutiny by the public and many lessons were learnt because of the risks involved including the adverse publicity brought about by failings in governance and stakeholder relations for instance, the collapse of banks such as Euro Bank, Trust Bank and Daima Bank (CCG,2004). Mageto (2010) did a study on the relationship between bank corporate governance and insolvency risk among Commercial Banks in Kenya whose findings concluded that larger boards do not necessarily lead to lack of coordination and eventual increase in insolvency risk. Matengo

(2008) studied the relationship between corporate governance practices and performance of banks in Kenya and found that it's not conclusive to say that governance tenets are important in determining banking performance, because the relationship was not witnessed across the board. The corporate governance stakeholders in the banking sector include the board of directors, management, shareholders, Central Bank of Kenya, external auditors and Capital Markets Authority (CCG, 2004). It is believed that good governance generates investor goodwill and confidence and that poorly governed firms are expected to be less innovative.

1.2 Research Problem

A growing body of evidence shows that laws and institutions that influence corporate governance correlate with economic growth (La Porta et.al, 2000). Another strand of theory states that economic growth results from firm-level innovation (Aghion and Howitt, 2006). Innovation by firm managers is affected by the incentives provided by internal as well as external governance mechanisms such as the market for corporate control. Aghion et al (2008) finds that higher institutional ownership leads to greater innovation. Empirical study by Aghion et al (2008) shows that ownership by institutional investors lead to greater innovation. There exists a positive relationship between block holder ownership and firm-level innovation.

Despite the undeniable importance of corporate governance in explaining financial innovation, the impact of corporate governance on innovation is still an area of study that has not been adequately researched on in Kenya. Focus on corporate governance in the financial sector is crucial mostly because the banking industry became highly exposed to

scrutiny by the public and many lessons were learnt because of the risks involved including the adverse publicity brought about by failings in governance and stakeholder relations for instance, the collapse of banks such as Euro Bank, Trust Bank and Daima Bank (CCG,2004).

An empirical study was done by Arnaboldi & Rossignoli (2008) on the determinants of financial innovation in banking. The study objective was to find the determinants of financial innovation in banking. The study was conducted in Italy and the study population was on 81 listed commercial banks in Europe and in the United states from year 2005 to year 2008. The study used regression analysis to find the impact of market share and the impact of the quality of loan portfolio. The findings revealed that the impact of market share on innovation is higher for banks incorporated in the US and that lower quality of loan portfolio increases the incentive for European banks to innovate, whereas it reduces innovation for US banks. The study did not look at Corporate governance as a determinant of financial innovation or whether corporate governance affects financial innovation. The study was conducted overseas and may not capture the true picture in our local scene.

Locally, there are some studies on corporate governance. For instance, Jebet, (2001) focuses on the listed companies; Macuvi, (2002) focuses on the motor vehicle industry while Mwangi, (2002) focuses on insurance companies. From the published annual financial reports, commercial banks in Kenya recorded unpleasant performance in the early 2000 but there has been significant improvement since 2007. The studies done locally have not looked at the relationship between corporate governance and financial

innovation in commercial banks. This study therefore is aimed at filling this gap by answering the following research question: What is the effect of corporate governance on the financial innovation of commercial banks in Kenya?

1.3 Research Objective

The objective of this study was to evaluate the effects of corporate governance of financial innovation of commercial banks in Kenya

1.4 Value of the Study

The study findings are important to commercial banks in Kenya, other organisations in the country, policy makers in banking and financial services. The study will add more knowledge on the concept of corporate governance and give more empirical finding on the relationship between corporate governance and financial innovation. This will provide more literally material which will be of value to scholars, students and researchers. This study could also be used as a basis of further research in the area of corporate governance in developing nations.

The study has provided more insight on the effect of corporate governance on financial innovation. This will provide management of commercial banks and firms in financial services with more insight on the importance of corporate governance not only to the economy but to the financial innovation of commercial banks. The study is helpful to various stakeholders in the banking industry who are interested in long term strategies in financial innovation as the new frontier in commercial banking. These stakeholders include shareholders, investors and creditors in such a way that they should be able to

realize the potentials and scope for growth in innovation. The findings can further be applied by policy makers in the area of corporate governance in commercial banks. Policy makers can use the study findings to design policies that will encourage good corporate governance practices to impact on financial innovation.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter reviews the existing literature that is related to the study variables. It has discussed corporate governance theories namely and their key propositions and how they inform the effect of corporate governance on financial innovation of commercial banks in Kenya.

2.2 Theoretical Review

The key theories on the relationship between corporate governance and financial innovation include Stakeholders' Theory, Agency Theory and Resource Dependency Theory.

2.2.1 Stakeholders' Theory

Stakeholder theory was embedded in the management discipline in 1970 and gradually developed by Freeman (1984). It incorporates corporate accountability to a broad range of stakeholders. A stakeholder can be defined as any group or individual who can affect or is affected by the achievement of the organisation's objectives (Freeman, 1984). The theory suggests that managers in organisations have a network of relationships to serve that includes the suppliers, employees and business partners.

The theory has an implication on the effect of corporate governance on financial innovation in commercial banks. Financial innovations in the banking industry include internet banking, mobile banking and agency banking. The banks have relationships with the vendors (internet-banking platform vendors) and business partners (Agency banking)

who are stakeholders. The theory focuses on managerial decision making and recognises that interests of all stakeholders have intrinsic value and no sets of interests are assumed to dominate the other.

2.2.2 Agency Theory

The theory was developed by Jensen and Meckling (1976) but originated from the works of Berle and Means (1932) who defined agency relationship as the relationship between the principals, such as the shareholders and agents such as the company executives and managers. The shareholders delegate the running of business to directors or managers (agents). It reduces the firm to two participants: managers and shareholders. An agent has decision-making authority that affects the well being of the principal. Agents may include the banks entire board of management that has directors in charge of divisions and managers in charge of departments.

The implication of this theory on the financial innovation of commercial banks in Kenya can be seen in the transformation of bank products. The transformation agenda for banks is handled by the agents on behalf of the principals and it includes financial innovation in the commercial banks. An agency problem arises when there is a conflict of interest between the agents and the principals. Sound corporate governance is essential in the financial innovation of banks.

2.2.3 Resource Dependency Theory

The resource dependency theory is attributed to Aldrich and Pfeffer (1976) as well as Pfeffer and Salancik (1978). It concentrates on the role of board of directors in providing access to resources needed by the firm. The theory focuses on the role that director play in providing or securing essential resources to an organisation through their linkages to the external environment. Resource dependency Theorists provide focus on the appointment of representatives of independent organisation as a means for gaining access in resources critical to firm success e.g. outside directors who are entrepreneurs in a financial technological solutions company who provide technical advice, either in board meetings or in private communication with the firm executives that may otherwise be more costly for the firm to secure.

The theory implies that the provision of resources enhances organisational functioning, firm's performance and its survival. Directors can be classified into four categories of insiders, business experts, support specialists and community influential's. The support specialists and business experts can assist the firms achieve financial innovation to support the firms performance. Sound identification and allocation of resources will assist in the financial innovation of banks.

2.3 Determinants of Financial Innovation of Commercial Banks in Kenya

Corporate Governance is the system by which companies are directed and controlled (Cadbury, 1992). It specifies the distribution of rights and responsibilities among different participants in the corporation, such as the board, managers, shareholders and other stakeholders and spells out the rules and procedures for making decisions on corporate affairs. Through corporate governance, stakeholders are involved in the transformation of banks through financial innovation. This study will also outline other factors that affect financial innovation in commercial banks.

