INTELLECTUAL CAPITAL EFFICIENCY AND FINANCIAL PERFORMANCE OF COMMERCIAL BANKS IN KENYA

By

JUDITH NJOKI KAGOTHO

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January 2019
DECLARATION

Student Declaration

I declare that this research project is my original work and has not been presented in any other university.

Signature: .........................................................  Date...........................................

Judith Njoki Kagotho

D53/OL/25015/2011

Supervisor’s Declaration

I confirm that this research project has been carried out under my supervision.

Signature: .........................................................  Date...........................................

Mr. J.M. Theuri

Lecturer

Department of Accounting and Finance
DEDICATION

I devote this study to my parents, Mr. & Mrs, Kagotho who have believed in me, empowered me and worked energetically to make my dreams in life a reality. I moreover salute all my kin and companions who have backed me to the conclusion.
ACKNOWLEDGEMENT

It has been an energizing study period at the Kenyatta University and I feel favored to have had the opportunity to carry out this study as an exhibit of the knowledge picked up during the period studying for my master’s degree. It would be inconceivable not to keep in mind those who in one way or another played a part within the realization of this research project. Let me, therefore, thank them all equally. First, I am appreciative to God for all the endowments he has presented upon me and for being with me all through the study. Second, many thanks go to my committed supervisor, Mr. Theuri, for his model direction and support without whose help; this project would not have been a success. Finally, I take this opportunity to extend my profound appreciation to my cherishing family, and companions who continually persuaded and empowered me during this project.
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<tr>
<td>CBK</td>
<td>Central Bank of Kenya</td>
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<td>IC</td>
<td>Intellectual Capital</td>
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<td>KBRR</td>
<td>Kenya Banks Reference Rate</td>
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<td>KM</td>
<td>Knowledge Management</td>
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<td>NIM</td>
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<td>NSE</td>
<td>Nairobi Securities Exchange</td>
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<td>ROA</td>
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<td>Relational Capital</td>
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<td>ROE</td>
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<td>SMEs</td>
<td>Small and Medium Enterprises</td>
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<td>SPSS</td>
<td>Statistical Package for Social Sciences</td>
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<td>USA</td>
<td>United States of America</td>
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<td>VA</td>
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<td>VAIC</td>
<td>Value Added Intellectual Coefficient</td>
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OPERATIONAL DEFINITION OF TERMS

Financial Innovativeness: Financial innovativeness is the act of making unused monetary instruments as well as unused monetary advances, institutions and markets. It incorporates regulation, item and process development.

Financial performance: Financial performance refers to how well a firm employs its resources from its essential mode of trade and creates incomes.

Human Capital: Human capital could be a component of intellectual capital and comprises of stock of information, propensities, social and identity traits, counting imagination, epitomized within the capacity to perform work so as to deliver financial value.

Intellectual capital efficiency: Intellectual capital efficiency can be characterized as the delicate resources that cannot be found on a balance sheet of a company but certainly have an effect on future victories or disappointments of companies in this case alludes to the esteem of a company or organization's relational capital, structural capital, financial innovativeness, and human capital provide the company with a competitive advantage.

Net Profit Margin: The net profit margin shows how much net income is generated by a commercial bank from its revenue.

Relational Capital: Relational capital is the value inalienable in a company's connections with its clients, merchants, and other critical partners.
Return on Assets: The return on assets is a profitability ratio that measures the ratio of net income of commercial banks to the average total assets.

Return on Equity Ratio: The return on equity ratio is a profitability ratio that measures the ability of a commercial bank to generate profits from its shareholders investments.

Structural Capital Efficiency: Structural capital efficiency could be an essential component of intellectual capital, and comprises of the steady foundation, forms, and databases of the association that empower human capital to operate.
ABSTRACT

In the globalized and knowledge-based economy, banks need to develop, manage and monitor their soft assets or intellectual capital (IC) to enhance their performance and competitiveness. Kenya’s banking sector remain resilient and stable, despite the shocks including interest rate capping. The sector continued to grow in terms of inclusiveness and efficiency supported by legal, regulatory and supervisory reforms and initiatives. The financial performance of commercial banks has been fluctuating over the years as measured by return on assets, return on equity and net profit margin. This study sought to establish the relationship between intellectual capital efficiency and financial performance of commercial banks in Kenya. The study was guided by the following objectives; to determine the effect of relational capital, financial innovativeness, structural capital efficiency and human capital efficiency on financial performance of commercial banks. The study employed descriptive as well as correlation research designs. The target population for this study was all the commercial banks in Kenya as at December 2015, which are 42 in total. The study used census approach to pick all the 42 commercial banks in Kenya. Primary data was obtained using self-administered questionnaires. Regarding the data collection, the research obtained absolute secondary data from commercial banks’ audited financial statements, banks administrative report and from the Central Bank of Kenya. The study used data analysis software (Microsoft Excel and SPSS version 22) to analyse the data. Given that the study model is multivariate and descriptive in nature, the study used multiple regression technique in analysing the relationship between independent variables and the financial performance of commercial banks in Kenya. The study concluded that relational capital had a significant influence on the financial performance of commercial banks; most of the banks had made tremendous investment in relational capital in the last five years. It was concluded that financial innovativeness had a positive influence on financial performance of financial institutions in Kenya. Also, structural capital had a positive influence on financial performance of commercial banks and finally that investment in human capital had a positive influence on financial performance of commercial banks. It was recommended that financial institution amplify organisational net worth in life and business, improvements in structural capital should be facilitated through application of modern technology and innovative operational strategies. More investments should be done through establishing new products and financial institutions should have a strong human resource strategic management plan that conceptualises on human capital. The study variables (relational capital, financial innovativeness, structural capital and human capital) accounted for 80.3 percent changes in financial performance of commercial banks. This study proposed that another study can be done on the other variable that accounts for 19.7% of financial performance of commercial banks.
CHAPTER ONE
INTRODUCTION

1.1 Background of the Study

As a rapidly extending field of investigation, intellectual capital has pulled in noteworthy charmed from both scholastics and experts. Examination and hypotheses in this zone has highlighted the importance of intellectual capital in creating and supporting organizational competitive advantage (Mavridis, 2014). Intellectual capital is by and expansive conceptualized as intellectual fabric; data, information, encounter, center methodology, intellectual property, and client relationship that can be put to utilize to create riches. The significance of intellectual capital adequacy on organizational victory has gotten to be critical inside the setting of what has gotten to be known as the knowledge-based economy which is characterized by a quick development of knowledge-intensive businesses and by a checked increase inside the importance of making and abusing data and information in all segments of the economy (Takeuchi, 2009).

In spite of the fact that the significance of intellectual capital proficiency has been perceived, not much can be said about the divulgence of these resources in commercial banks (Lonnavist, 2014). Capital efficiency of company intellect has been captured and visualized by various models from late 1980s hence hidden assets are presented by companies because there are no standards. Intellectual capital, subsequently join; advancement, client information, brand title, notoriety and corporate culture that are critical to a firm’s competitive advantage (Moo & MacMillan, 2013). Most importantly, topic is for companies that have intensive knowledge and resources are intangible (Sveiby, 2011).

In any case, in spite of an expanding acknowledgment of the significance of intellectual capital productivity within the knowledge-based economy, little investigation consideration
has been given to understanding the interface between intellectual capital proficiency and money related execution of commercial banks in Kenya. Much of the studies on intellectual capital have centered on Western nations (especially North America and Europe). To date, few researchers have centered on the impact of intellectual capital on organizational execution within the Kenyan banking sector. This is often shocking given that multiple researchers for example, Yang and Lin (2009) contend that intellectual capital improvement is the hidden value that's not reflected in organizational monetary statements but has the potential to contribute to organizational benefit and competitive advantage.

1.1.1 Intellectual capital efficiency

IC of banks should be managed and monitored well so as to ensure their competitiveness and growth in this economy that is based on knowledge and globalized. IC usability and advancements is noted in Japan and USA banks globally (McCord, 2008). There are many definitions for intellectual capital. Intellectual capital can be seen as data, information, intellectual property and involvement that can be put to utilized to create riches (Stewart, 2011). Intellectual capital consolidates all laborers, organizational data and their capacities to make esteem include and lead to attainable competitive advantage. Value creation and performance of organization is driven by intangibles set that are recognized as intellectual capital (Bontis, 2008). This proposes causal associations between intellectual capital and organizational esteem creation. Firm efficiency on competitive advantage is in utilizing, sharing and building its knowledge.

Growing thought on the basic portion played by intellectual capital in esteem creation prepare has brought around measuring intellectual capital. Pulic (2008) said company’s intangible and tangible asset efficiency creation information to be provided. VAIC is an illustrative strategy laid out to engage administration, shareholders and other related accomplices to
effectively screen and evaluate the viability of Value Added (VA) by a firm's add up to resources and each major resource component.

Intellectual capital has long been recognized as a basic asset and esteem maker to associations. Concurring to Roslender and Dyson (2008), esteem was seen in a wide sense as updating the execution of an organization. Stewart (2006) insinuates to center competence, data creation and development making esteem over and over physical and financial resources. Inside the current commerce environment, human capital is regarded as a key source of competitive advantage. With the information arrange, companies see their agents as an basic resource and contribute escalation in them. But the esteem of human resources, or human capital, may not be palatably point by point to partners for the most part due to strict affirmation criteria for intangible assets that do not allow human assets to be appeared as a asset inside the adjust sheet (Tayles et al., 2011). The weights on companies to degree and report the esteem of intellectual capital is growing and will within the long run impact.

Empirical writing in creating countries reveals that intellectual capital engages the exchange execution of organizations. Many ponders have been carried out to indicate how intellectual capital such as Monetary innovativeness and client capital impacts on commerce execution (Sologoub, 2006). Intellectual capital effect on Nigerian pharmaceutical industry measurement was conducted and discovered Jordan pharmaceutical industry execution had positive and negative impact on intellectual capital (Sharabati et al., 2010).

The same dispute is supported by Bontis et al (2010) who assessed the constituents of intellectual capital bookkeeping (Human capital, Auxiliary capital, Social capital) and its impact on commerce execution in South Africa and the researchers concluded that Social capital has positive effect on benefit segment while Human capital has positive impact on benefit division execution).
1.1.2  Financial performance

Financial performance comprises of multiple diverse strategies to evaluate how well an organization is utilizing its resources to create wealth (Richard, 2009). Common measures of banking sector performance include operating income, return on assets and return on investments. It is of incredible significance to note that no single degree of financial performance ought to be considered on its own. Or maybe, a careful assessment of a company's performance ought to take into consideration multiple distinctive measures of its execution such as intellectual capital effectiveness. Companies must assess and screen their productivity levels occasionally so as to measure their budgetary performance through utilizing profitability measures computed from the measures clarified above (Richard, 2009).

Profit is the extreme objective of commercial banks but they too have other social and financial objectives. There are different ways to measure the productivity of a bank but concurring to Ongore and Kusa (2013), profitability of commercial banks is measured through three major ratios. The primary ratio is the return on equity ratio which is the sum that bank earn compared to the whole sum of shareholders equity contributed. A high ROE is favorable for a bank because it displays its capacity to produce cash internally. Concurring to Khrawish (2011), it reflects how successfully a bank is utilizing shareholders’ funds.

The next ratio is the return on asset ratio which is the ratio of income to total asset and measures the capacity of the bank to create income by utilizing the resources at its disposal. A high ROA shows the bank is effective in utilizing its assets. The third ratio is the Net Interest Margin (NIM) proportion, which measures the interest income generated by banks and the sum of interest paid out to their moneylenders. The higher the NIM the higher the bank’s profitability. Be that as it may, it may moreover mean that its riskier loaning money related with significant loan loss provisions (Khrawish, 2011). The fourth proportion is the net profit margin which measures a business’s capacity to produce profit as compared to its
costs. This study will as it were embrace three of these ratios i.e. Return on Equity, Return on Assets and Net Profit Margin.

Agreeing to DeYoung and Rice (2014), most commercial banks earn significant sums of non-interest wage by charging their clients expenses in trade for a variety of money related services. Multiple of these monetary services are conventional managing account services, exchange services like checking and cash administration, safe-keeping administrations like insured deposit accounts and security store boxes and venture services like believe accounts. DeYoung and Rice (2014) further noted that in later a long time, banking companies have taken advantage of deregulation to create significant sums of non-interest income from nontraditional services like investment banking, securities brokerage, insurance agency and guaranteeing, and mutual fund deals. Be that as it may, the interest margin banks earned by intermediating between contributors and borrowers continues to be the essential source of benefits for most commercial banks.

1.1.3 Intellectual Capital Efficiency and Financial Performance

Local banks were for a long time less compelling compared to remote banks. There were basic contrasts between rankings of bank concurring to adequacy and ordinary bookkeeping measures. Kamath (2008) evaluate and analyze the Value Added Intellectual Coefficient (VAIC) for measuring the value-based execution of the Indian managing an account division for a period of five years from 2010 to 2014. The think about confirms the nearness of perpetual contrasts inside the performance of Indian banks totally different parcels, and there's besides a change inside the expansive execution over the think about period. There's a clear inclination in back of the execution of outside banks compared with residential banks.

Pek (2012) measured the intellectual capital execution of commercial banks in Malaysia for the period 2003 to 2010, utilizing productivity coefficient called VAIC made by Wagered
Chantapong (2012) inspected the impact of the emergency and the financial division revamping displayed after 2011 money related emergency in Thailand on Thai managing an account Industry. It was found that private banks experienced greater negative impacts from the monetary emergency than remote banks and outside banks execution bounced back speedier than that of private banks. Okuda and Rungsomboon (2014) investigated the impact of inaccessible bank segment on Thai private banks by utilizing board information on 17 private commercial banks from 1990 to 2013.

An increment in outside bank nearness leads to a rise in overhead costs, a diminish in benefits, and an increase inside the intrigued spreads of private banks. Inside the brief run, expanded competition from remote banks antagonistically impacts household banks but private banks' execution need to advance in the long run. Chantapong (2012) surveyed and compared fetched viability of private and outside banks in Thailand by utilizing bank-panel information between 2009 and 2003. The assessment proposed that the unit costs of generation of private and remote banks are unclear, in show disdain toward of the truth that the two sorts of banks middle on different locales of managing an account trade. In any case, there are uncommonly few considers on intellectual capital execution in Thailand.

