EFFECT OF CENTRAL BANK RISK MANAGEMENT GUIDELINES COMPLIANCE ON FINANCIAL PERFORMANCE OF COMMERCIAL BANKS IN KENYA

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A Thesis Presented to the Institute of Postgraduate Studies of Kabarak University in Partial Fulfilment of the Requirements for the Award of Doctor of Philosophy in Business Administration (Finance Option).

KABARAK UNIVERSITY

NOVEMBER, 2021

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ABSTRACT

Banking failures coupled with declining profitability have been experienced in the Kenyan banking sector for a couple of years. This comes even after the Central Bank of Kenya has made concerted efforts to address the problem by introducing the risk management guidelines in 2005. Since the introduction of these guidelines, a total of seven bank failures have been recorded. Additionally, in its report on the financial position and performance of the Kenyan banking sector for 2016/2017, banks profitability recorded a decline compared to the previous year. This situation raises the issue of whether these guidelines have had any effect on enhancing bank performance. The objective of this study was to determine the effectiveness of central bank risk management guidelines on the financial performance of commercial banks in Kenya. The specific objectives of the study were to establish the effect of the board and senior management oversight, policies and procedures, internal controls system, risk monitoring and management information system, and capital and liquidity limits on financial performance of commercial banks in Kenya. The study further sought to establish the moderating effect of bank size on the relationship between central bank risk management guidelines and financial performance of commercial banks in Kenya. This study was guided by three theories: Stakeholder theory, Institutional theory, and systems theory. A descriptive research design was used for the study and the study's target population comprised of all the 42 commercial banks licensed by the central bank to operate in Kenya. Sampling was not required since the study adopted a census of all the banks. Both secondary and primary data were collected and subsequently analysed with the facilitation of the Statistical Package for Social Sciences. The analysis encompassed both descriptive and inferential statistics. The study found that compliance with risk management guidelines on board and senior management oversight, capital and liquidity limits, policies and procedures, and risk monitoring and management information system, did not have statistically significant effect on the financial performance of commercial banks in Kenya. However, compliance with the internal controls guidelines had a statistically significant effect on financial performance of the banks. The study further revealed that bank size had a significant moderating effect on the relationship between CBK's risk management guidelines compliance and financial performance of commercial banks in Kenya. It was concluded that bank size is a crucial factor in reference to how the compliance of commercial banks to the risk management guidelines laid down by the CBK affected the former's financial performance. The study recommended that, for the Central Bank of Kenya to formulate risk management guidelines that take consideration on bank size in terms of bank's overall financial strength, complexity of the institution's operations, scope of the institution's activities, size of the institution, and bank's years in operation. The findings of this study are beneficial to the Central Bank of Kenya in informing the review of the guidelines, management of commercial banks in making decisions and other scholars in the same area of study to provide literature.

Key Words: *Board and senior management oversight, capital and liquidity limits, commercial banks, financial performance, internal controls, management and information system, return on assets, risk management guidelines, risk monitoring*

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LIST OF ABBREVIATIONS

BCBS	Basel Committee on Banking Supervision
BIS	Bank for International Settlement
BNM	Bank Nagara Malaysia
CAMELS	Capital Adequacy, Asset Quality, Management, Earnings, Liquidity and Sensitivity to Market risk
CAR	Capital Adequacy Ratio
CBK	Central Bank of Kenya
CEO	Chief Executive Officer
CMA	Capital Markets Authority
COSO	Committee of Sponsoring Organization of the Treadway Commission
CRO	Chief Risk Officer
ERM	Enterprise Risk Management
GRMS	Global Risk Management Survey
M & A	Mergers and Acquisitions
MIS	Management Information System
NACOSTI	National Commission for Science, Technology, and Innovation
NIM	Net Interest Margin
NPLs	Non-Performing Loans
NSE	Nairobi Securities Exchange
OECD	Organization for Economic Co-operation and Development

RG	Risk Guidelines
RMGs	Risk Management Guidelines
ROA	Return on Assets
ROE	Return on Equity
SABB	Saudi British Bank
SAMBA	Saudi American Bank
SPSS	Statistical Package for Social Sciences
VIF	Variance Inflation Factor

OPERATIONAL DEFINITION OF KEY TERMS

Board and Senior Management Oversight: This refers to the ultimate responsibility of Board and Senior Management for the level of risk taken by their institutions in approving the overall business strategies and significant policies of their organizations CBK, 2013). In this study, Board and Senior Management Oversight refers to the roles of board members and senior management teams of commercial banks that are related to managing and taking risks and should ensure senior management is fully capable of managing the activities that their institutions conduct.

Capital Adequacy: Capital Adequacy is the level of capital necessary for a bank as determined by the regulatory and supervisory authorities to assume the bank's financial health and soundness (Ojoh & Iwara, 2014). In this study, capital adequacy refers to the amount of capital necessary in maintaining the safety and durability of the bank and integrity of the banking system in general which prevents any unexpected loss that can be exposed to the bank.

Commercial Bank: It is a financial intermediary that takes deposits and gives credit amongst other financial services (Wanjohi et al., 2017). In this study, commercial bank an Institution that provides services such as accepting deposits, providing business loans and offering basic investments products like the certificate of deposits and savings accounts for individuals and small businesses.

Financial Institution: This refers to an establishment that mobilizes savings for productive investments and facilitates capital flows to the various sectors in the economy (Richard, 2011). In this study, financial institution refers to refers to the commercial banks licensed to operate in Kenya.

Financial Performance: This Refers to the ability to operate efficiently, profitably, survive, grow and react to the environmental opportunities and threats (Mawanda, 2008). In this study, financial performance referred to the Return on Assets (ROA), Return on Investment (ROI) and Return on Equity (ROE).