2.3.1 Size of the Firm

The adoption of innovation is related to size and age of the bank. Larger firms seem better suited to innovate, because innovation implies fixed costs that can be more efficiently recovered if a firm is large (Schumpeter, 1943). Similar firms could be better innovators due to superior managerial control and less bureaucracy (Scherer and Ross, 1990). Size of the bank relative to the market is important. Higher market share increases the incentive of banks to innovate (Bhattacharyya and Nanda, 2000).

2.3.2 Efficiency

Innovations are not easy or cheap to develop and diffuse. Banks retain many highly compensated and highly skilled employees to design new products and services (Lerner and Tufano, 2011). Internal human capital is a key for any innovation policy (Mohen and Roeller, 2005). In addition, the distribution of new products requires considerable resources invested in marketing, sales and delivery channels. In fact, personnel expenses and overheads are lower in innovating banks, but cost to income ratio

(CI) is higher. The cost to income ratio, which shows the ability of the institution to generate gross profits from a given revenue stream, is considered one of the most important efficiency based indicators (ECB, 2010).

2.3.3 Profitability

According to Silber (1983) and Lerner (2006) the impact of innovation on profitability is cumbersome and that if investing in financial innovation is a rational response to a lagging competitive position, it is not surprising that less profitable firms tend to be innovators. However, considering the high initial investment, more profitable firms seem to be well placed at innovating. Innovating banks tend to underperform less-innovating banks (Arnaboldi & Rossignoli, 2008).

2.4 Empirical Studies

An empirical study was done by Arnaboldi & Rossignoli (2008) on the determinants of financial innovation in banking. The study objective was to find the determinants of financial innovation in banking. The study was conducted in Italy and the study population was on 81 listed commercial banks in Europe and in the United states from year 2005 to year 2008. The study used regression analysis to find the impact of market share and the impact of the quality of loan portfolio. The findings revealed that the impact of market share on innovation is higher for banks incorporated in the US and that lower quality of loan portfolio increases the incentive for European banks to innovate, whereas it reduces innovation for US banks. The study did not look at corporate governance as a determinant of financial innovation or whether corporate governance affects financial innovation.

Empirical study was done by Aghion et al (2008) with an objective of investigating the effect of institutional ownership on firm innovation. The study was done in the US and its study population was a panel of over 800 major US firms containing information on ownership, governance, managerial characteristics and innovation in the 1990s. The objective was to investigate the effect of institutional ownership on firm innovation. The findings revealed that higher institutional ownership is positively associated with greater innovation. The study was carried out overseas and therefore did not look at commercial banks in Kenya. Also, the study only concentrated on ownership structure and its effect on innovation but did not look at other corporate governance structure mechanisms.

Tandelilin et al. (2007) did a study on corporate governance and the objective was to examine the relationship among corporate governance, risk management and bank performance. The study population was a sample of 51 Indonesian banks for the period 1999 – 2004. The empirical study used a Triangular Gap Model with primary data analysis and secondary data analysis. The study revealed that bank ownership affects both the relationship of corporate governance and bank performance. This study did not examine the relationship between corporate governance and financial innovation in the banking sector. The study was done overseas and may not reflect the local banking sector.

Lerner & Wulf (2007) did a study on innovation and incentives in American corporations. The objective of the study was to examine the impact of the shifting compensation of the heads of corporate R&D on innovation. The population of the study was comprised of firms with 10,000 employees or greater over the period from 1987 to

1998 (excluding firms operating in financial services). The findings showed that performance pay for corporate R&D managers is associated with more innovative firms. This study did not look at financial services firms like banks and was carried out overseas therefore does not capture the local banking sector scene.

Love and Rachinsky (2008) did a study to investigate the relationship between, corporate governance and operating performance in the banking sector. The study was carried out in Russia in the period 2003-2006. They sampled a population of 107 Russian banks and 50 Ukrainian banks. Using regression analysis the results showed some significant but economically irrelevant relationship between corporate governance and operating performance. This study did not examine the relationship between corporate governance and financial innovation in commercial banks.

Gitonga (2003) did a study in innovation processes and the roe of the CEO in the banking industry. The objective of the study was to establish innovation processes and the perceived role of the CEO. The study population was some 40 commercial banks and the period of study was the financial year 2002. The results of the analysis revealed that 65 per cent of the CEOs and 50 per cent of the Business Development Managers perceive the CEO as a facilitator of innovation process to realize value. This study only looked at the role of the CEO in corporate governance but did not look the relationship between other corporate governance mechanisms and financial innovation in commercial Banks.

Mwangi (2007) did a study to investigate the factors influencing financial innovation in Kenya's securities market. The study population was all the firms listed at the Nairobi Stock Exchange as at year 2005 using a population of 48 listed companies. The period of the study was September 2005 to March 2006. The study established several factors influence innovation; regulatory factors, technology and global financial competition and integration. This study did not cover all the commercial banks since only the listed banks were studied together with other listed firms. The study also did not look the effect of corporate governance mechanisms on financial innovation of commercial banks in Kenya.

Gitau (2011) did a study on financial innovation and financial performance. The study objective was to examine the relationship between financial innovation and financial performance of commercial banks in Kenya. The population was 44 commercial banks and the period of study was 2006 – 2010. The findings revealed that commercial bank's adoption of financial innovation resulted in strong financial results of commercial banks. The study did not examine the relationship between corporate governance on financial innovation of commercial banks in Kenya.

Mbugua (2012) did a study to investigate the relationship between board diversity and financial performance of commercial banks in Kenya. The population was some 44 banks in Kenya. The study period was six years from 2007 to 2012. The findings revealed that there is very minimal association between board diversity and financial performance of

commercial banks in Kenya. The study did not examine the relationship between board diversity and financial innovation in Kenya.

2.5 Summary of Literature Review

The theoretical review on stakeholder's theory developed by Freeman (1984) incorporates corporate accountability to a broad range of stakeholders. The theory suggests that managers in organizations have a network or relationships to serve that include suppliers and business partners. This theory focuses on managerial decision making and recognized that interests of all stakeholders have intrinsic value. The Agency theory developed by Jensen and Meckling (1976) defined agency relationship as the relationship between the principals and the agents. An agency problem arises when there is a conflict of interest between the agents and the principals. The Resource Dependency Theory attributed to Aldrich and Pfeffer (1976) concentrates on the role of the board of directors in providing access to resources needed by the firm. The provision of resources enhances organizational functioning, firm's performance and its survival.

Arnaboldi and Rossignoli (2008) revealed that the impact of market share on innovation is higher for banks incorporated in the US. Aghion et al, (2008) found that higher institutional ownership is positively associated with greater innovation. Lerner & Wulf (2007) found that performance pay for corporate R&D managers is associated with more innovative firms. Gitonga (2003) revealed that 65 per cent of the CEOs and 50 per cent of the Business Development Managers in the banking sector perceive the CEO as a

facilitator of innovation process. Mwangi (2007) established several factors that influence innovation; regulatory factors, technology and global financial competition and integration. Gitau (2011) found that commercial bank's adoption of financial innovation resulted in strong financial results of commercial banks while Mbugua (2012) found that there is very minimal association between board diversity and financial performance of commercial banks in Kenya.

Arnaboldi and Rossignoli (2008) conducted the study overseas and the study and it did not cover the Kenyan commercial banks and did not also examine corporate governance as a determinant of innovation Aghion et al, (2008) did not consider other corporate governance mechanisms and did not cover commercial banks in Kenya. Tandelilin et al., (2007) did not examine the relationship between corporate governance and financial innovation. Lerner and Wulf (2007) did not look at firms that offer financial services while Love and Rachinsky (2008) did not examine the relationship between corporate governance and financial innovation. Gitonga (2003) did not look at other corporate governance factors that may affect financial innovation while Mwangi (2007) did not cover all commercial banks. Gitau (2011) did not examine the relationship between corporate governance on financial innovation of commercial banks in Kenya while Mbugua (2012) used only one corporate governance factor (board diversity) in the study. This study will seek to fill the knowledge gaps that exist.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter outlines the methodology that was applied to carry out the study. The chapter contains section on target population, research design, data collection and data analysis.