The Kenyan managing an account segment offers an affluent road for examination on intellectual capital viability given that the bigger portion of individuals that work in banks are information specialists. In Kenya, the money related system comprises banks, non-bank cash related instruct, securities companies, micro-finance instruct, stock brokerage firms and back administrators. The managing an account industry with asset base of over Kshs. 1.3 trillion is the greatest segment inside the Kenyan budgetary segment. With a limited and underneath made capital showcase, the managing an account segment plays basic portion in intermediation handle between savers and theorists.
Concurring to Kimenyi and Kibe (2014) Kenya brags a market-based economy that’s the preeminent generous money related system with the private fragment being hailed as the preeminent energetic and energetic in East Africa. Kenyan managing an account industry and trade endeavors have not sufficient tended to the noteworthiness of ICE as a degree of their execution but have tirelessly concentrated on the routine measures of execution such as net advantage edge, return on resources and return on shareholders’ esteem. This ponder in this way will search for the relationship that exists between intellectual capital efficiency and financial performance of commercial banks in Kenya.

1.1.4 Financial Performance of Commercial Banks in Kenya

Commercial banks are financial institutions that are authorized by law to receive money from businesses and individuals and lend money to them. They are open to the public and serve individuals, institutions and businesses. As at 31st December 2015, the banking sector comprised of the Central Bank of Kenya, as the regulatory authority, 42 banking institutions (41 commercial banks and 1 mortgage finance company), 8 representative offices of foreign banks, 12 Microfinance Banks (MFBs), 3 credit reference bureaus (CRBs), 15 Money Remittance Providers (MRPs) and 80 foreign exchange (forex) bureaus. Out of the 42 banking institutions, 41 were privately owned while the Kenya Government had majority ownership in 3 institutions. Of the 41 privately owned banks, 27 were locally owned while 14 were foreign-owned (Central bank of Kenya Report, 2015).

The banking sector registered improved financial strength in 2015, with total net assets recording an increase of 9.2% per cent. This was attributable to growth in investments and loans and advances, which increased by 23.2 percent and 15.12 per cent respectively. Despite the improved financial strength, the banking sector registered declined profitability with profit before tax decreasing by 5.03 per cent from Ksh. 141.1 billion in 2014 to Ksh. 134.0 billion in 2015. The decline in profitability in 2015 could be explained by a faster growth in
expenses compared to the growth in income. The sector also registered a decline in asset quality (NPLs) ratio increasing from 5.6 per cent in 2014 to 6.8 per cent in 2015. Net loans and advances registered an increase of 11.2 percent from Ksh. 1,881.0 billion in 2014 to Ksh. 2,091.4 billion in 2015 (Central bank of Kenya Report, 2016).

Kenya’s banking sector remain resilient and stable, despite the shocks including interest rate capping. The sector continued to grow in terms of inclusiveness and efficiency supported by legal, regulatory and supervisory reforms and initiatives. The return on assets as a measure of performance decreased from 90.67% in year 2011 to 29.7% in year 2012. It decreased further to 29.1% in year 2013 and 28.13% in year 2014 and to 24.79% in year 2015. The return on equity as a measure of performance decreased from 12.68% in year 2011 to 4.63% in year 2012. It increased to 4.65% in year 2013 and decreased to 4.41% in year 2014 and further to 3.84% in year 2015. The net profit margin (NPM) decreased from 34.9% in year 2011 to 30.3% in year 2012, it increased to 34.7% in year 2013 and decreased to 33.7% in year 2014 and increased to 41.52% in year 2015.

1.2 Statement of the Problem

Kenya’s banking sector remains resilient and stable, despite the shocks including interest rate capping. The sector continued to grow in terms of inclusiveness and efficiency supported by legal, regulatory and supervisory reforms and initiatives. The return on assets as a measure of performance decreased from 90.67% in year 2011 to 29.7% in year 2012. It decreased further to 29.1% in year 2013 and 28.13% in year 2014 and to 24.79% in year 2015. The return on equity as a measure of performance decreased from 12.68% in year 2011 to 4.63% in year 2012. It increased to 4.65% in year 2013 and decreased to 4.41% in year 2014 and further to 3.84% in year 2015. The net profit margin (NPM) decreased from 34.9% in year 2011 to 30.3% in year 2012, it increased to 34.7% in year 2013 and decreased to 33.7% in year 2014 and
increased to 41.52% in year 2015. The above results show that the performance of commercial banks has been fluctuating over the years as none of the measures has shown an increasing trend of performance.

Intellectual capital has long been recognized as a basic asset and esteem producer to companies. Concurring to Roslender and Dyson (2012) intellectual capital was seen in a wide sense as upgrading the budgetary execution of an organization. Of more essential concern is the noteworthiness of intellectual capital adequacy inside the execution of organizations, which the commercial banks have kept on neglect (Kimenyi & Kibe, 2014).

The presence of expanded investments in intellectual assets raises questions on the substance of intellectual capital proficiency in addressing the challenges confronting the commercial banks in Kenya. Other than, the degree to which individual intellectual capital productivity components contribute to financial performance is constrained in banking literature. While Wang and Chang (2011), Stewart (2006), Edvinsson and Malone (2011) noted that intellectual capital can impact on firm performance, Firer and Williams (2003), and Pek (2012) contended that the impact of financial capital on firm performance may well be industry and nation specific.

Research on organization performance and capital intellect has been conducted. As per Bramhandkar et al (2011) there was significant relation between firms’ performance and capital intellect from investigation conducted on 139 pharmaceutical firms on performance effect of intellectual capital. From study of Ekwe (2012) on relation between financial execution and capital intellect in the Nigeria banking segment it was discovered there is a positive significant relation between the two. Locally, Mungai (2014) conducted same study on Kenyan banks and discovered operational execution was affected greatly by human capital. In spite of studies being conducted in various countries on relation between the two,
studies in Kenya have been conducted minimally hence review seeks to fill this gap by enabling relation of the two in Kenyan commercial banks.

1.3 Research Objectives

1.3.1 General Objectives

Main objective of study was to establish relation between intellectual capital efficiency and financial performance of commercial banks in Kenya.

1.3.2 Specific Objectives

The study was guided by the following objectives;

i. 1. To determine effect of relational capital on financial performance of commercial banks in Kenya.

ii. 2. To establish effect of financial innovativeness on financial performance of commercial banks in Kenya.

iii. 3. To determine extent to which structural capital efficiency affect financial performance of commercial banks in Kenya.

iv. 4. To establish the effect of human capital efficiency on financial performance of commercial banks in Kenya.

1.4 Research Hypotheses

H₁ = There is no relationship between relational capital and financial performance of commercial banks in Kenya.

H₂ = There is no relationship between financial innovativeness and financial performance of commercial banks in Kenya.

H₃ = There is no relationship between structural capital efficiency and financial performance of commercial banks in Kenya.
H₁: There is no relationship between human capital efficiency and financial performance of commercial banks in Kenya.

1.5 Significance of the Study

This study is important to various stakeholders in the financial sector because it will provide an insight into the effects of intellectual capital efficiency on financial performance of commercial banks. Banks are the most reliable savings and credit facilities available in Kenya. The study is valuable to investors because it will provide information on the risks and returns which will help them make sound decisions.

Knowledge is highly valued nowadays in most organizations. Financial institutions value knowledge because they consider a person’s intellect and utilize knowledge to harness performance. Study will aid companies in knowing how intellectual capital efficiency components have individually contributed to their execution.

The study will be useful to the Government and research institutions that may want to advance the knowledge and literature on intellectual capital efficiency. It will also add to literature on the subject as reference material and stimulate further research in the area.

1.6 Scope of the Study

The study focused on commercial banks in Kenya. The study was limited to effects of intellectual capital efficiency on Kenyan commercial banks financial performance. The study covered a period of the 5 years from 2011 to 2015 to enable collection of substantial information to derive conclusions from.

1.7 Limitations of the study

Review experienced unwillingness by respondents to share data which was classified as confidential. The researcher moreover experienced a challenge in securing the respondents
valuable time considering their active working plans. The researcher had to exercise patience and make all efforts possible to ensure sufficient data has been collected from responders. The researcher moreover had to be persistent so as to secure adequate information from respondents.
CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter looks into the literature on effect of intellectual capital efficiency on financial performance of commercial banks. It also shows reviews done by various scholars on that area. The theoretical and empirical underpinning of relationship between intellectual capital efficiency and financial performance of commercial banks is covered in this chapter. In addition, a summary has also been provided at the end of the chapter.

2.2 Theoretical Review

This section looks at the theories under which the study is hinged. It specifically focuses on the modern innovation theory, resource based theory and intellectual capital theory.

2.2.1 Modern Innovation Theory

It sees knowledge-creation in a much more diffuse way. Learning require not basically gather divulgence of advanced specialized or logical measures and can so also be based on exercises which recombine or alter existing shapes of data; this in turn recommends that exercises such as plan and trial era can be knowledge-generating exercises (Lundvall, 2003). A moment key accentuation in display day advancement examination is on the exterior environment of the firm. As this theory postulates, for most commercial banks to have competitive advantage there is greater need to be innovative and development of new financial products and services as well as a ready new market that have either been ignored or neglected all before. The theory supports financial innovativeness as Commercial banks can use the modern innovation theory to enhance their banks innovation and thus obtain competitive advantage over other firms.
2.2.2 Resource Based Theory

Resource Based View (RBV) is a theory aimed at accomplishing competitive advantage that rose in 1980s and 1990s. Concurring to resource-based hypothesis, a company is seen to realize attainable comparative advantage by controlling both its significant and intangible assets (Belkaoui, 2003). Firer and Stainbank (2003) advocate that resource included can be more appropriate at achieving a company’s performance. Intangible assets have continuously existed within the operations of organizations. Diksi (1896) and Galbrais (1969) were the original theorists who individually utilized the phrases of intangible and intellectual capital (Bontis, 2008). Amid the later decades, multiple studies have been done on these issues and the significance of considering research related to intangibilities has had a great growth. But researches and studies for intangibilities have had some basic problems including the lack of standard phrase.

This scientific difference has caused the procedure of research development to be so slow and until now, no integrated definition has been presented in this field (Andriessen, 2014; Jourjsen, 2006). The theory supports the structural capital efficiency objective of the study since the structural capital encompasses the resources needed for innovation. As stated in the theory the performance commercial banks is influenced by the resources available and how well these resources are utilized inside the organization. Structural capital such as databases, organizational charts, process manuals, techniques and schedules will require assets to be created and maintained. Subsequently, commercial banks endowed with assets will be more likely to gain competitive advantage.

2.2.3 Intellectual Capital Theory

The theory of intellectual capital has emerged in the past decade in response to the growing realization of the importance of information and knowledge (Harris, 2010). Research based
on the theory of intellectual capital efficiency has shown an important aspect as far as the performance of financial institutions is concerned. In effect, intellectual capital efficiency has helped in contributing to the performance of financial institutions so as to meet up with the high status of developed economies that is probably why authorities in Cameroon are taking the challenge to become an emerging economy by 2035. Intellectual capital efficiency helps financial institutions to prepare to overcome problems in future as they face competition from other companies in the economy. Moreover, there are some important theories which cannot be left out when intellectual capital is discussed since they embody the intangible resources of companies.

There is no doubt that intellectual capital has some foundation on which its principles are based. Looking critically on intellectual capital with a thorough understanding of the literature review we are able to say that other resources influence the promotion of intellectual capital efficiency.

The theory supports the intellectual capital objective as commercial banks intensely depend on intellectual capital in terms of product improvement and processes. Subsequently, any bank in search of competitive advantage over its competitors must be cognisant of its products and processes and how they will best appeal to new and retain their existing customers.

2.2.4 Knowledge Based Theory

The knowledge-based hypothesis of the firm considers knowledge as the foremost deliberately critical asset of a firm. Its advocates contend that since knowledge-based resources are more often than not troublesome to mimic and socially complex, heterogeneous information bases and capabilities among firms are the major determinants of supported competitive advantage and predominant corporate performance (Barney 1991). This
information is implanted and carried through different substances including organizational culture and character, policies, schedules, reports, frameworks, and representatives.

In spite of the fact that the resource-based view of the firm recognizes the critical part of knowledge in firms that accomplish a competitive advantage, advocates of the knowledge-based view contend that the resource-based viewpoint does not go far enough. Particularly, the RBV treats information as a bland asset, instead of having extraordinary characteristics. It hence does not recognize between diverse sorts of knowledge-based capabilities. Data innovations can play an imperative part within the knowledge-based view of the firm in that data frameworks can be utilized to synthesize, upgrade, and speed up large-scale intra- and inter-firm knowledge management (Alavi and Leidner, 2010). In this study, the hypothesis will offer assistance in explaining the relational capital in terms of data frameworks and its part in organizational performance. As a result of high control, relationship banking has become much critical to banks and is the foremost suitable source of competitive advantage. Commercial banks wishing to pick up competitive advantage must hence contribute in information about the current controls within the industry as well as within the economy as an entirety. Since social capital is the information inserted within the connections with any partner that impacts the organization’s life commercial banks must be prepared to require care of stakeholders interest. The literature guards that connections with partners are the intellectual condition for building, keeping up, recharging assets, structures, and forms over time, since through outside connections firms can get to basic and complementary assets, which empower them to pick up competitive advantage over other firms.

2.2.5 Human Capital Theory

The hypothesis of human capital is established from the field of macroeconomic improvement hypothesis created by Conner (1991). Becker’s (2003) set that there are
distinctive sorts of capitals that incorporate tutoring, a computer training course, and uses on which have a parcel of impact on hierarchical execution. And in truth, addresses on the ethics of reliability and trustworthiness are capital as well. Within the genuine sense, they progress authoritative wellbeing and raise profit. Subsequently, it is completely in keeping with the capital concept as customarily characterized to say that expenditures on instruction, preparing and restorative care are ventures in human capital. These are not basically costs but speculations with profitable returns that can be calculated.

The theory supports the human capital efficiency objective as Commercial banks intensely depend on human capital to convey excellent services to their clients, which empowers the bank to pick up competitive advantage over their competitors. This hypothesis suggests that human capital can enormously impact organization performance and so the more effective the human capital is the more noteworthy the competitive advantage.

2.3 The Empirical Literature Review

Asma and Najla (2012) studied the effect of intellectual capital on a firm’s performance. An empirical study was used where a sample of 25 companies listed on the stock market in Tunisia were used. A multivariate analysis was conducted and estimation was by the method of least squares (OLS) or estimation using panel data. The results presented appeared to show a positive and significant association ($\beta_5 = 0.3414229$) and ($p = 0.009$) between the level of indebtedness of the company and its stock market performance. The model had a satisfactory explanatory power and indicated that 54.96% of the variation in economic performance was explained by the components of intellectual capital, the size and the level of indebtedness of the company. The above study concentrated on companies listed on the stock market thus this study seeks to fill the gap by determining the role of intellectual capital efficiency and financial performance of commercial banks in Kenya.
Kariuki (2014) moreover examined the Intellectual capital, corporate reputation, corporate culture and performance of firms listed at the Nairobi securities exchange. The study utilized cross-sectional survey plan where information was collected at one point in time over all the organizations. The study found that there was noteworthy relationship between intellectual capital and non-financial execution and monetary performance measured by return on assets. The findings too demonstrated that there was no critical relationship between intellectual capital and return on equity and Dividend Yield of firms recorded on Nairobi Securities Exchange. It was found that corporate reputation intervenes the relationship between intellectual capital and both non-financial performance and monetary performance. Employee-oriented culture did not influence the relationship between intellectual capital and corporate performance. The above study concentrated on companies listed on firms listed at the Nairobi securities exchange thus this study seeks to fill the gap by determining the role of intellectual capital efficiency and financial performance of commercial banks in Kenya.