3.2 Research Design

A research design is the arrangement of conditions for collection and analysis of data in a manner that aims to combine relevance to the research purpose. This study sought to investigate the relationship between corporate governance and financial innovation in commercial banks in Kenya. To conduct this study and to realize the objectives of the study, descriptive study was chosen due to its appropriateness to enable generalizing the results to a large population. The descriptive research approach allows analysis and relation of variables.

3.3 Research Population

The population for this research comprised of all the 43 commercial banks in Kenya. According to the CBK banking supervision annual report 2014, there were 44 banking institutions (43 commercial banks and 1 mortgage finance company) licensed by the CBK (See appendix 1).

3.4 Data Collection

Data was collected purely from secondary data sources. Secondary source of data on board profile was obtained from the published annual reports and company sources spanning five years (2010 to 2014). Abstraction method was used in collecting data. Published reports on board profile comprised of size, ratio of independent members, ratio of executive directors, segregation and subdivision into committees. Secondary data on innovation was obtained from the published annual reports and company sources as well as CBK's banking supervision reports for years 2010 to 2014 for mobile banking, internet banking and agency banking turnovers and number of ATMs.

3.5 Data Analysis

The independent variable which was corporate governance was measured in terms of the board profile and will be comprised of; size, ratio of independent members, ratio of executive directors, segregation or unification of the chairman and CEO position and subdivision into committees. For the dependent variable: an innovation score comprised four innovation items namely: mobile banking, number of ATMs, internet banking and agency banking turnovers for all 43 commercial banks was developed. A study period of 5 years (2010 to 2014) was used.

The Innovation equation for the study was formulated as follows:

$$\mathbf{Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \varepsilon}$$

Where:

Y: Innovation score measured by the log of number of ATMs, mobile banking, internet banking, and agency banking turnovers.

X_1: Board size

X_2: Board Independence measured by ratio of independent directors to executive directors

X_3: Board Diversity measured the ratio of female to male directors

X_4: Number of Board Committees

X_5: Size of the Bank measured by the log of assets

β_0: Intercept

ε : Standard Errors

β_1, **β_2**, **β_3**, **β_4**, **β_5** are the constants

To deal with multicollinearity, any of the variables affected was dropped to produce a model with significant coefficients. Significance of corporate governance variables as predictors of financial innovation was tested using the t-test. The significance of the overall model in explaining financial innovation through the independent variables was measured through the f-test. The analyzed data was presented using tables and figures.

CHAPTER FOUR: DATA ANALYSIS AND INTERPRETATION

4.1 Introduction

This chapter presents analysis, findings and discussion of the study as set out in the research objective and research methodology. The study was aimed at establishing the effect of corporate governance on financial innovation of the commercial banks in Kenya. As such the study was conducted on all the 43 commercial banks listed at the CBK where secondary data from the period of 2010 to 2014 was used in the analysis. Regression analysis was used in analysis the data.

4.2 Description of Study Variables

This section sought to understand the trend in the study variables namely; financial innovation, board size, board independence, board diversity, committees number and size. This enabled clearer understanding of the context of the study.

4.2.1 Innovation Score

An innovation score was computed by determining the log of number of ATMs, mobile banking, internet banking, and agency banking turnovers of the commercial banks over 5 years period. A higher score meant that the commercial bank was more innovative and vice versa. As shown in figure 4.1 below, majority of the commercial banks (86%) had an innovation score of 11-15. Notably 9% had an innovation score of 16-20, 5% with 6-10 whereas no bank was established to have an innovation score of below 5. This shows that the innovations in the commercial banks were relatively high and that all companies had some adopted financial innovation practices.

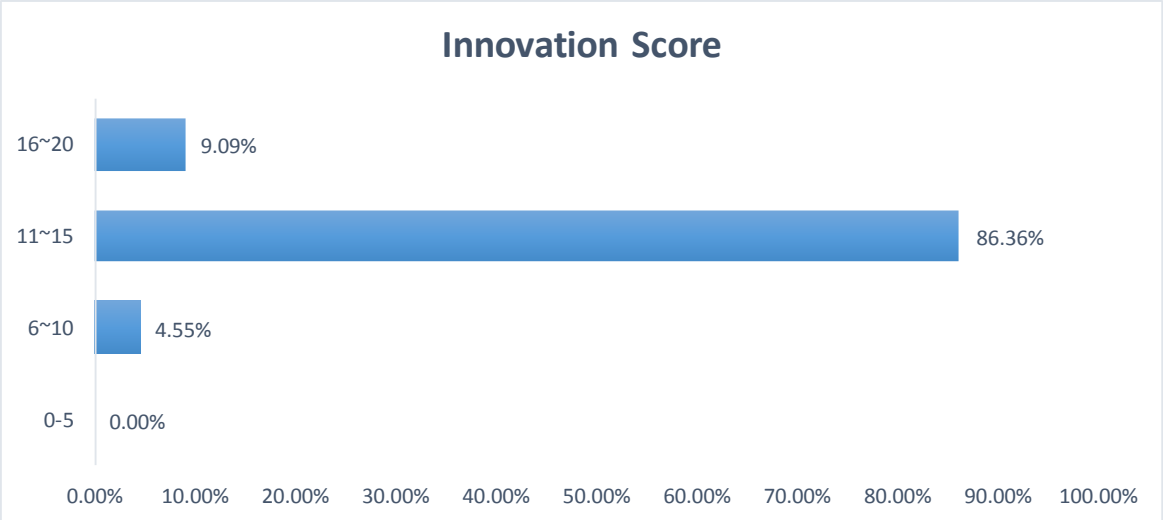

Figure 4.1: Innovation Score

Source: Study Data

4.2.2 Board Size

The study sought to establish the board size of the commercial banks in Kenya. Majority of the commercial banks had between 8 and 11 board members with 40.91%, 26.82% had 4 to 7 board members, 18.18% had 12 to 15 board members, 7-27% had 0 to 3 board members, 4.09% had 15 to 18 board members while 2.73% had board members above 23. The results are shown in figure 4.2 below. This shows a varying nature of the board sizes in the commercial bank. Large boards are more likely to be diverse as compared to smaller boards.

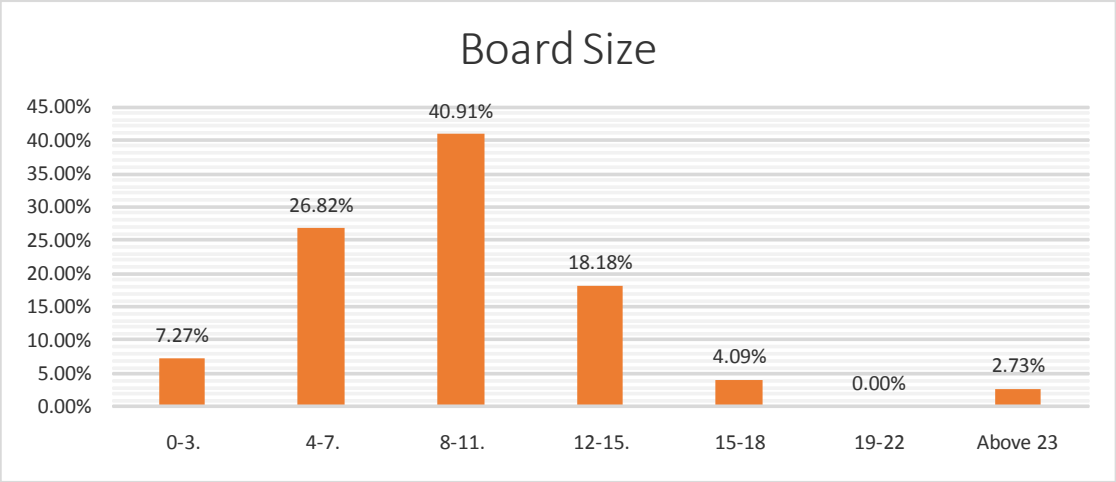

Figure 4.2: Board Size

Source: Study Data

4.2.3 Board Independence

Board independence measured by the ratio of executive members to the independent members. 41% of commercial banks had minimal board independence of 0 implying that they never had independent director(s) in any of the years 2009 to 2014. 40% had board independence of 1 implying that the banks in any of the study years had equal number of independent and dependent directors. 11% had board independence of 2 implying that in any of the years, the commercial banks had twice independent directors as executive directors. 2% of commercial banks in any of the years had board independence of 3, 4, and 5 each with a percentage frequency implying that number of independent directors was as many times as executive directors. The results are presented in table 4.2.

Table 4.1: Board Independence

Independence Score	Frequency	Percentage
0	89	**41%**
1	84	**40%**
2	22	**11%**
3	5	**2%**
4	5	**2%**
5	5	**2%**
Above 5	5	**2%**
Total	**215**	**100.00%**

Source: Research Data

4.2.4 Board Diversity

Board diversity was obtained determining the number of male to female board members. The findings established that 46% of the banks had 0-1 female board members, 35% with 2-3, 15% with 4-5, and 2% with 6-7 while the remaining 2% had above 7 female board members. This implies that the number of female directors was low as compared to the male. The findings are presented in figure 4.3 below.

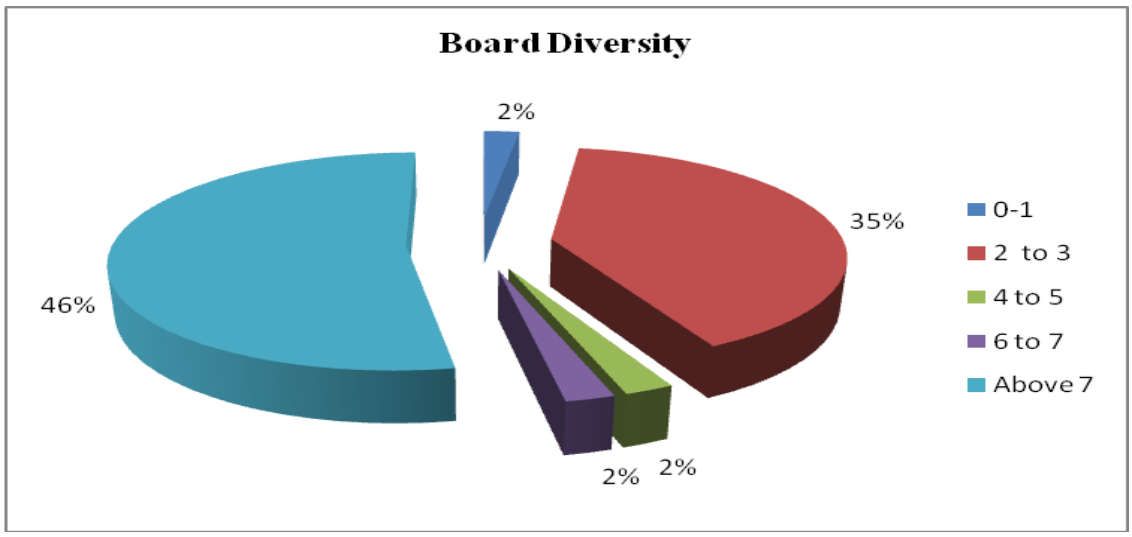

Figure 4.3: Board Diversity

Source: Research Data

4.2.5 Committees Number

The findings indicated that 36% of commercial banks had 3 to 4 committees in any particular year, 35% has 5 to 6 committees, 21% had 7 to 8 committees, 6% had 9 to 10 committees and the remaining 2% had 1 to 2 committees. The findings are as shown in table 4.2. Hence, majority of the banks had committee numbers of about 3-6 and this enhances overseeing of the board activities hence facilitating effective corporate governance.

Table 4. 1: Committees number

	Frequency	**Percentage**
1-2	5	**2%**
3-4	78	**36%**
5-6	76	**35%**
7-8	43	**21%**
9-10	13	**6%**
Totals	**215**	**100.00%**

Source: Research Data

4.2.6 Commercial Banks Size

The study sought to establish the size of the commercial banks. This was obtained as the log of the assets and the findings obtained are as shown by figure 4.4. 44% had a size of 9, 30% with 10, 24% with above 10, and 2% with 8 and no company below 8. This implies majority of commercial banks at 54% are large followed by medium sized banks at 43.64%. This variable was taken by the study as a control variable since the difference in size of organization will cause variation in corporate governance practices as larger firms are more likely to have large and more diverse boards as compared to smaller firms.

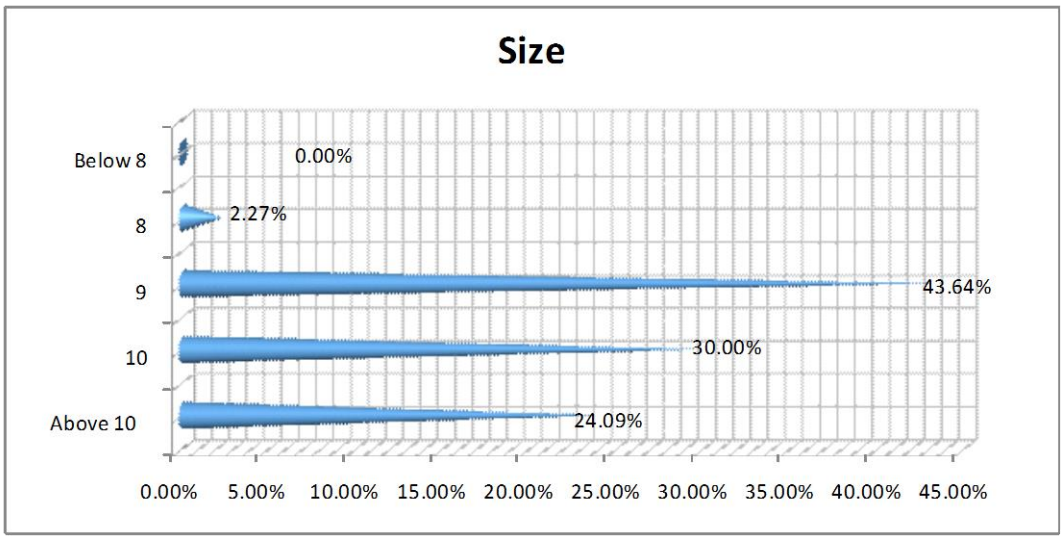

Figure 4.4: Commercial Bank Size

Source: Study Data

4.2.7 Descriptive Statistics

The descriptive statistics for the five year period are as shown by table 4.3. The minimum size of the firms attained was 8.9035, maximum of 11.8932 and mean score of 10.4476. The minimum of the committee number over the period was 2, maximum of 10 and mean of 5.6746. The minimum of board diversity was 0, maximum of 10 and mean of 2.8111. The minimum of board independence was 0, maximum of 5 and mean of 1.1749. The minimum of board size was 1, maximum of 28 and mean of 9.5174. Minimum innovation score was 8.7974, maximum of 17.1839 and mean of 12.7484.