Njuguna (2014) examined the relationship between intellectual capital and financial performance of Kenyan state corporations. The study adopted a descriptive research design and a census method was used to sample the respondents. Multiple regression analysis technique was used in the study to determine the relationship between human capital, organizational capital and social capital. The findings of the study indicated that the company culture which contains valuable practices of conducting business was the major benefit resulting from organizational intellectual capital. The findings also indicated that employees being very highly skilled in their jobs was the major way of human capital to improve the firm’s performance. The study concluded that organizations should update their database promptly to enable utilization of organizational capital to spur performance and organizations should strive to ensure that their employees are considered the best in the industry as a way of utilizing human capital and hence spurring firm’s performance. The above study concentrated
on Kenyan state corporations thus this study seeks to fill the gap by determining the role of intellectual capital efficiency and financial performance of commercial banks in Kenya.

Otor (2015) evaluated the influence of intellectual capital on the performance of small and medium enterprises a case of Mombasa County Kenya. This study adopted a descriptive study design and inferential statistics was used to measure the reliability or differences between the variable like analysis of variance will also be used. The variables used were managerial skills, entrepreneurial skills, innovativeness, structural capital and customer capital. The output given from the findings indicated that there was a significant positive relationship between the components of IC namely Managerial skills (MS), Entrepreneurial skills (ES), Innovativeness (IN), structural capital and Customer capital (CUS) with performance of SMEs. The findings also indicated that managerial skills had been a major contributor towards the performance of SMEs in Mombasa County. The above study concentrated on small and medium enterprises thus this study seeks to fill the gap by determining the role of intellectual capital efficiency and financial performance of commercial banks in Kenya.

2.3.1 Relational Capital

Barry (2010) demonstrates that social capital is the esteem of an organization’s outside connections with other organizations and individuals with whom it does trade with. Relational capital is the data embedded inside the associations with any partner that impacts on the organization’s life. As of late, some creators (Prahalad and Ramaswamy, 2010) propose that clients finished up being modern source of competence for the organization since they re-establish for the most part competence of the organization and resuscitate the database maintaining a strategic distance from it from the out of date quality in a turbulent environment (Gibbert et al., 2010).
This consist of customer relationships, supplier relationships, trademarks and trade names (which have value only by virtue of customer relationships) licences, and franchises. The notion that customer capital is separate from human and structural capital indicates its central importance to an organization’s worth. The value of the relationships a business maintains with its customers and suppliers is also referred as goodwill, but often poorly booked in corporate accounts, because of accounting rules. Relational capital can be measured as a function of longevity (Bontis, 2013), while marketing relationship literature argues that long lasting relationships are a source of competitive advantage (Håkansson and Snehota, 2009). There is evidence of how in commercial banks employees’ satisfaction, motivation and commitment have positive influence in customer satisfaction, loyalty and retention, leading to higher productivity of the banks (Kaplan and Norton, 2014). The study therefore seeks to find out how the relationship with banks’ stakeholders can affect the operational performance of commercial banks in Kenya.

Tumwine (2010) assessed relational capital and firm performance: a case of manufacturing tea firms in Uganda. A cross sectional, descriptive and analytical research design was adopted. Cross tabulations, factor analysis, Pearson’s correlation coefficient and the regression to determine the relationship between the independent variables impact on the dependent variables. The findings revealed that there was a significant relationship between social relational capital and firm performance, which means that when social relational capital improves, firm performance increases. The results further revealed that business relational capital is significantly related to firm performance. The regression analysis showed that a combination of business relational and social relational capital predicted up to 28.3% of the variation in firm performance. However, it was social relational capital that was a significant predictor of firm performance.
2.3.2 Financial Innovativeness

Financial advancement can be characterized as a positive alter in money related intermediation or monetary framework (Bontis, 2013). It is the life blood of effective and responsive capital market (Chanaron, 2008). Agreeing to Afuah (2003) financial developments lower the transaction cost of exchanging funds from lower yielding cash balances to higher yielding choices. In this manner, with monetary advancement markets members endeavor to play down hazard and to maximize returns. Money related development is further advanced when the money related specialists recognize the out of date quality of the existing statutory system. Vonortas and Xue (2011) contend that there are three sorts of financial innovations which incorporate; regulation advancements, process and product innovations.

Financial innovativeness is the creation of a present day wander vehicle or a commercial item from an innovation (Wolf & Schoorlemmer, 2011). Money related progression can pass on four sorts of benefits other than cash: data, brand, biological system and culture (Afuah, 2003). But the first imperative reason for financial advancement in an organization is to make benefit. Lehtimaki (1991) credited the advancement of present day considerations for item progressions in commercial banks to business person. Chanaron (2008) recognized request set on trade by customers/clients, near working connections with a key client and near examination of competitor things are the major drivers of progression in commercial banks execution secured in three unmistakable countries: UK, France, and Portugal. Vonortas and Xue (2011), whereas considering the strategy developments of little firms inside the USA, observed that money related propelling powers, interior resources, and specialized and organizational competencies that a firm has made or amassed over time and a firm’s linkage to exterior sources of ability for learning around unused innovative change were the major qualities that influenced these firms in grasping a handle progression. Danneels and
Kleinschmidt (2010) whereas investigating modern item advancement contended that it comprised bringing together two primary components: markets and technology.

Inside, firms have to be maintained by their procedure, structure, system and people (Afuah, 2003). Competences and assets are the work of innovative and exhibit data as progression is the utilize of advanced mechanical and showcase data to offer a cutting-edge thing or advantage that clients will require (Afuah, 2003). As noted by Hurley and Hult (2008) monetary development is a progressing process where modern money related items, services and procedures are made or/and standardized items are differentiated in order to respond to the ceaselessly changing financial environment. This running prepare has different periods of instability. Money related innovation, like other economic behaviors, by and large emerges in expectation of material gains following a cost-benefit analysis (Wolf & Schoorlemmer, 2011). The innovation makes possible either a decrease in costs or an increment in incomes, or both. On the cost-reducing side, in specific, exogenous innovative change gives room for cost decrease (Damanpour 2011).

Montequin (2006) accepts that a monetary innovation is conceivable to outlive when it completes the markets by decreasing the intermediate costs of services and realizing an unfulfilled investors' wish for a certain type of security that's uncovered to lower unpredictable costs, making the market more compelling. The researcher highlights the changes within the economic environment that dictate the creation of monetary innovations like inflection and interest instability, policy changes, and technological changes, the level of economic activity and scholarly investigation. In conclusion the researcher accepts that financial innovations will proceed to flourish as long as markets become more competitive (Montequin, 2006).
Past studies on improvement and organizational execution outlined mixed comes almost, a few positive, a few negative and a handful of showed up no relationship at all (Capon et al., 10990, Atuahene-Gima, 2010). Damanpour (2011) battled that the alliance between budgetary progress and firm execution depends on the execution estimation and the characteristics of a given organization. In expansion, assorted sorts or diverse combinations of advancement may other than result in one of a kind organizational execution (Lee & Chen, 2011). The relationship between advancement and organizational execution has been found in different investigates (Hurley & Hult, 2008; Keskin, 2006). Progression has laid out a solid and alluring relationship with commercial banks execution (Montequin, 2006).

### 2.3.3 Structural Capital Efficiency

Namasivayam and Basak (2006) observed that structural capital is what happens among the individuals, how the individuals are related inside the company, and what remains when the laborer takes off the company. This infers to the tireless non-physical establishment, shapes and databases of the organization that lock in human capital to operate. Assistant capital solidifies shapes, licenses, and trademarks, as well as the organization’s picture, organization information framework, and prohibitive computer program and databases. Commercial banks capital consolidates the commercial banks rationale and frameworks for leveraging the banks capability. Get ready capital joins the strategies, procedures, and programs that actualize and upgrade the transport of stock and organizations.

Bontis (2010) carried out a think about on Intellectual capital disclosures in Canadian organizations; the researcher states that the relationship between basic capital and human capital can be found interior social organize. The social characteristics interconnect each individual in an organization and in this way moving forward undertaking advancement. The researcher states that these outlets are the proprietors of the induced data interior their social frameworks. Among different components of IC, basic capital is the preeminent troublesome
since it is related to other capital in terms of definition. The researcher concluded that essential capital consolidates mechanical components and specialized competencies. Hsu (2006) in his study concluded that the foremost center of intellectual capital is to get a handle on a sound foundation, with sees from organizational capital, prepare capital, indeed advancement capital and the KM demonstrate. This think about hypothesizes that auxiliary capital is earnestly related with the improvement of organizations.

The importance and commitment of organizations to fulfilling macroeconomic targets of nations, especially in creating nations, has pulled in the thought of the researcher inside the trade instruct in afterward a long time (Shelley, 2014). A complex around the world environment in which SMEs survive, create and thrive is, in this way, considered an crucial objective of approach makers in both created and creating economies around the world. Enormous organizations like inside the bank division are for the most part known for their work seriously exercises moreover for utilization of neighborhood resources. In any case, these factors were moreover mindful for certain factors that summed to require of competitiveness inside the light of globalization (Shelley, 2014). Bolster for commercial banks may be a common subject since it recognizes that commercial banks contribute to the national and universal monetary advancement.

Richieri (2011) considers intellectual capital stock (CIA) and intellectual capital efficiency and corporate cash related execution which were measured by return on resource return on esteem and ROS of 1000 most noteworthy Brazilian companies. The technique of multiple regressions and panel data analysis were used to predict the impact of intellectual capital on financial performance. The findings proposed the nearness of a positive association between both CIV and Intellectual Capital Capability and the subordinate variables ROE, ROA and ROS. Najibullah (2012) in his study on the relationship between intellectual capital to the company's budgetary execution on bank listed on the Dhaka Stock Trade in Bangladesh
found that that intellectual capital was not emphatically related to firm performance. Annual reports for the relevant year of the selected banks were used to gather secondary information for the empirical models based VAIC model and stepwise regression was performed. Intellectual capital was too not related to the company's future performance.

Chantapong (2012) with regards to bank execution in Thailand inspected the impact of the emergency and the money related portion rebuilding displayed after 2011 budgetary crisis in Thailand on Thai banking Industry. It is found the private banks experienced greater negative impacts from the financial emergency than exterior banks and exterior banks execution bounced back speedier than that of private banks.

Okuda and Rungsomboon (2014) investigated the impact of foreign bank passage on Thai private banks by utilizing board information on 17 private commercial banks from 1990 to 2013. An increase in remote bank nearness leads to a rise in overhead costs, a diminish in benefits, and an increase inside the intrigued spreads of private banks. Locally the brief run, expanded competition from local banks unfavourably impacts residential banks but private banks' execution need to move forward inside the long run. Chantapong (2012) assessed and compared taken a toll efficiency of private and remote banks in Thailand by utilizing bank-panel data between 2009 and 2003. The evaluated comes about propose that the unit costs of era of private and exterior banks are dubious, in show disdain toward of the truth that the two sorts of banks center on particular ranges of the managing an account commerce.

2.3.4 Human Capital Efficiency

Concurring to Halim (2010) human capital is what a single specialist brings into the value-adding forms, comprising of four pointers, that's, capable competence, social competence, worker motivation, and administration capacity. Along these lines, human capital can take off a bank in this case when people take off, and on the off chance that the bank administration
has failed to supply a setting where others can select up their know-how. Human capital as well incorporates how suitably a commercial bank employs its people resources as measured by creative ability and improvement. Human capital is especially crucial to commercial banks and the banks ought to endeavor to ensure regard extension which can diminish turnovers and increase the execution of the banks. The think about subsequently looks into finding out the relationship between human capital and operational execution of commercial banks in Kenya.

Concurring to Ogbo, Ezeob and Ituma (2013), a survey on the effect of intellectual capital on organizational execution inside the Nigerian managing an account division. The analysis of data was done using the Value-Added Intellectual Coefficient (VAIC). A test of 378 representatives of banks inside the South-Eastern States of Nigeria was gotten. Disclosures illustrated an exceptional comparative plan of intellectual capital on organizational execution connect as found in Western countries of North America and Europe. Findings especially appear that human capital and basic capital have a positive and basic effect on organizational comes about inside the Nigerian managing an account section. Proposal for future asks and administration hone are considered inside the conclusion.