Table 4. 2: Descriptive Statistics

Variable	N	Minimum	Maximum	Mean
Innovation score	215	8.7974	17.1839	12.7484
Board size	215	1	28	9.5174
Board Independence	215	0	5	1.1749
Board Diversity	215	0	10	2.8111
Committees number	215	2	10	5.6746
Size	215	8.9035	11.8932	10.4476
Valid N (list wise)	215			

Source: Research Data, 2015

4.3 Correlation Analysis

Correlation analysis was used to determine the nature of the relationship between study variables. The Correlation coefficient enabled determination of the strength of a linear association between two variables and is denoted by r which can take a range of values from +1 to -1. As shown in table 4.2, board diversity has a Pearson correlation of 0.2592 and a p-value of 0.0001. This means that board diversity has a positive effect on the commercial banks financial innovation. The effect is significant at 95% and 99% confidence level since the p-value is less than 0.05 and 0.01 respectively.

Similarly board size and board independence have significant positive effects on the commercial banks financial innovation as shown by correlation coefficients of 0.2103 and 0.1841 which have p-values of less than 0.05. Thus an increase in the board diversity, board size and board independence will highly improve the innovation score of the commercial banks. The findings relate to who Mutuku (2014) found that the board composition was the driving force for innovation in firms.

Number of board committee had Pearson coefficient of 0.0624 and a p-value of 0.3626. This means that committees number alone has positive but insignificant effect on commercial banks financial innovation at 95% confidence level since the p-value of 0.3626 is greater than 0.05. Size has a Pearson correlation of 0.6119 and p-value of 2.1144. This implies that despite the size having a very strong effect on the financial innovation, the effect is not statistically significant at 95% confidence level since p-value of 2.1144 is greater than 0.05. Thus number of committees and firms' size has insignificant effect of commercial bank's financial innovation.

Table 4.4: Correlation Analysis

		Innovation score	Board size	Board Independence	Board Diversity	Committees number
Board size	Pearson Correlation	0.2103	1			
	Sig. (2-tailed)	0.0019				
Board Independence	Pearson Correlation	0.1841	0.3084	1		
	Sig. (2-tailed)	0.0068	4.0336			
Board Diversity	Pearson Correlation	0.2592	0.0626	0.2680	1	
	Sig. (2-tailed)	0.0001	0.3608	6.8884		
Committees number	Pearson Correlation	0.0624	0.5799	0.2586	0.0772	1
	Sig. (2-tailed)	0.3626	1.0158	0.0001	0.2591	
Size	Pearson Correlation	0.6119	0.3588	0.2817	0.1177	0.2617
	Sig. (2-tailed)	2.1144	6.2574	2.7657	0.0850	0.0001
	N	215	215	215	215	215

Source: Research Data, 2015

4.5 Regression Analysis

Multiple regression analysis was used to determine the effect of corporate governance on innovation of the commercial banks. Board size, board diversity, board independence, committees' number and size were used as the control variables. As shown by table 4.5 below, there is a strong positive relationship between independent variables (board size, board diversity, board independence, committees number and size) and the dependent variable (innovation score) with a coefficient of correlation of 0.6516. Coefficient of

determination of 0.4246 indicates that the independent variables could explain 42.46% of changes in innovation of the commercial banks.

Table 4.5*:* Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate
0.6516	0.4246	0.4109	0.0038

a. Predictors: (Constant), Size, Board Diversity, Committees number, Board Independence, Board size

Source: Research Data, 2015

The analysis of variance results are shown in table 4.6 below. As shown in the table, the model developed is significant at 95% and 99% confidence level since the p-value of 0.0000 is less than 0.05 and 0.01. This means that the effect of independent variables on the dependent variable is significant.

Table 4.6: Model Analysis of Variance

	Sum of Squares	Df	Mean Square	F	Sig.
Regression	292.6776	5	58.5355	30.8494	0.0000
Residual	396.5688	209	1.8975		
Total	689.2464	214			

a. Predictors: (Constant), Size, Board Diversity, Committees number, Board Independence, Board size

Source: Research Data, 2015

The model coefficients obtained by the study are shown in table 4.7 below. As shown in the table, board size has a coefficient of 0.0285, board diversity 0.1427, board independence -0.0470, number of committees -0.1306, and size 1.8573. The positive coefficients of board size, board diversity and the firm size mean that an increase in these variables will lead to increase in commercial banks financial innovations. Increase in board independence and number of committees will result in decreased financial innovation. All the study variables except the size and board diversity are significant at 95% since their p-values are less than 0.05. The predictive model developed by the study is $Y = -6.5346 + 0.0285X_1 - 0.0470X_2 + 0.1427X_3 - 0.1306X_4 + 1.8573X_5$ where Y is the innovation score, X_1 is the board size, X_2 is the board independence, X_3 is the board diversity, X_4 is the number of board committees and X_5 is the size of the banks.

Table 4.7: Model Coefficients

	Unstandardized Coefficients	**Std. Error**	**Beta**	**t**	**Sig.**
(Constant)	-6.5346	1.7613		-3.7102	0.0003
Board size	0.0285	0.0261	0.0737	1.0911	0.2765
Board Independence	-0.0470	0.1085	-0.0255	-0.4334	0.6651
Board Diversity	0.1427	0.0388	0.2013	3.6904	0.0003
Committees number	-0.1306	0.05719	-0.1481	-2.2851	0.0233
Size	1.8573	0.1758	0.6068	10.5636	0.000

Source: Research Data, 2015

4.6 Discussion of Findings

The study sought to establish the effect the effect of corporate governance on financial innovation of commercial banks in Kenya. This was achieved by operationalization of corporate governance practices to measurable components. Correlation analysis was used to determine the effect of corporate governance practices on financial innovation while multiple regression analysis was used to determine the overall effect of corporate governance on commercial banks in Kenya financial innovation.

Board diversity was established to have a Pearson correlation of 0.2592 and a p-value of 0.0001. This means that board diversity has a significant positive effect on the innovation score. Board size and board independence also were found to have significant positive effect on the financial innovation as shown coefficients of correlation of 0.2103 and 0.1841 respectively and p-values less than 0.05 (P-values of 0.0019 and 0.0068 respectively). This implies that an increase in these variables would result to increased financial innovation. Board number of committees and size of the banks were established to have positive but insignificant effect on the financial innovation as their p values are greater than 0.05.

Multiple regression analysis was used to determine the effect of corporate governance on the financial innovation of commercial banks in Kenya. Board size, board independence, board diversity, number of board committees and the size of the bank were used as control variables. The multiple regression analysis obtained a coefficient of correlation of 0.6516. This indicates a strong relationship between independent variables (board size, board independence, board diversity, number of board committees and the size of the

bank and the dependent variable (financial innovation). The coefficient of determination of 0.4246 indicated that the independent variables could explain up to 42% of changes in the financial innovation of the commercial banks. Hence, corporate governance practices have positive effect on commercial banks financial innovation.

The analysis of variance results indicated that the model developed was significant at 95% and 99% confidence level since the p-value of 0.0000 was less than 0.05 and 0.01. This means that the effect of independent variables on the model has significant effect on the dependent variables. From the model developed, board size had a coefficient of 0.0285, board independence -0.0470, board diversity 0.1427, number of board committees -0.1306 and the size of the bank 1.8573. The positive coefficients of board size, board diversity and size of the banks show the positive effect they have on the financial innovations of the banks. This means that an increase in these variables will lead to improved financial innovation of the banks.

While an increase in the other variables, namely board independence and the number of committees have a negative effect and hence an increase in these variables would lead to reduced financial innovation due to their negative coefficients. These findings related with that of Mwangi (2013) who established that the board composition if effectively coordinated have a positive effect on the financial innovation. However all the models except the size of the banks, board size and board independence are significant at 95% since their p-values are less than 0.05. The predictive model developed by the study is $Y = -6.5346 + 0.0285X_1 - 0.0470X_2 + 0.1427X_3 - 0.1306X_4 + 1.8573X_5$ where Y is the innovation score, X_1 is the board size, X_2 is the board independence, X_3 is the board diversity, X_4 is the number of board committees and X_5 is the size of the banks.

CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter presents summary of the study, conclusion and recommendation for policy and areas for further research. Data analysis and conclusions were made in line to the study objective which was to determine the effect of corporate governance on the financial innovation of the commercial banks in Kenya.

5.2 Summary of the Findings

This study sought to determine the effect of corporate governance on the financial innovation of commercial banks in Kenya. A population size of 43 commercial banks for the period 2010-2014 was used. Secondary data was obtained from Central Bank of Kenya and published annual reports of the banks. The study sought to establish the nature of the variables of the study for a five year period (2010-2014). The descriptive statistics show that board size had a mean of 9.5174, board independence had a mean of 1.17849, board diversity had a mean of 2.8111, committees' number had a mean of 5.6746 and the innovation score had the highest mean of 12.7484. The findings affirm that majority of banks had boards to exercise their corporate governance mandate which contributed to their financial innovations.

The findings established that board diversity had a significant positive effect on the financial innovation of the banks as it had a Pearson correlation of 0.2592 and a p-value of 0.0001. Board size and board independence were also established to have significant positive effects with Pearson correlations of 0.2103 and 0.1841 which have p-values of

less than 0.05. This implies that an increase in the board diversity, board independence and board size would lead to a significant improvement in the financial innovations. The other variables namely, committees' number and size of the bank were established to have no significant effect on the financial innovation individually at 95% confidence level since the p-values of 0.3626 and 2.1144 were greater than 0.05. Thus an increase in these variables would not impact on the financial innovation significantly. Therefore though all the variables of corporate governance have a positive effect on the corporate governance, they differ in their level of significance.

Multiple regression analysis was carried out to identify the relationship between the corporate governance practices and financial innovation of the commercial banks. The findings indicated that there exists a strong positive relationship between board size, board diversity, board independence, number of committees and size and financial innovation with a coefficient of correlation of 0.6516. This implies that all the independent variables combined have a positive influence on the financial innovation of the commercial banks. The findings relate with that of Miring'u and Muoria (2011), who also established a positive influence of the board composition on the financial innovation of the firms. The coefficient of determination of 0.4246 that was obtained indicates that the independent variables can explain 42.46% of changes in innovation of the commercial banks. The analysis of variance results indicated that the model developed was significant at 95% and 99% confidence level since the p-value of 0.0000 was less than 0.05 and 0.01. This meant that the effect of independent variables on the model has significant effect on the dependent variables.

From the model coefficients, board size had a coefficient of 0.0285, board independence -0.0470, board diversity 0.1427, number of board committees -0.1306 and the size of the bank 1.8573. The negative coefficients of board independence and number of committees implied they had a negative relationship with the financial innovations. This is attributed to the fact that a large number of committees would be harder to manage and that an increase in the independency of the board would mean each member wants to implement their own individual ideas thus reducing the innovations. The positivity of the coefficients of the other variables (board size, board diversity and size of the banks) implied they have a positive relation with the financial innovation. This is due to the diversity of the board being able to equally represent all the board members' ideas and implement a variety of ideas hence impacting greatly on the financial innovation. The predictive model developed by the study is $Y = -6.5346 + 0.0285X_1 - 0.0470X_2 + 0.1427X_3 - 0.1306X_4 + 1.8573X_5$ where Y is the innovation score, X_1 is the board size, X_2 is the board independence, X_3 is the board diversity, X_4 is the number of board committees and X_5 is the size of the banks.

5.3 Conclusion

Based on the study findings, the study makes a number of conclusions. First, the study concludes that commercial banks in Kenya have put in place corporate governance practices and continue to adopt financial innovation. The nature of the board composition however varied with the bank as evidenced by a difference in the trend of the variables. The difference in the innovation scores of the financial banks could therefore be explained by the different board compositions of the banks.

The study also concludes that corporate governance practices have a positive and significant impact on the financial innovation of commercial banks in Kenya. Hence, a commercial bank that has adopted best corporate governance practices will be more innovative. This can be explained by the fact that the board highly influences the strategies/ ideas that are formulated and implemented and hence contributing to the banks financial innovation.

The study found out that board size, board independence and board diversity to have a significant effect on the financial innovation. If a firm has more non-executive directors on its board will perform better than one that does not. The study thus concludes that that board size, board independence and board diversity significantly affect the financial innovation of the banks. On the board diversity, a firm that is more diverse, for example by having equal gender distribution, is likely to have better ideas and this results to improved financial innovation.

The study also concludes that number of board committees and size of the bank to have positive but insignificant effect on the financial innovation of the banks. This can be explained by the fact that a higher number of committees may be harder to manage and also the size of the bank does not necessarily imply that the bank has a well-structured board.

5.4 Policy Recommendations

The study recommends that the board composition to be given much consideration among commercial banks in Kenya. This is attributed to the fact that corporate governance practices greatly influence the financial innovation. Thus the board needs to be well structured to ensure best corporate governance practices.

Commercial banks in Kenya should increase the number of non-executive directors against total board members as well as having more women in the board as this will ensure compliance with better corporate governance principles and lead to more financial innovations and better financial performance. This is due to the fact that most of the boards are men dominated. It would therefore be of great interest that commercial banks come up with an affirmative action so as to increase the numbers and the role that women play in the board.

5.5 Limitations of the Study

The researcher encountered various limitations that were likely to hinder access to information sought by the study. The researcher encountered problems of time as the research was being undertaken in a short period with limited time for doing a wider research. The researcher also experienced a challenge in obtaining secondary data from the audited accounts of some of the quoted banks since some of these banks did not disclose some aspects corporate governance or had not yet published there audited accounts as at the time of this research. Alternative sources of information had to be sought.

This study was centered on the relationship between corporate governance and financial innovation in commercial banks in Kenya. The study did not consider any other factors that inevitably affect financial innovations in addition to corporate governance such as political, environmental and social-economic and technological. Similarly, there is the possibility of omission of governance variables that may be relevant in the performance equation or with strong relations to other governance mechanisms.

5.6 Suggestions for Further Research

This study focused entirely only the commercial banks that are listed at the CBK and this may not be the actual representation of the effect corporate governance has on the financial innovation of other firms. To enable generalization of the research findings, future researchers could consider carrying out a similar study in a different sector or sectors to assess any variation in findings. Additionally, other variables of corporate governance should be considered other the ones investigated by this study.

The present study sought to shed light on the effect of corporate governance practices on the financial innovation of commercial banks. A similar study should be carried out for a period to establish whether the results would be similar.

The study used five variables as the measures of corporate governance in determining financial innovation and these were board size, board diversity, board independence, number of board committees and the size of the banks. Further studies in determining the relationship between corporate governance and financial innovation should use other variables such as the CEO duality, board roles, contingence and board effectiveness. This

will enable comprehensive determination on the effect corporate governance has on the financial innovation.