Odhon’g and Omolo (2015) focused on the effect of human capital investment on organizational performance of pharmaceutical companies in Kenya. The study adopted descriptive research design and a purposive and simple random sampling technique was used. The independent variables included: training, education, knowledge management and skills development. The found a positive significant relationship between human capital investment and organizational performance. The study recommends provision of quality education, relevant training linked to industry requirement, the study suggest adoption of German Dual Vocational Education and Training system to facilitate and strengthen linkage between education sector and the industry. Promotion of knowledge management through teamwork,
social networks and knowledge management systems; training on employability and transferability skills to enhance Skills Development. The enterprises to go beyond traditional apprenticeship, Soft skills assessment in schools, embrace technology and promote intrapreneurship.
## 2.4 Summary of Literature Review

### Table 2.1: Summary of the Literature Review

<table>
<thead>
<tr>
<th>Author(s)</th>
<th>Title of the Study</th>
<th>Variables</th>
<th>Analysis Method Used</th>
<th>Findings of the Study</th>
<th>Critiques of the Study</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ogbo, B., Ezeob, M. and Ituma, K. (2013)</td>
<td>Effect of intellectual capital on organizational performance in the Nigerian banking sector</td>
<td>Independent variables: -Human capital -Structural capital Dependent variable: -Organizational performance</td>
<td>The analysis of data was done using the Value-Added Intellectual Coefficient (VAIC)</td>
<td>Human capital and structural capital have a positive and significant effect on organizational outcomes</td>
<td>This study was conducted in Nigeria and the comes about cannot be utilized within the Kenyan case since of topographical contrast and advertise distinction between the two nations.</td>
</tr>
<tr>
<td>Ranjith, O. P. (2011)</td>
<td>The impact of value creation efficiency of Intellectual Capital on investors’ capital gain on shares of listed companies in Thailand Stock Exchange</td>
<td>Independent variable: -Intellectual Capital Dependent variable: -Investors’ capital gain</td>
<td>The analysis of data was done using the Value-Added Intellectual Coefficient (VAIC)</td>
<td>The study found that the intellectual capital is useful on the corporate financial performance of Thailand companies.</td>
<td>This study is as well common and in this way the researcher has limited down to set up the impact of intellectual capital on the money related execution of commercial banks in Kenya.</td>
</tr>
</tbody>
</table>
| Richieri, A. G. (2011) | Intellectual capital stock (CIS) and intellectual capital efficiency and corporate financial performance which were measured by return on asset return on equity and ROS of 1000 biggest Brazilian companies. | Independent variable: Intellectual capital efficiency  
Dependent variable: ROE, ROA and ROS. | Multiple regressions and panel data analysis were used | The results suggested the existence of a positive relation between both CIV and Intellectual Capital Efficiency and the dependent variables ROE, ROA and ROS.  
The study centered on 1000 greatest Brazilian companies independent of the industry. This think about has centered on commercial banks in Kenya. |
|---|---|---|---|---|
- Intellectual capital  
Dependent variable:  
- Performance on bank listed on the Dhaka Stock Exchange | VAIC model and stepwise regression was performed. | Intellectual capital is positively related to firm performance.  
Intellectual capital is also not related to the company's future performance and market value of the company  
Though this study may be vital to banks, it cannot be utilized by commercial banks in other nations particularly Kenya as the monetary film between Kenya and Bangladesh is different. |
<table>
<thead>
<tr>
<th>Kariuki, R. (2014)</th>
<th>Intellectual capital, corporate reputation, corporate culture and performance of firms listed at the Nairobi securities exchange.</th>
<th>Independent variables: Intellectual capital, corporate reputation, corporate culture</th>
<th>Dependent variable: performance of firms listed at the Nairobi securities exchange.</th>
<th>The study used cross-sectional survey design</th>
<th>There is significant relationship between intellectual capital and non-financial performance and financial performance measured by return on assets.</th>
<th>This consider is as well common and it is in light of this that the researcher has contracted down to intellectual capital on the financial performance of commercial banks in Kenya.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ngugi, P. K. (2013)</td>
<td>Influence of intellectual capital on the growth of small and medium enterprises in Kenya.</td>
<td>Independent variables: Managerial skills, Entrepreneurial skills, Innovativeness, Structural capital, Customer capital</td>
<td>Dependent variable: Growth of small and medium enterprises in Kenya</td>
<td>The research adopted an exploratory and a descriptive research design</td>
<td>Intellectual capital components (managerial skills, entrepreneurial skills, innovativeness, structural capital, and customer capital) have a great positive influence on the growth of SMEs.</td>
<td>Though exceptionally enlightening this consider was done on SMEs and did not touch on the commercial banks. The consider centered on relationship between intellectual capital and advertise valuation.</td>
</tr>
</tbody>
</table>

Independent variables: - Human capital
- Relational capital

Dependent variable: Market valuation

The study used cross-sectional survey design

There is a positive relationship between intellectual capital as a whole and in individual components on the market value of firms listed in the NSE. It was thus concluded that intellectual capital has a positive effect on the market value.

The current study has centered on intellectual capital effectiveness and financial performance of commercial banks in Kenya.

Source: Author (2018)

2.5 Research Gaps

Ogbo, Ezeob and Ituma (2013) examined the impact of intellectual capital on organizational performance within the Nigerian banking segment, it was built up that human capital and structural capital have a positive and critical effect on organizational results within the Nigerian banking segment. This study was conducted in Nigeria and the results cannot be utilized within the Kenyan case since of topographical contrast and showcase distinction between the two nations.

Ranjith (2011) explored the effect of value creation effectiveness of Intellectual Capital on investors’ capital gain on shares of listed companies in Thailand Stock Trade. The study found that the intellectual capital is valuable on the corporate budgetary execution of Thailand companies. This study is as well common and hence the researcher will limit down to set up the impact of intellectual capital on the financial performance of commercial banks in Kenya.
Najibullah (2012) in his study on the relationship between intellectual capital to the company's budgetary execution on bank listed on the Dhaka Stock Trade in Bangladesh found that intellectual capital was not emphatically related to firm performance. Annual reports for the relevant year of the selected banks were used to gather secondary information for the empirical models based VAIC model and stepwise regression was performed. Intellectual capital was too not related to the company's future performance. In spite of the fact that this consider may be critical to banks, it cannot be utilized by commercial banks in other nations particularly Kenya as the monetary film between Kenya and Bangladesh is distinctive.

Kariuki (2014) moreover explored the Intellectual capital, corporate reputation, corporate culture and performance of firms listed at the Nairobi securities exchange. The study found that there was noteworthy relationship between intellectual capital and non-financial performance and monetary performance measured by return on assets. This study is to common and it is in light of this that the researcher needs to limit down to intellectual capital on the financial performance of commercial banks in Kenya.

Ngugi (2013) did an investigation on the impact of intellectual capital on the development of small and medium ventures in Kenya. The research adopted an exploratory and a descriptive research design. The study found that intellectual capital components (managerial abilities, entrepreneurial abilities, innovativeness, structural capital, and client capital) have an extraordinary positive impact on the development of SMEs. Njoroge (2013) conducted an overview on the impact of intellectual capital on market valuation for firms listed within the Nairobi Securities Exchange. The study looked to set up the impact of intellectual capital, both as a total and as disintegrated into its three components, on the market value of firms listed within the Nairobi Securities Trade (NSE).
From the studied literature, it is apparent that there is a literature gap since all these studies do not touch on the commercial banks. This study therefore added to the existing literature on the effect of intellectual capital efficiency on the financial performance of commercial banks in Kenya.
2.6 Conceptual Framework

A conceptual framework is a model that presents and explains the relationship between various variables. In a conceptual framework there are two types of variables: dependent variable and independent variable. In this study, the independent variables include; relational capital, financial innovativeness, structural capital, human capital and the dependent variable is financial performance of commercial banks.

![Conceptual Framework Diagram]

**Independent Variable**

- **Relational Capital**
  - Employees’ turnover
  - Growth in customer base
  - Number of customers with accounts at the bank

- **Financial Innovativeness**
  - Total spending in research and development
  - Revenue earned from new products
  - Development of new products

- **Structural Capital**
  - Investment/spending in purchasing and upgrading information systems
  - Type of database system

- **Human Capital**
  - Investment/spending in employee training
  - Employee competence

**Dependent Variable**

- **Financial performance**
  - Return on Equity
  - Return on Assets
  - Profitability (Net Profit Margin)

*Figure 2.1: Conceptual Framework*
CHAPTER THREE
RESEARCH METHODOLOGY

3.1 Introduction

Part shows methodologies and procedures utilized in conducting study. It also shows data collection, samples, findings and populace.

3.2 Research Design

Agreeing to Dul and Hak (2008), an investigate plan or design is a course of action of conditions for collection and examination of information in a way that points to combine significance with the investigate reason. The study utilized descriptive as well as correlation investigate plans. The choice of the descriptive study sought to investigate the state of affairs as of now existing within the field and no variable was controlled. A clear study endeavors to portray or characterize a subject, regularly by making a profile of a group of issues, individuals, or occasions, through the collection of information and organization of the frequencies on research factors or their interaction as shown by Cooper and Schindler (2011). Descriptive research depicts a precise profile of people, events, or circumstances (Kothari, 2010). Descriptive design too permits the collection of expansive sum of information from a sizable populace in a profoundly prudent way.

3.3 Target Population

Concurring to Ngechu (2014), a populace may be a well-defined as set of individuals, administrations, components, occasions, group of things or family units that are being explored. 42 commercial banks operating in Kenya as at December 2015 was populace study. Review obtained information from the operations and finance supervisors within the 42 commercial banks. Target populace should have observable characteristics so that review
results can be generalized as per Mugenda and Mugenda (2003. The populace was as summarized within the table underneath.

<table>
<thead>
<tr>
<th>Table 3.2: Target Population</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Locally owned banks</td>
<td>29</td>
<td>69%</td>
</tr>
<tr>
<td>Foreign owned banks</td>
<td>13</td>
<td>31%</td>
</tr>
<tr>
<td>Total</td>
<td>42</td>
<td>100%</td>
</tr>
</tbody>
</table>

Source: Author (2018)

3.4 Sampling Technique

Concurring to Kombo and Tromp (2006) sampling is the method of selecting a number of people for a study in such a way that the person represents a bigger group from which they are chosen. This study embraced a census study where all the 42 commercial banks were included. The census strategy was utilized owing to the little target populace of the think about which has the advantage of giving total populace scope (Kothari, 2014).

3.5 Data Collection Procedures

The researcher utilized essential information which was obtained utilizing self-administered surveys. The questionnaire was made up of both open ended and closed ended questions covering issues related to commercial banks performance. The open-ended questions were utilized so as to empower the respondent to grant an in-depth and felt reaction without feeling held back in enlightening of any data and the closed ended questions permit respondent to reply from restricted alternatives that had been expressed. Agreeing to Saunders (2012), the open ended or unstructured questions permit significant reaction from the respondents whereas the closed or organized questions are by and large simpler to assess. The surveys were utilized in an exertion to preserve time and cash as well as to encourage a simpler
investigation as they are in prompt usable frame. The study moreover collected secondary data for the past 5 years from the CBK annually reports using a data collection sheet.

3.5.1 Pre-Testing of the Instrument

The reason of the pilot testing was to set up the legitimacy and unwavering quality of the investigation instruments and to improve confront legitimacy (Joppe, 2009). From the pilot results, unwavering quality and legitimacy was tested. The pilot testing was conducted utilizing the survey to operations and fund supervisors of the commercial banks. The pilot group was done through irregular examining. Sekaran (2010) prescribe that the survey pre-tests were done by individual interviews in order to watch the respondents’ responses and demeanors. All viewpoints of the survey were pre-tested including question substance, wording, arrangement, shape and format, question difficulty and information. The criticism obtained was utilized to re-examine the survey before administering it to the study respondents.

3.5.2 Validity

Agreeing to Golafshani (2003), validity is the precision and seriousness of inductions, based on the study results. One of the most reasons for conducting the pilot study is to discover the legitimacy of the survey. The study utilized both face and content validity to find out the legitimacy of the surveys. Substance legitimacy draws a deduction from test scores to a huge space of things comparative to those on the test. Substance legitimacy is concerned with sample-population representativeness. Gillham (2008) expressed that the information and aptitudes secured by the test things ought to be agent to the bigger space of information and aptitudes. To guarantee there was validity, the researcher included an expert to guarantee that the explanations from the survey were exact and significant.
3.5.3 Reliability

Instrument reliability on the other hand is the degree to which a research instrument produces comparative results on diverse events beneath comparable conditions. It's the degree of consistency with which it measures whatever it is implied to measure (Chime, 2010). Reliability is concerned with the address of whether the results of a study are repeatable. A (Cronbach alpha) of 0.6 or over, for all the study, is considered to be satisfactory for this study (Rousson, Gasser & Seifer, 2012). Reliability coefficient of the research instrument was surveyed utilizing Cronbach’s alpha (α) which is computed as follows:

\[ A = k / k - 1 \times \left[ 1 - \frac{\sum (S^2)}{\sum S^2_{sum}} \right] \]

Where:
- \( \alpha \) = Cronbach’s alpha
- \( k \) = Number of responses
- \( \sum (S^2) \) = Variance of individual items summed up
- \( \sum S^2_{sum} \) = Variance of summed up scores

A pilot study was carried out to decide reliability of the surveys. The pilot study included the sample respondents. Reliability investigation was in this way done utilizing Cronbach’s Alpha which measured the inner consistency by setting up in case certain thing inside a scale measures the same develop. The comes about of unwavering quality as measured by the Cronbach’s alpha (\( \alpha \)) were abridged within the table underneath, where the values were over 0.7 subsequently all the reactions were solid. The table appears that financial innovativeness had the most noteworthy reliability (\( \alpha = 0.881 \)), followed by human capital efficiency (\( \alpha = 0.847 \)), structural capital efficiency (\( \alpha = 0.795 \)) and at long last, relational capital (\( \alpha = 0.754 \)) this outlines that all the factors were solid as their unwavering quality values surpassed the endorsed edge of 0.7.
Table 3.3: Reliability Analysis

<table>
<thead>
<tr>
<th>Variable</th>
<th>Cronbach Alpha coefficient score</th>
<th>No. of items</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relational Capital</td>
<td>.754</td>
<td>3</td>
<td>Reliable</td>
</tr>
<tr>
<td>Financial Innovativeness</td>
<td>.881</td>
<td>5</td>
<td>Reliable</td>
</tr>
<tr>
<td>Structural Capital Efficiency</td>
<td>.795</td>
<td>4</td>
<td>Reliable</td>
</tr>
<tr>
<td>Human Capital Efficiency</td>
<td>.847</td>
<td>5</td>
<td>Reliable</td>
</tr>
</tbody>
</table>

Source: Author (2018)

3.6 Diagnostic Tests

3.6.1 Test for Autocorrelation

Autocorrelation occurs mostly in time series data. The reason behind this is the fact that such data assumes a certain trend as the time changes. This means that successive observations are mostly likely to show inter-correlation. Autocorrelation does not affect the unbiasedness, linearity and asymptotic nature of the estimators. The only problem is a violation of the Best property of OLS which will make conclusion hypothesis testing wrong. Breusch Godfrey test was used to check whether our data experience serial autocorrelation (Gujarati, 2004).

3.6.2 Heteroscedasticity

The presence of heteroscedasticity didn’t have an impact on the unbiasedness and linearity of the regression coefficient. Heteroscedasticity only affects the best property of OLS which renders the conclusion made when testing hypothesis invalid. The study therefore, carried out Breusch-Pagan test to check the presence of heteroscedasticity (Gujarati, 2004).

3.6.3 Multicollinearity

Multicollinearity is also common in time series data since variables may be following a particular trend. The variables may be increasing or decreasing over time. Multicollinearity makes the coefficient of regression to be indeterminate. Multicollinearity also makes the standard errors to be infinite. Multicollinearity may be common among variables, what
matters is the degree (Gujarati, 2004). To check for the presence of multicollinearity, variance inflation factors (VIF) test was used (Nachtsheim, 2004).

3.6.4 Normality

One of the assumptions of the classical linear regression model is that the error term must normally be distributed with zero mean and a constant variance denoted as μ (0, σ 2). The error term is used to capture all other factors which affect dependent variable but are not considered in the model. However, it is thought that the omitted factors have a small impact and at best random. For OLS to be applied, the error term must be normal (Gujarati, 2004). To confirm whether the error term is normal or not, the study employed the Shapiro- Wilks test.
3.7 Data Analysis and Presentation

The study utilized descriptive measurements (means and standard deviation) and inferential statistics (correlation, regression investigation) to analyze the data. Data analysis software (Microsoft Excel and SPSS version 22) were utilized to analyze the information. Given that the study model is multivariate and descriptive in nature, the study utilized multiple regression analysis in analyzing the relationship between the selected intellectual capital efficiency variables and the monetary performance of commercial banks in Kenya. The examinations involved the computation of the different coefficients of the independent variables related against the performance. The intellectual capital efficiency factors coefficients are signified as “β” within the model.
### 3.7.1 Operationalization and Measurement of Variables

#### Table 3.4: Operationalization and Measurement of Variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Type</th>
<th>Operationalization</th>
<th>Measurement</th>
<th>Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial performance</td>
<td>Dependent</td>
<td>● Return on Equity</td>
<td>● Percentage of net profit/equity</td>
<td>Ratio</td>
</tr>
<tr>
<td></td>
<td></td>
<td>● Return on Assets</td>
<td>● Percentage of net profit/total assets</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>● Net Profit Margin</td>
<td>● Percentage of net profit/total sales</td>
<td></td>
</tr>
<tr>
<td>Relational Capital</td>
<td>Independent variable</td>
<td>● Employees’ turnover</td>
<td>● Percentage of employee leaving over total employees.</td>
<td>Ratio</td>
</tr>
<tr>
<td></td>
<td></td>
<td>● Growth in customer base</td>
<td>● Percentage of new customer accounts over total accounts</td>
<td></td>
</tr>
<tr>
<td>Financial Innovativeness</td>
<td>Independent variable</td>
<td>● Total spending in research and development</td>
<td>● Spending in research and development over total investment</td>
<td>Ratio</td>
</tr>
<tr>
<td></td>
<td></td>
<td>● Revenue earned from new products</td>
<td>● Percentage of research and development revenue over total revenue</td>
<td></td>
</tr>
<tr>
<td>Structural Capital</td>
<td>Independent variable</td>
<td>● Investment in information systems</td>
<td>● Percentage of spending in information system over total spending</td>
<td>Ratio</td>
</tr>
<tr>
<td></td>
<td></td>
<td>● Type of database system</td>
<td>● The database systems available</td>
<td></td>
</tr>
<tr>
<td>Human Capital</td>
<td>Independent variable</td>
<td>● Investment/spending in employee training</td>
<td>● Percentage of spending in employee training over total spending</td>
<td>Ratio</td>
</tr>
<tr>
<td></td>
<td></td>
<td>● Employee competence</td>
<td>● Employees’ years of competence</td>
<td></td>
</tr>
</tbody>
</table>

*Source: Author (2018)*
3.7.2 Model specification

Multiple regression was utilized to look at the impact of chosen determinant factors on the performance of the banks. The regression equation was a multivariate. The dependent variable was the financial performance of commercial banks in Kenya. In this way, the regression equations for each of the indicators of financial performance were as follows:

3.7.2.1 Return on Assets

\[ Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon \]

Where:

- \( \gamma \) – Return on Assets
- \( \beta_0 \) - Constant/Y intercept
- \( X_1 \) - Relational Capital
- \( X_2 \) - Financial Innovativeness
- \( X_3 \) - Structural Capital
- \( X_4 \) - Human Capital
- \( \varepsilon \) - Error term

3.7.2.2 Return on Equity

\[ Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon \]

Where:

- \( \gamma \) – Return on Equity
- \( \beta_0 \) - Constant/Y intercept
- \( X_1 \) - Relational Capital
- \( X_2 \) - Financial Innovativeness
- \( X_3 \) - Structural Capital
- \( X_4 \) - Human Capital
- \( \varepsilon \) - Error term

3.7.2.3 Net Profit Margin

\[ Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon \]

Where:

- \( \gamma \) – Net Profit Margin
- \( \beta_0 \) - Constant/Y intercept
- \( X_1 \) - Relational Capital
$X_2$ - Financial Innovativeness  
$X_3$ - Structural Capital  
$X_4$ - Human Capital  
$\varepsilon$ - Error term

The coefficient of determination (R\textsuperscript{2}) was utilized to measure the degree to which the variation in efficiency is clarified by the variations in its determinants. F-statistic was moreover computed at 95\% confidence level to test whether there's any significant relationship between financial performance indicators (ROA, ROE and NPM) and intellectual capital efficiency. This examination was done utilizing SPSS (V 22) computer program and the findings displayed in form of tables and graphs to help in the examination and ease with which the inferential insights was drawn.
CHAPTER FOUR

DATA ANALYSIS AND PRESENTATION

4.1 Introduction

This chapter examines the investigate findings and dialogs gotten from the field. The chapter presents the foundation data of the respondents, findings of the investigation based on the goals of the study that included the relationship between intellectual capital efficiency and financial performance of Commercial Banks in Kenya. The study utilized descriptive measurements (means and standard deviation) and inferential statistics (correlation, regression investigation) to analyze the data. Data analysis software (Microsoft Excel and SPSS version 22) were utilized to analyze the information.

4.2 Response Rate

The study targeted a sample size of 42 respondents from which 42 filled in and returned the questionnaires making a response rate of 100%.

<table>
<thead>
<tr>
<th>Questionnaires Administered</th>
<th>Questionnaires filled &amp; Returned</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Respondents</td>
<td>42</td>
<td>42</td>
</tr>
</tbody>
</table>

Source: Author (2018)

This reaction rate was palatable to form conclusions for the ponder because it acted as an agent. Concurring to Mugenda and Mugenda (1999), a reaction rate of 50% is satisfactory for examination and commentary; a rate of 60% is nice and a reaction rate of 70% and over is fabulous. Based on the declaration, the reaction rate was fabulous.
4.3 Descriptive Statistical Analysis

4.3.1 Relational Capital

Aspects Assessing on Relational Capital
The study sought to establish how the organisation faired on the following measures assessing on relational capital. Results are presented in Table 4.6.

Table 4.6: Relational Capital

<table>
<thead>
<tr>
<th>Aspect</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employees’ turnover in the bank within the last five years</td>
<td>683</td>
<td>697</td>
<td>721</td>
<td>788</td>
<td>904</td>
</tr>
<tr>
<td>Total number of employees in the bank for each year</td>
<td>30,056</td>
<td>31,636</td>
<td>34,059</td>
<td>36,923</td>
<td>36,212</td>
</tr>
<tr>
<td>No. of customers with accounts at the bank for each of the five years</td>
<td>14,250,50</td>
<td>15,861,41</td>
<td>21,880,55</td>
<td>28,438,29</td>
<td>35,194,49</td>
</tr>
</tbody>
</table>

Source: Central Bank Report (2016)

Results evaluating the number of representatives who have left the bank within the final five a long time appear that the year 2015 seen the most elevated normal number of workers taking off the banking industry (904) though the year 2011 had the (683) slightest number of the employees’ turnover.

Further the study notes that on normal the year 2011 had the slightest number (30,056) of representatives working within the managing an account segment whereas the year 2015 had the most noteworthy normal number (36,212) of workers working managing an account industry. There appears an expanding trend of representatives working within the managing an account division over the final five a long time. The findings bolster the contention by
Håkansson & Snehota, (2012) that long enduring connections are a source of competitive advantage.

Results surveying development in accounts appear that on normal the year 2011 had the slightest number (14,250,503) of accounts opened whereas the year 2015 had the most noteworthy normal number (35,194,496) of accounts opened. The comes about appear an expanding slant in opening of unused accounts within the final five a long time.

The study moreover uncovered that contributing in relational capital is basic in guaranteeing financial performance of commercial banks in Kenya. Descriptive results give that the quality of working environment relations is basic to worker maintenance which impacts the organisational performance. The study too noted that great reputation is vital to get competitive advantage since it gives important data to partners approximately the firm. The findings support with the think about findings by Weigelt & Camerer, (2008) that notoriety has an vital impact upon partner convictions, demeanors, and behaviors when these bunches have fragmented data with respect to organizational characteristics.
4.3.2 Financial Innovativeness

The study sought to determine respondent’s level of agreement with the following statements relating to financial innovativeness. Results are presented in Table 4.7.

Table 4.7: Statements assessing the financial Innovativeness

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Our organisation invests in research and</td>
<td>42</td>
<td>3.00</td>
<td>4.00</td>
<td>3.67</td>
<td>0.77</td>
</tr>
<tr>
<td>development</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>There has been development of new</td>
<td>42</td>
<td>1.00</td>
<td>5.00</td>
<td>3.45</td>
<td>1.08</td>
</tr>
<tr>
<td>products in our organisation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>There has been an increase in the sales</td>
<td>42</td>
<td>1.00</td>
<td>4.00</td>
<td>2.69</td>
<td>.94</td>
</tr>
<tr>
<td>of new products in our organisation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Author (2018)

From the examination, lion's share of the respondents concurred that organisation contributes in research and development (Mean = 3.67, standard deviation = 0.77) There has been improvement of unused items within the association (Mean = 3.45, standard deviation =1.08) which there has been an increase within the deals of unused items within the association (Mean = 2.69, standard deviation =0.94). The findings agree with the investigate findings by Kimari (2013) concluded that there was a positive relationship between monetary advancement and budgetary execution of banks in Kenya.

Table 4.8: Investment in Research and Development of Financial Products

<table>
<thead>
<tr>
<th>Year</th>
<th>Mean Ksh</th>
<th>Std Deviation Billions’ Ksh</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>1,731,178,818</td>
<td>.1254</td>
</tr>
<tr>
<td>2012</td>
<td>2,448,746,637</td>
<td>.1750</td>
</tr>
<tr>
<td>2013</td>
<td>2,967,066,886</td>
<td>.1136</td>
</tr>
<tr>
<td>2014</td>
<td>4,582,153,225</td>
<td>.2470</td>
</tr>
<tr>
<td>2015</td>
<td>5,262,617,604</td>
<td>.6390</td>
</tr>
</tbody>
</table>

Source: Central Bank Report (2016)
From the findings, it can be noted that the year 2015 recorded the most elevated esteem for bank’s add up to venture in inquire about and advancement of money related items as appeared by a mean of value of Ksh 5,262,617,604 whereas the year 2011 recorded the most reduced esteem for add up to speculation in research and development of monetary products at Ksh 1,731,178,818. In expansion, values for standard deviation portrays changeability in add up to speculation in investigate and advancement of money related items amid the five year period with the most noteworthy deviation of Ksh 0.6390 billion within the year 2015 and the lowest Ksh 0.1136 billion within the year 2013. The results appear an expanding drift in investment in research and development of monetary items within the final five a long time.

Table 4.9: Revenue Earned from the New Products in the Last Five Years

<table>
<thead>
<tr>
<th>Years</th>
<th>Mean Ksh ‘000</th>
<th>Std Deviation Ksh ‘Million</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>89,453</td>
<td>.1423</td>
</tr>
<tr>
<td>2012</td>
<td>356,305</td>
<td>.1412</td>
</tr>
<tr>
<td>2013</td>
<td>362,177</td>
<td>.1326</td>
</tr>
<tr>
<td>2014</td>
<td>418,698</td>
<td>.0442</td>
</tr>
<tr>
<td>2015</td>
<td>456,810</td>
<td>.6910</td>
</tr>
</tbody>
</table>

Source: Central Bank Report (2016)

From the findings, it can be noted that the year 2015 recorded the most noteworthy income earned from the modern items as appeared by a mean value of Ksh 456,810,000 whereas the year 2011 recorded the least income earned from the new items at Ksh 89,453,000. In addition, values for standard deviation delineates changeability in income earned from the modern items amid the five year period with the most noteworthy deviation of Ksh 0.6910 million within the year 2015 and the lowest Ksh 0.0442 million within the year 2014. The results show an expanding drift in investment in investigate and improvement of monetary items within the final five a long time.
The think about noted that financial innovativeness is upgraded to guarantee way better financial performance of commercial banks in Kenya. Financial innovations lower the exchange fetched of exchanging reserves from lower yielding cash equalizations to higher yielding choices. Subsequently, with budgetary advancements showcase members endeavor to play down hazard and to maximize return. The findings concur with the inquire about findings by Vonortas and Xue (2011) that budgetary development can provide four sorts of benefits other than cash: information, brand, biological system and culture.

The study looked for to decide different data frameworks procured by the bank within the final 5 years. From the investigation, the reactions uncovers that the bank had obtained different data frameworks which incorporate: Executive support systems (ESS) outlined to assist senior administration make key choices, Management information systems (MIS) intellectually concerned with inside sources of data, Decision support systems (DSS), Knowledge management systems (KMS), transaction processing systems (TPS) and Office computerization frameworks.
4.3.3 Structural Capital

The study sought to determine respondent’s level of agreement with the following statements relating to structural capital. Results are presented in Table 4.10.

Table 4.10: Statements Relating to Structural Capital

<table>
<thead>
<tr>
<th>Statement</th>
<th>Opinion</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>The bank has an automated information processing system</td>
<td>Yes</td>
<td>42</td>
<td>100.0</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>42</td>
<td>100.0</td>
</tr>
<tr>
<td>The bank has intranet that facilitates sharing of information among employees</td>
<td>Yes</td>
<td>38</td>
<td>90.5</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>4</td>
<td>9.5</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>42</td>
<td>100.0</td>
</tr>
<tr>
<td>Our information systems make it easy to access relevant information</td>
<td>Yes</td>
<td>38</td>
<td>90.5</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>4</td>
<td>9.5</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>42</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Source: Author (2018)

From the investigation, all the respondents (100%) concurred that the bank has an automated data processing system, 90.5% concurred that the bank has intranet that encourages sharing of data among workers and data frameworks make it simple to get to pertinent data. The study moreover uncovered that intellectual technological developments offer assistance make strides organisation’s competitiveness with the extreme point of expanding company esteem. The findings support the findings by Lonnqvist et al (2009) who observed that intellectual capital administration plays a huge part in guaranteeing the arrangement of the alter substance with the vital objectives of the organization.
Table 4.11: Bank’s Total Investment/Spending in Purchasing and Upgrading Information Systems

<table>
<thead>
<tr>
<th>Years</th>
<th>Mean Ksh</th>
<th>Std Deviation Ksh Billion</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>8,655,894,092</td>
<td>.1325</td>
</tr>
<tr>
<td>2012</td>
<td>13,604,147,986</td>
<td>.6254</td>
</tr>
<tr>
<td>2013</td>
<td>18,544,168,035</td>
<td>.2341</td>
</tr>
<tr>
<td>2014</td>
<td>25,456,406,807</td>
<td>.1420</td>
</tr>
<tr>
<td>2015</td>
<td>29,236,764,468</td>
<td>.0167</td>
</tr>
</tbody>
</table>

*Source: Central Bank Report (2016)*

From the findings, it can be noted that the year 2015 recorded the most noteworthy value in bank’s total investment/spending in obtaining and updating data systems as appeared by a mean of value of Ksh 29,236,764,468 whereas the year 2011 recorded the most reduced value in bank’s add up to investment/spending in obtaining and overhauling data frameworks at Ksh 8,655,894,092. In expansion, values for standard deviation portrays changeability in bank’s add up to investment/spending in obtaining and updating data frameworks amid the five year period with the most noteworthy deviation of Ksh 0.6254 billion within the year 2012 and the lowest Ksh 0.0167 billion within the year 2015. The results appear an increasing drift in bank’s investment/spending in obtaining and overhauling data frameworks within the final five a long time.