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APPENDICES

Appendix I: Collected Data Summary

Bank	Innovation score	X1: Board size	X2:Board Independence Score	X3: Board Diversity Score	X4: No. of Committees	X5: Size (Log assets)
1.ABC Bank (Kenya)	12.40	13.00	1.00	1.40	6.00	10.37
	12.35	13.00	1.00	1.40	6.00	10.31
	12.80	13.00	1.00	1.40	6.00	10.29
	12.35	13.00	1.00	1.40	6.00	10.28
	12.24	13.00	1.00	1.40	6.00	10.25
2. Bank of Africa	12.50	15.00	1.20	1.50	8.00	10.68
	12.48	15.00	1.20	1.50	8.00	10.67
	12.74	15.00	1.20	1.50	8.00	10.64
	12.85	15.00	1.20	1.50	8.00	10.41
	12.74	15.00	1.20	1.50	8.00	10.09
3. Bank of Baroda	14.29	12.00	0.63	2.00	6.00	9.84
	14.20	12.00	0.63	2.00	6.00	9.69
	14.18	12.00	0.63	2.00	6.00	9.69
	14.44	12.00	0.63	2.00	6.00	9.66
	14.29	12.00	0.63	2.00	6.00	9.61
4. Bank of India	11.27	8.00	2.00	3.00	3.00	10.54
	11.56	8.00	2.00	3.00	3.00	10.49
	11.42	8.00	2.00	3.00	3.00	10.45
	11.28	8.00	2.00	3.00	3.00	10.40
	11.52	8.00	2.00	3.00	3.00	10.42
5. Barclays Bank	14.57	17.00	1.20	4.33	4.00	11.26
	14.55	17.00	1.20	4.33	4.00	11.25
	14.48	17.00	1.20	4.33	4.00	11.25
	14.76	17.00	1.20	4.33	4.00	11.22
	14.84	17.00	1.20	4.33	4.00	11.24
6. CFC Stanbic Bank	13.54	11.00	1.20	2.25	4.00	10.26
	13.75	11.00	1.20	2.25	4.00	10.24
	13.68	11.00	1.20	2.25	4.00	10.17
	13.90	11.00	1.20	2.25	4.00	10.15
	13.37	11.00	1.20	2.25	4.00	10.08
7. Chase Bank (Kenya)	14.39	8.00	1.67	7.00	6.00	11.04
	14.38	8.00	1.67	7.00	6.00	11.03
	14.33	8.00	1.67	7.00	6.00	10.88

	14.59	8.00	1.67	7.00	6.00	10.90
	12.87	8.00	1.67	7.00	6.00	10.87
8. Citibank	12.37	6.00	0.67	0.00	4.00	8.94
	12.17	6.00	0.67	0.00	4.00	8.94
	12.46	6.00	0.67	0.00	4.00	8.94
	12.46	6.00	0.67	0.00	4.00	8.92
	11.85	6.00	0.67	0.00	4.00	8.90
9. Commercial Bank of Africa	15.09	8.00	0.80	7.00	3.00	11.30
	15.36	8.00	0.80	7.00	3.00	11.25
	15.29	8.00	0.80	7.00	3.00	11.16
	15.12	8.00	0.80	7.00	3.00	11.10
	15.04	8.00	0.80	7.00	3.00	11.08
10. Consolidated Bank of Kenya	10.48	12.00	1.00	2.00	6.00	10.18
	10.46	12.00	1.00	2.00	6.00	10.15
	10.96	12.00	1.00	2.00	6.00	10.15
	10.84	12.00	1.00	2.00	6.00	10.14
	10.66	12.00	1.00	2.00	6.00	10.14
11. Cooperative Bank of Kenya	16.70	13.00	3.00	5.50	6.00	11.41
	16.69	13.00	3.00	5.50	6.00	11.36
	16.56	13.00	3.00	5.50	6.00	11.36
	16.48	13.00	3.00	5.50	6.00	11.35
	16.56	13.00	3.00	5.50	6.00	11.32
12. Credit Bank	9.74	1.00	0.33	6.00	4.00	9.95
	9.57	1.00	0.33	6.00	4.00	9.92
	9.41	1.00	0.33	6.00	4.00	9.91
	9.08	1.00	0.33	6.00	4.00	9.91
	8.80	1.00	0.33	6.00	4.00	9.90
13. Development Bank of Kenya	11.83	8.00	0.60	1.67	6.00	10.21
	12.11	8.00	0.60	1.67	6.00	10.22
	11.90	8.00	0.60	1.67	6.00	10.19
	11.86	8.00	0.60	1.67	6.00	10.06
	11.81	8.00	0.60	1.67	6.00	10.06
14. Diamond Trust Bank	15.66	11.00	0.71	4.50	8.00	11.33
	15.63	11.00	0.71	4.50	8.00	11.22
	15.60	11.00	0.71	4.50	8.00	11.15
	15.86	11.00	0.71	4.50	8.00	11.06
	15.67	11.00	0.71	4.50	8.00	11.01
15. Dubai Bank Kenya	11.08	16.00	0.83	3.00	8.00	9.54
	10.91	16.00	0.83	3.00	8.00	9.53
	10.89	16.00	0.83	3.00	8.00	9.53

	10.87	16.00	0.83	3.00	8.00	9.54
	10.48	16.00	0.83	3.00	8.00	9.49
16. Ecobank	11.24	10.00	0.29	4.00	4.00	10.66
	11.21	10.00	0.29	4.00	4.00	10.57
	11.16	10.00	0.29	4.00	4.00	10.50
	11.36	10.00	0.29	4.00	4.00	10.43
	11.08	10.00	0.29	4.00	4.00	10.35
17. Equatorial Commercial Bank	11.23	4.00	1.00	1.00	4.00	10.22
	11.09	4.00	1.00	1.00	4.00	10.22
	11.01	4.00	1.00	1.00	4.00	10.21
	10.91	4.00	1.00	1.00	4.00	10.19
	10.81	4.00	1.00	1.00	4.00	10.09
18. Equity Bank	17.15	14.00	1.33	2.00	6.00	11.59
	17.05	14.00	1.33	2.00	6.00	11.49
	16.95	14.00	1.33	2.00	6.00	11.33
	17.11	14.00	1.33	2.00	6.00	11.25
	17.18	14.00	1.33	2.00	6.00	11.21
19. Family Bank	15.08	11.00	2.00	10.00	5.00	10.65
	15.05	11.00	2.00	10.00	5.00	10.64
	15.31	11.00	2.00	10.00	5.00	10.49
	15.49	11.00	2.00	10.00	5.00	10.49
	15.23	11.00	2.00	10.00	5.00	10.46
20. Fidelity Commercial Bank Limited	12.41	2.00	1.00	0.00	4.00	10.22
	12.37	2.00	1.00	0.00	4.00	10.22
	12.23	2.00	1.00	0.00	4.00	10.21
	12.48	2.00	1.00	0.00	4.00	10.19
	12.12	2.00	1.00	0.00	4.00	10.18
21. Fina Bank	13.18	8.00	1.00	0.00	6.00	10.45
	13.14	8.00	1.00	0.00	6.00	10.40
	13.07	8.00	1.00	0.00	6.00	10.35
	12.95	8.00	1.00	0.00	6.00	10.35
	13.10	8.00	1.00	0.00	6.00	10.31
23. Giro Commercial Bank	11.58	2.00	0.00	0.00	3.00	10.18
	11.43	2.00	0.00	0.00	3.00	10.18
	11.35	2.00	0.00	0.00	3.00	10.17
	11.23	2.00	0.00	0.00	3.00	10.16
	11.12	2.00	0.00	0.00	3.00	10.16
24. Guardian Bank	12.65	10.00	4.00	9.00	7.00	10.16
	12.48	10.00	4.00	9.00	7.00	10.17
	12.29	10.00	4.00	9.00	7.00	10.16
	12.08	10.00	4.00	9.00	7.00	10.13