The study too uncovered that data frameworks (as the structural capital) and the substance components (as the organizational capital) of the structural- organizational insights (SOI) are essentially related in accomplishing competitive advantage. The findings agree with the investigate findings by Halim (2010) advanced that that structural capital could be a stock of data that's possessed by the firm which consolidates corporate culture, data innovation and express information, item advancement, prepare optimization, and advancement among others.
4.3.4 Human Capital

The study sought to determine respondent’s level of agreement with the following statements relating to human capital. Results are presented in Table 4.12.

<table>
<thead>
<tr>
<th>Table 4.12: Statements Relating to Human Capital</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td>Employees are required to undergo at least one skill enhancement training per year</td>
</tr>
<tr>
<td>Our employees have the required professional qualifications that are suited to their areas of operation</td>
</tr>
<tr>
<td>Employees are competent in their areas of responsibilities/duties</td>
</tr>
<tr>
<td>Most of our employees have more than five years’ experience of their respective jobs</td>
</tr>
</tbody>
</table>

Source: Author (2018)

From the investigation, larger part of the respondents concurred that lion's share of the organisational staff have more than five years’ encounter of their particular occupations (mean = 4.17, standard deviation =1.01), all the workers have the specified proficient capabilities that are suited to their ranges of operation (mean = 4.00, standard deviation = 1.04), representatives are competent in their ranges of responsibilities/duties (mean = 3.98 standard deviation = 0.68) and that representatives are required to experience at slightest one expertise upgrade preparing per year (mean = 3.83, standard deviation = 0.85). The findings concurs with the investigate findings by Prahalad and Ramaswamy, (2010) contributing in
human may result in higher income for the company as workers are more likely to stay with a company that contributes in their preparing and advancement, coming about in lower turnover rates.

Table 4.13: Investment/Spending in Employees’ Training

<table>
<thead>
<tr>
<th>Years</th>
<th>Mean Ksh</th>
<th>Std Deviation Billion</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>3,264,995,517</td>
<td>0.01452</td>
</tr>
<tr>
<td>2012</td>
<td>3,548,916,578</td>
<td>0.45243</td>
</tr>
<tr>
<td>2013</td>
<td>3,894,275,287</td>
<td>0.25134</td>
</tr>
<tr>
<td>2014</td>
<td>4,327,589,157</td>
<td>0.3152</td>
</tr>
<tr>
<td>2015</td>
<td>4,970,249,960</td>
<td>0.01147</td>
</tr>
</tbody>
</table>

Source: Central Bank Report (2016)

From the findings, it can be noted that the year 2015 recorded the most elevated esteem investment/spending in employees’ preparing within the final five a long time as appeared by a mean of value of Ksh 4,970,249,960 whereas the year 2011 recorded the most reduced esteem for investment/spending in employees’ preparing within the final five a long time Ksh 3,264,995,517. In expansion, values for standard deviation portrays variability in esteem for investment/spending in employees’ preparing within the final five a long time amid the five year period with the most elevated deviation of Ksh 0.45243 billion within the year 2012 and the most reduced Ksh 0.01147 billion within the year 2015. The results appear an expanding slant in bank’s investment/spending in obtaining and overhauling data frameworks within the final five a long time.

The study moreover noted that human capital ought to be enhanced/improved to guarantee way better money related execution of commercial banks in Kenya. Human capital upgrade can be anticipated to lead to higher efficiency and productivity as a coordinate result of the expanded capacity of the workers to perform their errands, the findings are in bolster of the
investigate by Choo and Bontis (2013) that human capital improvement may progress not fair the capacity of workers to convey more noteworthy efficiency, but moreover their eagerness, commitment and inspiration.

4.3.5 Financial Performance of Commercial Banks in Kenya

Return on Assets

![Return on Assets](image)

**Figure 4.2: Return on Assets**

**Source: Central Bank Report (2016)**

According to the results, the return on assets as a measure of performance decreased from 90.67% in year 2011 to 29.7% in year 2012. It decreased further to 29.1% in year 2013 and 28.13% in year 2014 and to 24.79% in year 2015.

Return on Equity

![Return on Equity](image)

**Figure 4.3: Return on Equity**

**Source: Central Bank Report (2016)**
According to the results, the return on equity as a measure of performance decreased from 12.68% in year 2011 to 4.63% in year 2012. It increased to 4.65% in year 2013 and decreased to 4.41% in year 2014 and further to 3.84% in year 2015.

**Net Profit Margin**

![Net Profit Margin Chart](image)

**Figure 4.4: Net Profit Margin**

**Source:** Central Bank Report (2016)

According to the results, net profit margin as a measure of performance decreased from 34.9% in year 2011 to 30.3% in year 2012, it increased to 34.7% in year 2013 and decreased to 33.7% in year 2014 and increased to 41.52% in year 2015.

### 4.4 Diagnostic Tests for Regression

#### 4.4.1 Test for Autocorrelation

**Table 4.14: Breusch-Godfrey Lagrange Multiplier**

<table>
<thead>
<tr>
<th>lags ($p$)</th>
<th>chi2</th>
<th>Df</th>
<th>prob &gt; chi2</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>4.902</td>
<td>1</td>
<td>0.0267</td>
</tr>
</tbody>
</table>

The Breusch–Godfrey test tests for the presence of serial correlation if present, would mean that incorrect conclusions would be drawn from other tests, or that sub-optimal estimates of model parameters are obtained if it is not taken into account. The regression models to which the test can be applied include cases where lagged values of the dependent variables are used as independent variables in the model's representation for later observations. From the
findings, the p-value (0.0267), which is greater than the significance level (0.05) and hence we accept the null hypothesis that no serial correlation. These findings show that there is no serial correlation among the variables.

4.4.2 Testing for Normality

**Table 4.15: Testing for Normality**

| Variable               | Obs | W   | V   | z   | Prob>|z |
|------------------------|-----|-----|-----|-----|-----|
| Financial Performance  | 42  | 0.96698 | 1.305 | 0.561 | 0.28746 |
| Relational Capital     | 42  | 0.90472 | 3.766 | 2.791 | 0.00263 |
| Financial Innovativeness| 42  | 0.83067 | 6.693 | 4.001 | 0.00003 |
| Structural Capital     | 42  | 0.87253 | 5.039 | 3.403 | 0.00033 |
| Human Capital          | 42  | 0.90212 | 3.869 | 2.847 | 0.0022  |

**Source: Author (2018)**

The Shapiro-Wilk test helped in determining the normality or the abnormality of the error term. The study’s null hypothesis states that the population is normally distributed while the alternative is that it’s not normally distributed. When making the conclusion if the p-value is lower than 0.05, then the null hypothesis will not be accepted and hence there is enough evidence to deduce that the data tested did not come from a normally distributed population.

The findings show that financial performance had a (p-value=0.28746), relational capital had (p-value=0.00263), financial innovativeness (p-value=0.00003), structural capital (p-value=0.00033) while human capital had (p-value=0.0022). This is an indication that all the variables used in this research had a p value of < 0.05 apart from financial performance. Therefore, the null hypothesis will not be accepted meaning that the tested data was from an abnormally distributed population apart from data on financial performance.
4.4.3 Test for Multicollinearity

Table 4.16: Test for Multicollinearity

<table>
<thead>
<tr>
<th>Variable</th>
<th>VIF</th>
<th>1/VIF</th>
</tr>
</thead>
<tbody>
<tr>
<td>X2</td>
<td>1.99</td>
<td>0.503239</td>
</tr>
<tr>
<td>X3</td>
<td>1.96</td>
<td>0.509537</td>
</tr>
<tr>
<td>X1</td>
<td>1.57</td>
<td>0.638122</td>
</tr>
<tr>
<td>X4</td>
<td>1.2</td>
<td>0.832441</td>
</tr>
<tr>
<td>Mean VIF</td>
<td>1.68</td>
<td></td>
</tr>
</tbody>
</table>

Source: Author (2018)

The variance inflation factor (VIF) was employed in testing the data’s multicollinearity. This test looks at the extent of the variance inflation. Collinearity or multicollinearity seeks to deduce how perfect a linear combination of a variable is to another variable. In case the VIF value is higher than 10 or incase the tolerance is deduced to be greater than 0.2 then the model has signs of multicollinearity. Tolerance levels are gotten by dividing 1 with the VIF value and the t statistic equation is arrived at by dividing the coefficient by the standard error.

In all the occasions, the p value and the T static values must be inverse.

The investigation shows signs of multicollinearity in spite of the fact that they are low levels. The results show that the overall VIF is 1.98 which is less than 10 suggesting that the study information did not show multicollinearity issue as prescribed by (Field, 2009). Hence, all the factors based on the VIF pointers have no serious multicollinearity issue. The removal of multicollinearity from a model also does away with pother issues and makes other factors significant. Removal of multicollinearity can be achieved by expanding test measure, change of Factors and removing factors in spite of the fact that expulsion of factors ought to be the final alternative since that variable may be exceptionally imperative to clarify the dependent variable (Field, 2009).
4.4.4 Test for Heteroscedasticity

Table 4.17: Test for Heteroscedasticity

<table>
<thead>
<tr>
<th>Breusch-Pagan / Cook-Weisberg Test</th>
<th>heteroskedasticity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ho: Constant variance</td>
<td></td>
</tr>
<tr>
<td>Variables: fitted values of Y</td>
<td></td>
</tr>
<tr>
<td>chi2(1) = 1.32</td>
<td></td>
</tr>
<tr>
<td>Prob &gt; chi2 = 0.2411</td>
<td></td>
</tr>
</tbody>
</table>

When heteroscedasticity is detected there is no effect on regression coefficient linearity and unbiasedness. Heteroscedasticity exists if the error term is not the same across the independent variable values. Heteroscedasticity has an impact on the best property of OLS, which results to hypothesis testing conclusions being invalid. The research conducted a Breusch-Pagan test to determine if heteroscedasticity existed (Gujarati, 2004). The null hypothesis is rejected when the chi value is higher than the critical value which means that there is evidence of heteroscedasticity in the model or if the p-value is smaller than 0.05, then we reject the null and hence presence of heteroscedasticity. The outcomes show that the chi value is 1.32 which shows that there is no evidence of heteroscedasticity. Additionally, the p value at 0.2411 was higher than 0.05 which means that the study did not reject the null hypothesis homoscedasticity and thus there was no heteroscedasticity.
4.5 Inferential Statistical Analysis

The research used statistical package for social sciences (SPSS V 21.0) to code, enter and compute the measurements of variables.

4.5.1 Model Summary

Table 4.18: Return on Assets with Independent Variables Model Summary

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.899^a</td>
<td>.807</td>
<td>.803</td>
<td>.82224</td>
</tr>
</tbody>
</table>

Source: Author (2018)

Adjusted R squared is the coefficient of determination which tells us the variation between the dependent variable due to changes in independent variables. From the findings in the table above the value of adjusted R squared was 0.803 an indication that there was variation of 80.3 percent on the return on assets of commercial banks due to changes in relational capital, financial innovativeness, structural capital and human capital at 95 percent degree of confidence. This shows that 80.3 percent variation in return on assets of commercial banks may be accounted to by relational capital, financial innovativeness, structural capital and human capital. R is the correlation coefficient which shows the relationship between the factors studied. From the findings shown it can be concluded that there exists a strong positive relationship between the independent and dependent variables as shown by correlation factor of 0.899.

Table 4.19: Return on Equity with Independent Variables Model Summary

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.716^a</td>
<td>.513</td>
<td>.492</td>
<td>.51635</td>
</tr>
</tbody>
</table>

Source: Author (2018)

Adjusted R squared is the coefficient of determination which tells us the variation between the dependent variable due to changes in independent variables. From the findings in the table above the value of adjusted R squared was 0.492 an indication that there was variation
of 49.2 percent on the return on equity of commercial banks due to changes in relational capital, financial innovativeness, structural capital and human capital at 95 percent degree of confidence. This shows that 49.23 percent variation in return on equity of commercial banks may be accounted to by relational capital, financial innovativeness, structural capital and human capital. \( R \) is the correlation coefficient which shows the relationship between the factors studied. From the findings shown it can be concluded that there exists a strong positive relationship between the independent and dependent variables as shown by correlation factor of 0.716.

### Table 4.20: Net Profit Margin with Independent Variables Model Summary

<table>
<thead>
<tr>
<th>Model</th>
<th>( R )</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.847*</td>
<td>.717</td>
<td>.688</td>
<td>.62582</td>
</tr>
</tbody>
</table>

**Source:** Author (2018)

Adjusted \( R \) squared is the coefficient of determination which tells us the variation between the dependent variable due to changes in independent variables. From the findings in the table above the value of adjusted \( R \) squared was 0. 688 an indication that there was variation of 68.8 percent on net profit margin of commercial banks due to changes in relational capital, financial innovativeness, structural capital and human capital at 95 percent degree of confidence. This shows that 68.8 percent variation in return on net profit margin of commercial banks may be accounted to by relational capital, financial innovativeness, structural capital and human capital. \( R \) is the correlation coefficient which shows the relationship between the factors studied. From the findings shown it can be concluded that there exists a strong positive relationship between the independent and dependent variables as shown by correlation factor of 0. 847.
4.5.2 ANOVA Analysis

The study further tested the significance of the model by use of ANOVA technique. The findings are tabulated below.

### Table 4.21: Return on Assets ANOVA Results

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>93.424</td>
<td>4</td>
<td>23.356</td>
<td>34.550</td>
<td>.000b</td>
</tr>
<tr>
<td>Residual</td>
<td>25.012</td>
<td>37</td>
<td>0.676</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>118.436</td>
<td>41</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Critical value = 2.46

**Source: Author (2018)**

The table showed that the population parameters significance level was at 0 revealing that the data can be used to make inferences as the p value was less than 0.05. The overall model relationship was considered significant since F calculated (34.55) was higher than the F critical (value = 2.641) at 5% level of significance an indication that the dependent variable was significantly affected by the independent variables.

### Table 4.22: Return on Equity ANOVA Results

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>7.324</td>
<td>4</td>
<td>1.831</td>
<td>3.655</td>
<td>.018b</td>
</tr>
<tr>
<td>Residual</td>
<td>18.542</td>
<td>37</td>
<td>0.501</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>25.866</td>
<td>41</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Critical value = 2.46

**Source: Author (2018)**

The table showed that the population parameters significance level was at 0.018 revealing that the data can be used to make inferences as the p value was 0.05. The overall model relationship was considered significant since F calculated (3.456) was higher than the F critical (value = 2.641) at 5% level of significance an indication that the dependent variable was significantly affected by the independent variables.
was significantly affected by the independent variables.

**Table 4.23: Net Profit Margin ANOVA Analysis**

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>16.544</td>
<td>4</td>
<td>4.136</td>
<td>6.029</td>
<td>0.002</td>
</tr>
<tr>
<td>Residual</td>
<td>25.398</td>
<td>37</td>
<td>0.686</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>41.942</td>
<td>41</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Critical value = 2.46

**Source: Author (2018)**

The table showed that the population parameters significance level was at 0.002 revealing that the data can be used to make inferences as the p value was 0.05. The overall model relationship was considered significant since F calculated (6.029) was higher than the F critical (value = 2.641) at 5% level of significance an indication that the dependent variable was significantly affected by the independent variables.

**4.5.3 Beta Coefficients**

A multiple regression was conducted so as to determine the extent of influence of the independent variables on the dependent variables and also to determine the significance of the relationship using the p values.

**Table 4.24: Return on Assets with Independent Variables Coefficients**

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized</th>
<th>Standardized</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Constant)</td>
<td>-15.445</td>
<td>1.716</td>
<td>-9.003</td>
<td>.000</td>
</tr>
<tr>
<td>Relational capital (x_1)</td>
<td>.901</td>
<td>.066</td>
<td>.591</td>
<td>13.579</td>
</tr>
<tr>
<td>Financial innovativeness (x_2)</td>
<td>.841</td>
<td>.089</td>
<td>.413</td>
<td>9.438</td>
</tr>
<tr>
<td>Structural capital (x_3)</td>
<td>.554</td>
<td>.104</td>
<td>.251</td>
<td>5.319</td>
</tr>
<tr>
<td>Human capital (x_4)</td>
<td>.654</td>
<td>.114</td>
<td>.278</td>
<td>5.737</td>
</tr>
</tbody>
</table>

**Source: Author (2018)**
From the data in the above table the established regression equation was:

\[ Y = -15.445 + 0.901X_1 + 0.841X_2 + 0.554X_3 + 0.654X_4 \]

From the above regression equation it was uncovered that relational capital, financial innovativeness, structural capital and human capital held to a consistent zero, return on assets of commercial banks would be at -15.445, a unit increment in relational capital would lead to an increment in return on assets of commercial banks by a calculate of 0.901, a unit increment in financial innovativeness would lead to increase in return on assets of commercial banks by variables of 0.841, a unit increment in structural capital would lead to an increment in return on assets of commercial banks by a factor of 0.554 while a unit increase in human capital would lead to increase an in return on assets of commercial banks by a figure of 0.654. All the factors had a noteworthy relationship as their p values were less than 0.05.

<table>
<thead>
<tr>
<th>Table 4.25: Return on Equity with Independent Variables Coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>(Constant)</td>
</tr>
<tr>
<td>Relational capital x1</td>
</tr>
<tr>
<td>Financial innovativeness x2</td>
</tr>
<tr>
<td>Structural capital x3</td>
</tr>
<tr>
<td>Human capital x4</td>
</tr>
</tbody>
</table>

Source: Author (2018)

\[ Y=1.686+0.835X_1+0.803X_2+0.790X_3+0.786X_4+0.284 \]

From the above regression equation it was uncovered that relational capital, financial innovativeness, structural capital and human capital held to a consistent zero, return on equity of commercial banks would be at 1.686, a unit increment in relational capital would lead to an increment in return on assets of commercial banks by a calculate of 0.835, a unit
An increment in financial innovativeness would lead to an increase in return on assets of commercial banks by variables of 0.803, a unit increment in structural capital would lead to an increment in return on assets of commercial banks by a factor of 0.790 while a unit increase in human capital would lead to an increase in return on assets of commercial banks by a figure of 0.786. All the factors had a noteworthy relationship as their p values were less than 0.05.

Table 4.26: Net Profit Margin with Independent Variables Coefficients

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Constant)</td>
<td>.343</td>
<td></td>
<td>5.444</td>
<td>.000</td>
</tr>
<tr>
<td>Relational capital x₁</td>
<td>.441</td>
<td>.142</td>
<td>.443</td>
<td>3.106</td>
</tr>
<tr>
<td>Financial innovativeness x₂</td>
<td>.436</td>
<td>.097</td>
<td>.317</td>
<td>4.495</td>
</tr>
<tr>
<td>Structural capital x₃</td>
<td>.352</td>
<td>.085</td>
<td>.396</td>
<td>4.141</td>
</tr>
<tr>
<td>Human capital x₄</td>
<td>.466</td>
<td>.106</td>
<td>.381</td>
<td>4.396</td>
</tr>
</tbody>
</table>

Source: Author (2018)

From the data in the above table the established regression equation was

\[ Y = 0.343 + 0.441X₁ + 0.436X₂ + 0.352X₃ + 0.466X₄ \]

From the above regression equation, it was uncovered that relational capital, financial innovativeness, structural capital and human capital held to a consistent zero, return on equity of commercial banks would be at 0.343, a unit increment in relational capital would lead to an increment in return on assets of commercial banks by a calculate of 0.441, a unit increment in financial innovativeness would lead to increase in return on assets of commercial banks by variables of 0.436, a unit increment in structural capital would lead to an increment in return on assets of commercial banks by a factor of 0.352 while a unit increase in human capital would lead to increase an in return on assets of commercial banks by a figure of 0.466. All the factors had a noteworthy relationship as their p values were less than 0.05.
4.5.4 Correlation Analysis

The Pearson product moment correlation coefficient was used to test the direction and significance of the relationship between the dependent and independent variables at 95% confidence level.

Table 4.27: Correlation Analysis of Return on Assets

<table>
<thead>
<tr>
<th></th>
<th>ROA of Commercial Banks (Y)</th>
<th>Relational Capital (X1)</th>
<th>Financial Innovativeness (X2)</th>
<th>Structural Capital (X3)</th>
<th>Human Capital (X4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROA of Commercial Banks (Y) Pearson Correlation</td>
<td>1</td>
<td>.725**</td>
<td>.844**</td>
<td>.677**</td>
<td>.822**</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.021</td>
<td>.000</td>
<td>.018</td>
<td>.015</td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>42</td>
<td>42</td>
<td>42</td>
<td>42</td>
<td>42</td>
</tr>
<tr>
<td>Relational Capital (X1) Pearson Correlation</td>
<td>.725**</td>
<td>1</td>
<td>.237</td>
<td>.174</td>
<td>.288</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.000</td>
<td>.021</td>
<td>.093</td>
<td>.005</td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>42</td>
<td>42</td>
<td>42</td>
<td>42</td>
<td>42</td>
</tr>
<tr>
<td>Financial Innovativeness (X2) Pearson Correlation</td>
<td>.844**</td>
<td>.237</td>
<td>1</td>
<td>.470</td>
<td>.290</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.000</td>
<td>.021</td>
<td>.000</td>
<td>.005</td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>42</td>
<td>42</td>
<td>42</td>
<td>42</td>
<td>42</td>
</tr>
<tr>
<td>Structural Capital (X3) Pearson Correlation</td>
<td>.677**</td>
<td>.174</td>
<td>.470</td>
<td>1</td>
<td>.069</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.018</td>
<td>.093</td>
<td>.000</td>
<td>.507</td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>42</td>
<td>42</td>
<td>42</td>
<td>42</td>
<td>42</td>
</tr>
<tr>
<td>Human Capital (X4) Pearson Correlation</td>
<td>.822**</td>
<td>.288</td>
<td>.290</td>
<td>.069</td>
<td>1</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.015</td>
<td>.005</td>
<td>.005</td>
<td>.507</td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>42</td>
<td>42</td>
<td>42</td>
<td>42</td>
<td>42</td>
</tr>
</tbody>
</table>

Source: Author (2018)
It was noted there was a positive correlation coefficient between return on assets and relational capital, as can be seen from the result of 0.725 which was significant. Another finding found there was a strong positive correlation between return on assets of commercial bank and financial innovativeness as indicated by the value of 0.844 which was significant. The study advanced that there was a strong positive correlation between return on assets of commercial bank and structural capital as shown by a value of 0.667 which was significant. The study found a positive correlation between return on assets of commercial bank and human capital as shown by correlation coefficient of 0.822 which was considered insignificant.

**Table 4.28: Correlation Analysis of Return on Equity**

<table>
<thead>
<tr>
<th></th>
<th>ROE of Commercial Banks (Y)</th>
<th>Relational Capital (X1)</th>
<th>Financial Innovativeness (X2)</th>
<th>Structural Capital (X3)</th>
<th>Human Capital (X4)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ROE of Commercial</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Banks (Y)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pearson Correlation</td>
<td>1</td>
<td>.625**</td>
<td>.778**</td>
<td>.877**</td>
<td>.722**</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td></td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>42</td>
<td>42</td>
<td>42</td>
<td>42</td>
</tr>
<tr>
<td><strong>Relational</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Capital (X1)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pearson Correlation</td>
<td>.625**</td>
<td>1</td>
<td>.237*</td>
<td>.174</td>
<td>.288**</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.000</td>
<td>.021</td>
<td>.093</td>
<td>.005</td>
<td></td>
</tr>
<tr>
<td></td>
<td>42</td>
<td>42</td>
<td>42</td>
<td>42</td>
<td>42</td>
</tr>
<tr>
<td><strong>Financial</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Innovativeness</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(X2)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pearson Correlation</td>
<td>.778**</td>
<td>.237*</td>
<td>1</td>
<td>.470**</td>
<td>.290**</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.000</td>
<td>.021</td>
<td>.000</td>
<td>.005</td>
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<td></td>
<td>42</td>
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<td>42</td>
<td>42</td>
<td>42</td>
</tr>
<tr>
<td><strong>Structural</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Capital (X3)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pearson Correlation</td>
<td>.877**</td>
<td>.174</td>
<td>.470**</td>
<td>1</td>
<td>.069</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.000</td>
<td>.093</td>
<td>.000</td>
<td>.507</td>
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<tr>
<td></td>
<td>42</td>
<td>42</td>
<td>42</td>
<td>42</td>
<td>42</td>
</tr>
<tr>
<td><strong>Human</strong></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Capital</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(X4)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pearson Correlation</td>
<td>.722**</td>
<td>.288**</td>
<td>.290**</td>
<td>.069</td>
<td>1</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.000</td>
<td>.005</td>
<td>.005</td>
<td>.507</td>
<td></td>
</tr>
<tr>
<td></td>
<td>42</td>
<td>42</td>
<td>42</td>
<td>42</td>
<td>42</td>
</tr>
</tbody>
</table>

**Source:** Author (2018)
It was noted there was a positive correlation coefficient between return on equity and relational capital, as can be seen from the result of 0.625 which was significant. Another finding found there was a strong positive correlation between return on assets of commercial bank and financial innovativeness as indicated by the value of 0.778 which was significant. The study advanced that there was a strong positive correlation between return on assets of commercial bank and structural capital as shown by a value of 0.867 which was significant. The study found a positive correlation between return on assets of commercial bank and human capital as shown by correlation coefficient of 0.722 which was considered insignificant.

Table 4.29: Correlation Analysis of Net Profit Margin

<table>
<thead>
<tr>
<th></th>
<th>NPM of Commercial Banks (Y)</th>
<th>Relational Capital (X1)</th>
<th>Financial Innovativeness (X2)</th>
<th>Structural Capital (X3)</th>
<th>Human Capital (X4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NPM of Commercial Banks (Y)</td>
<td>Pearson Correlation</td>
<td>1</td>
<td>.833**</td>
<td>.816**</td>
<td>.747**</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>205</td>
<td>0.189</td>
<td>0.013</td>
<td>0.108</td>
<td>0.146</td>
</tr>
<tr>
<td>N</td>
<td>205</td>
<td>205</td>
<td>205</td>
<td>205</td>
<td>205</td>
</tr>
<tr>
<td>Relational Capital (X1)</td>
<td>Pearson Correlation</td>
<td>.833**</td>
<td>1</td>
<td>-0.205</td>
<td>0.864**</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>205</td>
<td>205</td>
<td>205</td>
<td>205</td>
<td>205</td>
</tr>
<tr>
<td>Financial Innovativeness (X2)</td>
<td>Pearson Correlation</td>
<td>.816**</td>
<td>-0.205</td>
<td>1</td>
<td>-0.624</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>205</td>
<td>205</td>
<td>205</td>
<td>205</td>
<td>205</td>
</tr>
<tr>
<td>Structural Capital (X3)</td>
<td>Pearson Correlation</td>
<td>.747**</td>
<td>.9864**</td>
<td>-0.624</td>
<td>1</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>205</td>
<td>205</td>
<td>205</td>
<td>205</td>
<td>205</td>
</tr>
<tr>
<td>Human Capital (X4)</td>
<td>Pearson Correlation</td>
<td>.786**</td>
<td>0.213</td>
<td>0.614</td>
<td>0.138</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>205</td>
<td>205</td>
<td>205</td>
<td>205</td>
<td>205</td>
</tr>
<tr>
<td>Source: Author (2018)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
It was noted there was a positive correlation coefficient between net profit margin and relational capital, as can be seen from the result of 0.833 which was significant. Another finding found there was a strong positive correlation between net profit margin of commercial bank and financial innovativeness as indicated by the value of 0.816 which was significant. The study advanced that there was a strong positive correlation between net profit margin of commercial bank and structural capital as shown by a value of 0.747 which was significant. The study found a positive correlation between net profit margin of commercial bank and human capital as shown by correlation coefficient of 0.786 which was considered insignificant.
CHAPTER FIVE

SUMMARY CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

The chapter contains the summary of the findings, conclusion and the recommendations of the study in line with the objective which was to establish the relationship between intellectual capital efficiency and financial performance of commercial banks in Kenya. The specific objectives were to determine the effect of relational capital, financial innovativeness, structural capital efficiency and human capital efficiency on financial performance of commercial banks in Kenya.

5.2 Summary

5.2.1 Relational Capital and Financial Performance of Commercial Banks

Results gotten from the regression test anticipate that, a unit increment in relational capital would lead to an increment in financial performance of commercial banks. The study found a positive relationship coefficient between money related performance of commercial banks and social capital. Results from descriptive statics moreover showed that the number of workers who have cleared out the bank within the final five a long time appear that the year 2015 seen the most elevated normal number of representatives taking off the managing an account industry (904) while the year 2011 had the (683) slightest number of the employees’ turnover. The study results uncover a heightening drift in worker's turnover within the final five years. Further the study notes that on average the year 2011 had the slightest number (30,056) of representatives working within the managing an account segment whereas the year 2015 had the most elevated normal number (36,212) of workers working in the bank industry. The results showed an expanding drift of workers working within the bank division
over the final five a long time. The findings bolster the contention by Håkansson & Snehota, (2012) that long enduring connections are a source of competitive advantage.