	11.92	10.00	4.00	9.00	7.00	10.11
25. Gulf African Bank	12.97	5.00	0.33	0.00	4.00	10.30
	12.97	5.00	0.33	0.00	4.00	10.28
	12.94	5.00	0.33	0.00	4.00	10.27
	13.01	5.00	0.33	0.00	4.00	10.27
	12.73	5.00	0.33	0.00	4.00	10.26
26. Habib Bank	11.50	7.00	2.00	0.00	3.00	9.98
	11.40	7.00	2.00	0.00	3.00	9.97
	11.30	7.00	2.00	0.00	3.00	9.96
	11.23	7.00	2.00	0.00	3.00	9.95
	11.15	7.00	2.00	0.00	3.00	9.94
27. Habib Bank AG Zurich	12.88	6.00	1.00	5.00	4.00	10.08
	12.72	6.00	1.00	5.00	4.00	10.08
	12.99	6.00	1.00	5.00	4.00	10.08
	12.98	6.00	1.00	5.00	4.00	10.05
	12.16	6.00	1.00	5.00	4.00	10.04
28. I&M Bank	12.73	8.00	1.00	0.00	6.00	11.14
	12.63	8.00	1.00	0.00	6.00	11.12
	12.59	8.00	1.00	0.00	6.00	11.12
	12.44	8.00	1.00	0.00	6.00	11.11
	12.25	8.00	1.00	0.00	6.00	11.10
29. Imperial Bank Kenya	14.63	7.00	0.00	0.00	5.00	10.75
	14.58	7.00	0.00	0.00	5.00	10.75
	14.50	7.00	0.00	0.00	5.00	10.74
	14.33	7.00	0.00	0.00	5.00	10.71
	14.37	7.00	0.00	0.00	5.00	10.66
30. Jamii Bora Bank	11.81	13.00	2.00	3.33	6.00	10.12
	11.60	13.00	2.00	3.33	6.00	10.09
	11.80	13.00	2.00	3.33	6.00	10.08
	11.61	13.00	2.00	3.33	6.00	10.04
	11.43	13.00	2.00	3.33	6.00	10.02
31. Kenya Commercial Bank	14.43	11.00	5.00	1.75	8.00	11.58
	14.33	11.00	5.00	1.75	8.00	11.56
	14.28	11.00	5.00	1.75	8.00	11.55
	14.12	11.00	5.00	1.75	8.00	11.54
	14.18	11.00	5.00	1.75	8.00	11.51
32. K-Rep Bank	11.31	8.00	1.00	3.00	4.00	10.20
	11.23	8.00	1.00	3.00	4.00	10.13
	11.12	8.00	1.00	3.00	4.00	10.09
	10.91	8.00	1.00	3.00	4.00	10.09
	10.73	8.00	1.00	3.00	4.00	10.05

33. Middle East Bank Kenya	11.67	12.00	1.20	2.00	8.00	9.77
	11.44	12.00	1.20	2.00	8.00	9.77
	11.43	12.00	1.20	2.00	8.00	9.76
	11.20	12.00	1.20	2.00	8.00	9.74
	10.88	12.00	1.20	2.00	8.00	9.74
34. National Bank of Kenya	13.79	9.00	1.50	0.00	8.00	11.09
	13.49	9.00	1.50	0.00	8.00	11.08
	13.43	9.00	1.50	0.00	8.00	11.08
	13.15	9.00	1.50	0.00	8.00	11.07
	13.26	9.00	1.50	0.00	8.00	11.06
35. NIC Bank	15.78	13.00	0.50	5.50	8.00	11.16
	15.77	13.00	0.50	5.50	8.00	11.08
	15.69	13.00	0.50	5.50	8.00	11.03
	15.62	13.00	0.50	5.50	8.00	10.90
	15.61	13.00	0.50	5.50	8.00	10.77
36. Oriental Commercial Bank	12.27	7.00	1.33	2.50	6.00	9.90
	12.15	7.00	1.33	2.50	6.00	9.89
	12.07	7.00	1.33	2.50	6.00	9.89
	11.99	7.00	1.33	2.50	6.00	9.88
	11.80	7.00	1.33	2.50	6.00	9.87
37. Paramount Universal Bank	11.58	5.00	0.67	1.50	2.00	10.02
	11.38	5.00	0.67	1.50	2.00	9.98
	10.76	5.00	0.67	1.50	2.00	9.98
	10.60	5.00	0.67	1.50	2.00	9.97
	10.58	5.00	0.67	1.50	2.00	9.96
38. Prime Bank (Kenya)	13.92	7.00	0.00	0.00	3.00	10.74
	13.67	7.00	0.00	0.00	3.00	10.73
	13.43	7.00	0.00	0.00	3.00	10.73
	13.25	7.00	0.00	0.00	3.00	10.71
	12.90	7.00	0.00	0.00	3.00	10.70
39. Standard Chartered Kenya	13.92	10.00	0.67	2.33	5.00	11.34
	13.79	10.00	0.67	2.33	5.00	11.29
	13.67	10.00	0.67	2.33	5.00	11.21
	13.74	10.00	0.67	2.33	5.00	11.15
	13.68	10.00	0.67	2.33	5.00	11.09
40. Trans National Bank Kenya	12.48	7.00	0.50	6.00	6.00	10.09
	12.73	7.00	0.50	6.00	6.00	9.98
	12.68	7.00	0.50	6.00	6.00	9.94
	12.61	7.00	0.50	6.00	6.00	9.94
	12.43	7.00	0.50	6.00	6.00	9.80
41. United Bank of Africa[2]	10.67	28.00	2.00	0.25	10.00	11.08

	10.55	28.00	2.00	0.25	10.00	10.91
	10.47	28.00	2.00	0.25	10.00	10.91
	10.62	28.00	2.00	0.25	10.00	11.90
	10.65	28.00	2.00	0.25	10.00	10.79
42. Victoria Commercial Bank	10.89	5.00	0.67	4.00	7.00	10.09
	10.87	5.00	0.67	4.00	7.00	9.88
	10.82	5.00	0.67	4.00	7.00	9.79
	11.05	5.00	0.67	4.00	7.00	9.71
	10.71	5.00	0.67	4.00	7.00	9.65
43. HDFC Bank Limited	10.99	11.00	0.63	2.67	10.00	10.78
	10.77	11.00	0.63	2.67	10.00	10.78
	10.75	11.00	0.63	2.67	10.00	10.78
	10.74	11.00	0.63	2.67	10.00	10.78
	10.30	11.00	0.63	2.67	10.00	10.75
44. FirstRand Bank	12.93	10.00	1.00	4.00	10.00	10.95
	12.93	10.00	1.00	4.00	10.00	10.92
	13.09	10.00	1.00	4.00	10.00	10.92
	13.09	10.00	1.00	4.00	10.00	10.90
	13.08	10.00	1.00	4.00	10.00	10.79

Appendix II: List of Commercial Banks in Kenya

1. ABC Bank (Kenya)
2. Bank of Africa
3. Bank of Baroda
4. Bank of India
5. Barclays Bank
6. CFC Stanbic Bank
7. Chase Bank (Kenya)
8. Citibank
9. Commercial Bank of Africa
10. Consolidated Bank of Kenya
11. Cooperative Bank of Kenya
12. Credit Bank
13. Development Bank of Kenya
14. Diamond Trust Bank
15. Dubai Bank Kenya
16. Ecobank
17. Equatorial Commercial Bank
18. Equity Bank
19. Family Bank
20. Fidelity Commercial Bank Limited
21. Fina Bank
22. First Community Bank
23. Giro Commercial Bank
24. Guardian Bank
25. Gulf African Bank
26. Habib Bank
27. Habib Bank AG Zurich
28. I&M Bank
29. Imperial Bank Kenya
30. Jamii Bora Bank
31. Kenya Commercial Bank
32. K-Rep Bank
33. Middle East Bank Kenya
34. National Bank of Kenya
35. NIC Bank
36. Oriental Commercial Bank
37. Paramount Universal Bank
38. Prime Bank (Kenya)
39. Standard Chartered Kenya
40. Trans National Bank Kenya
41. Victoria Commercial Bank
42. HDFC Bank Limited
43. FirstRand Bank