The study moreover uncovered that contributing in social capital is basic in guaranteeing money related execution of commercial banks in Kenya. Results evaluating on development in accounts appear that on normal the year 2011 had the slightest number (14,250,503) of account openings whereas the year 2015 had the most elevated normal number (35,194,496) of account openings. The comes about appear an expanding slant in opening of modern accounts within the final five a long time. Expressive comes about give that the quality of working environment relations is basic to representative maintenance which impacts the authoritative execution. The study moreover noted that great reputation is imperative to get competitive advantage since this gives important data to partners approximately the firm. The findings acclimate to the ponder findings by Weigelt & Camerer, (2008) that reputation has an imperative impact on partner convictions, states of mind, and behaviors when these bunches have fragmented data with respect to organizational characteristics.

5.2.2 Financial Innovativeness and Financial Performance of Commercial Banks

Results gotten from the regression test anticipate that, a unit increment in financial innovativeness would lead to an increment in financial execution of commercial banks. The think about found a positive relationship between budgetary execution of commercial banks and financial innovativeness. Clear results appear that significant number of banks had contributed in inquire about and advancement. There has been advancement of unused items in most of the banks which there has been an increment within the deals of modern items in most of the banks. The findings concur with the inquire about findings by Kimari (2013) concluded that there was a positive relationship between budgetary development and money related execution of banks in Kenya.
Information results examining the degree of banks venture in inquire about and improvement of money related items appear that the year 2015 recorded the most noteworthy esteem for bank’s add up to venture in investigate and advancement of budgetary items as appeared by a mean of value of 5,262,617,604 whereas the year 2011 recorded the least esteem for add up to venture in investigate and advancement of money related items at 1,731,178,818. The comes about appear an expanding slant in speculation in inquire about and improvement of budgetary items within the final five a long time. The study too noted that the year 2015 recorded the most elevated income earned from the unused items as appeared by a mean of value of 456,810 whereas the year 2011 recorded the least income earned from the modern items at 89,453. The results too appear an expanding drift in speculation in investigate and development of budgetary items within the final five a long time.

The study too noted that financial innovativeness is improved to guarantee superior financial performance of commercial banks in Kenya. Monetary developments lower the exchange taken a toll of exchanging reserves from lower yielding cash equalizations to higher yielding options. Subsequently, with monetary advancements advertise members endeavor to play down hazard and to maximize return. The findings concurs with the investigate findings by Vonortas and Xue (2011) that money related development can provide four sorts of benefits other than cash: information, brand, environment and culture.

5.2.3 Structural Capital and Financial Performance of Commercial Banks

Results gotten from the regression test foresee that, a unit increment in structural capital would lead to an increment in financial performance of commercial banks. The study found a positive relationship between financial performance of commercial banks and structural capital. Clear results appear to show that all the banks have an mechanized data handling framework, most of the banks had intranet that encourages sharing of data among workers
and data frameworks make it simple to get to pertinent data. The study too uncovered that intellectual innovative advancements offer assistance make strides associations competitiveness with the extreme point of expanding company esteem. The findings acclimate to the investigate by Lonnqvist et al (2009) who watched that intellectual capital administration plays a really key part in guaranteeing the arrangement of the alter substance with the key objectives of the organization.

The study moreover uncovered that data frameworks (as the auxiliary capital) and the substance components (as the organizational capital) of the structural- organizational insights (SOI) are essentially related in achieving competitive advantage. Comes about evaluating the Bank’s add up to investment/spending in obtaining and overhauling data frameworks appear that the year 2015 recorded the most noteworthy esteem in bank’s add up to investment/spending in acquiring and overhauling data frameworks as appeared by a mean of value of 29,236,764,468 whereas the year 2011 recorded the most reduced esteem in bank’s add up to investment/spending in acquiring and updating data frameworks at 8,655,894,092. The results appear to show an expanding drift in bank’s investment/spending in obtaining and updating data frameworks within the final five a long time. The findings agree with the inquire about findings by Halim (2010) argued that structural capital may be a stock of information that's possessed by the firm which includes corporate culture, data innovation and unequivocal information, item advancement, handle optimization, and development among others.

5.2.4 Human Capital and Financial Performance of Commercial Banks

Results obtained from the regression test predict that, a unit increase in human capital would lead to an increase in financial performance of commercial banks. The study found a positive relationship between financial performance of commercial banks and human capital.
Descriptive results reaffirm that the organisational staff have more than five years’ encounter in their individual employments, all the representatives have the desired proficient capabilities that are suited to their zones of operation, workers are competent in their regions of responsibilities/duties which workers are required to experience at slightest one aptitude upgrade preparing per year. The findings agree with the inquire about findings by Prahalad and Ramaswamy, (2010) contributing in human may result in higher income for the company as representatives are more likely to stay with a company that contributes in their preparing and improvement, coming about in lower turnover rates.

The study also noted that human capital should be enhanced/improved to ensure better financial performance of commercial banks in Kenya. The study uncovered that the year 2015 recorded the most noteworthy value investment/spending in employees’ preparing within the final five a long time as appeared by a mean of esteem of 4,970,249,960 whereas the year 2011 recorded the least esteem for investment/spending in employees’ preparing within the final five years 3,264,995,517. The results appear to show an expanding drift in bank’s investment/spending in acquiring and overhauling data frameworks within the final five a long time. Human capital upgrade can be anticipated to lead to higher efficiency and productivity as a coordinate result of the expanded capacity of the representatives to perform their errands, the findings are in bolster of the inquire about by Choo and Bontis (2013) that human capital upgrade may move forward not fair the capacity of representatives to convey more prominent efficiency, but moreover their eagerness, commitment and inspiration so to do.

5.3 Conclusion
The study concludes that relational capital had a significant influence on the financial performance of commercial banks; most of the banks had made tremendous investment in relational capital in the last five years. The study also concludes that there having been an
increasing trend of employees working in the banking sector over the last five years, long lasting relationships are a source of competitive advantage to financial institutions and that the quality of workplace relations is critical to employee retention which influences the organisational performance.

The study concludes that financial innovativeness had a positive influence on financial performance of financial institutions in Kenya. Banks had made huge investment in financial innovation and product development in the last five years. Financial innovations had statistically and significantly influence on income, return on assets and profitability of commercial banks.

The study concludes that structural capital had a positive influence on financial performance of commercial banks, investments made on structural capital by banks was found to be significantly related to the financial performance of the commercial banks which determined the bank’s profitability and asset value.

The study concludes that investment in human capital had a positive influence on financial performance of commercial banks. Investing in human capital resulted to higher revenue generation as employees willingly continued working with the institution thus resulting in lower turnover rates. Investing in human capital improved not just the ability of employees to deliver greater productivity, but also their willingness, commitment and motivation so to do.

5.4 Recommendations

Financial institutions should continually invest in relational capital development (credibility, integrity, and authenticity converge) as this will amplify organisational net worth in life and business.

As noted structural capital contributes to increased financial growth and performance. Therefore, improvements in structural capital should be facilitated through application of
modern technology and innovative operational strategies to effectively bring about financial performance in the commercial banks.

The findings revealed that financial innovativeness is directly related to the financial performance. Therefore, more investments should therefore be done through establishing new products which are associated positively with financial performance.

Financial institutions should continually invest in human capital as it was found to be directly related to the financial performance. Financial institutions should have a strong human resource strategic management plan that conceptualises on human capital. Strong measures should be implemented to monitor execution of the plan.

5.5 Suggestions for Further Research

The focus of this study aimed to investigate on aspects determining the relationship between intellectual capital efficiency and financial performance of commercial banks in Kenya. The study variables (relational capital, financial innovativeness, structural capital and human capital) accounted for 80.3 percent changes in financial performance of commercial banks. This study proposed that the other variable that accounts for 19.7% should be established and their effects assessed as well.
REFERENCES


Dul, J. and Hak, T. (2008, August). Ceilings and floors: theoretical and statistical considerations when the goal is to draw boundaries of data, not lines through the middle. In *American Political Science Association Annual Meeting, Boston*.


APPENDICES

Appendix I: Secondary data Collection sheet

<table>
<thead>
<tr>
<th></th>
<th>2011 Millions'</th>
<th>2012 Millions'</th>
<th>2013 Millions'</th>
<th>2014 Millions'</th>
<th>2015 Millions'</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Income</td>
<td>89,453</td>
<td>356,305</td>
<td>362,177</td>
<td>418,698</td>
<td>456,810</td>
</tr>
<tr>
<td>Net Profit</td>
<td>256,335</td>
<td>107,899</td>
<td>125,760</td>
<td>141,145</td>
<td>134,017</td>
</tr>
<tr>
<td>Total Equity</td>
<td>282,717</td>
<td>362,182</td>
<td>432,178</td>
<td>501,733</td>
<td>540,578</td>
</tr>
<tr>
<td>Total Assets</td>
<td>2,020,817</td>
<td>2,330,335</td>
<td>2,703,394</td>
<td>3,199,396</td>
<td>3,492,643</td>
</tr>
<tr>
<td>Return on Equity (ROE) = Net profit/ Total equity</td>
<td>90.67%</td>
<td>29.79%</td>
<td>29.10%</td>
<td>28.13%</td>
<td>24.79%</td>
</tr>
<tr>
<td>Return on Assets (ROA) = Net profit/ Total equity</td>
<td>12.68%</td>
<td>4.63%</td>
<td>4.65%</td>
<td>4.41%</td>
<td>3.84%</td>
</tr>
</tbody>
</table>
Appendix II: Research Questionnaire

Kindly respond to the following questions by ticking on the appropriate box (√) or filling the answers in the blank spaces

A. DEMOGRAPHIC INFORMATION

1. What is your gender? Male [ ] Female [ ]

2. What is your age?
   18-25 years [ ]
   26-35 years [ ]
   36-45 years [ ]
   46 years and above [ ]

3. For how long have you been serving in this institution?
   Below 1 years [ ]
   2-3 years [ ]
   4-5 years [ ]
   46 years and above [ ]

4. What is your highest level of education?
   Primary school [ ]
   Secondary school [ ]
   Tertiary college [ ]
   University [ ]

PART B: RELATIONAL CAPITAL

5. Kindly give financial data on the questions below.

<table>
<thead>
<tr>
<th>Statements</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicate the number of employees who have left the bank in the last five years</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indicate the total number of employees in the bank for each of the five years</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The number of customers with accounts at the bank for each of the five years</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6. In your opinion how can the relational capital be enhanced/improved to ensure better financial performance of commercial banks in Kenya?

........................................................................................................................................................................
........................................................................................................................................................................
........................................................................................................................................................................
........................................................................................................................................................................
PART C: FINANCIAL INNOVATIVENESS

7. Which new products have been introduced by the bank in the last five years?

8. State your level of agreement with the following statements on financial Innovativeness?
   Use a scale of 1-5 where 1= Very great extent; 2 Great extent; 3= Moderate extent; 4= Low Extent and 5= Very Low Extent

<table>
<thead>
<tr>
<th>Statements</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Our organisation invests in research and development</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>There has been development of new products in our organisation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>There has been an increase in the sales of new products in our organisation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

9. Kindly give financial data on the questions below

<table>
<thead>
<tr>
<th>Statements</th>
<th>Year</th>
<th>Year</th>
<th>Year</th>
<th>Year</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>What is the bank’s total investment in research and development of financial products in the last five years (in Kenya Shillings)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The revenue earned from the new products in the last five years (in Kenya Shillings)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

10. In your opinion how can the financial Innovativeness be enhanced to ensure better financial performance of commercial banks in Kenya?

   ................................................................................................................
   ................................................................................................................
   ................................................................................................................
PART D: STRUCTURAL CAPITAL

11. List the various information systems acquired by the bank in the last 5 years

12. Indicate your response to the following questions on structural capital

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>The bank has an automated information processing system</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The bank has intranet that facilitates sharing of information among employees</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Our information systems make it easy to access relevant information</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

13. Kindly give financial data on the question below

<table>
<thead>
<tr>
<th>Statement</th>
<th>Year</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>What is the bank’s total investment/spending in purchasing and upgrading information systems in the last five years (in Kenya Shillings)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

14. In your opinion how can the structural capital be enhanced/improved to ensure better financial performance of commercial banks in Kenya?

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employees are required to undergo at least one skill enhancement training per year</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Our employees have the required professional qualifications that are suited to their areas of operation</td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

PART E: HUMAN CAPITAL

15. State your level of agreement with the following statements on human capital? Use a scale of 1-5 where 1= strongly agree; 2 Agree; 3= Neutral; 4= Disagree and 5= Strongly Disagree

<table>
<thead>
<tr>
<th>Question</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employees are required to undergo at least one skill enhancement training per year</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Our employees have the required professional qualifications that are suited to their areas of operation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Employees are competent in their areas of responsibilities/duties

Most of our employees have more than five years’ experience of their respective jobs

16. Kindly give financial data on the question below

<table>
<thead>
<tr>
<th>Statement</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>What is the bank’s total investment/spending in employees’ training in the last five years (in Kenya Shillings)</td>
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<td></td>
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</tr>
</tbody>
</table>

17. In your opinion how can the human capital be enhanced/improved to ensure better financial performance of commercial banks in Kenya?

..........................................
..........................................
..........................................

END OF QUESTIONNAIRE

Thank you for taking your time to fill in the questionnaire.
Appendix III: List of 42 Commercial Banks

1. ABC Bank (Kenya)
2. Bank of Africa
3. Bank of Baroda
4. Bank of India
5. Barclays Bank of Kenya
6. Chase Bank Kenya (In Receivership)
7. Citibank
8. Commercial Bank of Africa
9. Consolidated Bank of Kenya
10. Cooperative Bank of Kenya
11. Credit Bank
12. Development Bank of Kenya
13. Diamond Trust Bank
14. Dubai Islamic Bank
15. Ecobank Kenya
16. Equity Bank
17. Family Bank
18. First Community Bank
19. Guaranty Trust Bank Kenya
20. Guardian Bank
22. Habib Bank AG Zurich
23. Housing Finance Company of Kenya
24. I&M Bank
25. Imperial Bank Kenya (In receivership)
26. Jamii Bora Bank
27. Kenya Commercial Bank
28. Mayfair Bank
29. Middle East Bank Kenya
30. National Bank of Kenya
31. NIC Bank
32. Oriental Commercial Bank
33. Paramount Universal Bank
34. Prime Bank (Kenya)
35. SBM Bank Kenya Limited
36. Sidian Bank
37. Spire Bank
38. Stanbic Bank Kenya
39. Standard Chartered Kenya
40. Trans National Bank Kenya
41. United Bank for Africa
42. Victoria Commercial Bank