Internal Control System: A set of rules and controls governing the banks organizational and operational structure including reporting process, and functions of risk management, compliance and internal audit (Basel Bank for International Settlements, 2015). The same definition was adopted for the current study.

Internal Control: This refers to a process effected by an entity's Board of Directors, Management and other personnel designed to provide reasonable assurance regarding the achievement objectives related to the operation, reporting and compliance (COSO Internal Control Framework, 2004). In this study, internal controls referred to the mechanisms, policies, guidelines, rules and procedures put in place by the Central Bank of Kenya to ensure operational effectiveness of commercial banks in Kenya.

Liquidity Risk: The risk to an institutions earnings or capital arising from its inability to meet its obligations as they fall due, without incurring significant costs or losses (CBK, 2013). In this study, liquidity risk refers to the risk that occurs when a commercial bank cannot meet its short term obligations due to inability to covert a assets into cash as a result of lack of buyers in the market.

Liquidity: It is a measure of the ability and ease with which assets can be converted into cash to meet financial obligations as and when they fall due (Olagunju et al., 2012). In this study, Liquidity was conceptualized as the ability of a commercial banks to meet its short term obligations.

Management Information Systems: Management information system (MIS) is a set of systems and procedures to gather information from a variety of sources compile it and present it in a reliable format (Al-Adwan, 2016). In this study, management information system (MIS) refers to systems used to generate reports that provide them with a comprehensive overview of the information that they need to make decisions ranging from the daily details of the strategy at a high level.

Policies and Procedures: This refers to deliberate plan of action to guide decisions and achieve rational outcome(s) (Munyiri, 2010). In this study, Policies and

Procedures refers to well documented guidelines, duly approved by the board and strictly implemented by the management.

Return on Assets: This is a measure of the overall effectiveness of a company to make profits from investments and assets at its disposal (Almazari & Alamri, 2017). Return on Assets as operationalized in this study refers to how profitable a commercial bank is relative to its total assets.

Return on Equity: This is the amount of net income returned as a percentage of shareholders' equity and measures the ability of a firm to generate profits from its shareholders' investments in the bank (Rennox, 2017). In this, study, Return on Equity refers to a profitability ratio that measures the ability of a commercial bank to generate profits from shareholders investment in the bank.

Risk Management: This is the process whereby organizations methodically address the risks associated with their activities with the aim to achieve sustained benefit (Hui-Nee, 2014). The current study adopts the same definition.

Risk Management Guidelines: These are rules of thumb or suggestions that guides risk management practices of an organization by providing guidelines to all institutions on minimum requirements for risk management systems and Frameworks (CBK, 2013). In this study, risk management guidelines imply to those rules by Central Bank of Kenya that govern the operations of commercial banks in Kenya with an aim of managing risk and avoiding risk.

Risk Monitoring: This refers to the on-going process of identifying possible events or future changes that could have a negative impact on the institution's credit portfolio or a bank's ability to withstand the changes (Mutua, 2015). The study adopted the same definition.

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CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Risk is a word that has various meanings to various people (Lalon, 2015). It is a word that causes the feeling of agency because it addresses detrimental, sometimes catastrophic outcomes (Lalon, 2015). According to CBK (2013), the risk is the possibility that the outcome of an action or event could bring about the adverse impact on the institutions capital or earnings. Hui-Nee (2014) defines risk as uncertain future events that could influence the achievement of objectives and uncertainty which includes events caused by ambiguity or lack of information. Lalon (2015) defines the risk as to the element of uncertainty or the possibility of a loss that prevail in any business transaction in any place, in any mode and at any time.

In banking institutions, risk is a major component (Hui-Nee, 2014). Several methods are used to classify risk; the first is to differentiate between financial risk and business risk. Business risk is related to the activity of the organization itself and focuses on factors affecting the product or market. Financial risk, on the other hand, refers to the potential losses in the financial markets caused by the fluctuations in financial variables (Hui-Nee, 2014). The outcome of a risk could either result in a direct loss of earnings or may result in the imposition of constraints on banks' ability to meet its business objectives (CBK, 2013). Risk can further be classified into systematic and unsystematic risk. Systematic risk is associated with the overall market or economy whereas unsystematic risk is related to a specific asset or firm (Al-Mazrooei & Al-Tamini, 2007).

1.1.1 Global Perspective

In 1988 the Basel committee which comprises of representatives of central banks and supervisory authorities of Belgium, Canada, France, Germany, Italy, Japan, Netherlands, Sweden, United Kingdom, United States, and Luxembourg announced the Basel agreement known as the Basel I to improve the quality of banking supervision all over the world. In 2001, the BCBS developed the Basel II in order to expand the Basel I which focused only on credit risk (capital adequacy). The Basel II goes beyond Basel I and sets out a framework, which consists of three pillars; the

minimum capital requirement, the supervisory review and Market discipline. In 2010, in response to the 2007-2008 global financial crises, BCBS published two important documents in an attempt to diagnose the effect of the financial crisis on the banking sector and the financial system as a whole. Contained in the document were a set of comprehensive reforms that formed the Basel III. The aim of these reforms was to strengthen the capital, liquidity and risk assessment by all banking institutions.

In addition to the Basel accords, the BCBS also issued a set of core principles for effective banking supervision. The core principles are a framework of minimum standards for sound prudential regulation and supervisory practices and are universally applicable. Originally issued by the Basel committee in 1997, they are used by countries to benchmark for assessing the quality of their supervisory system and for identifying future work to achieve a baseline level of sound supervisory principles. The aim of these principles is to strengthen the global financial system. The principles were first revised in October 2006 and a further revision in March 2011.

The latter revision defines 29 principles that are needed for a supervisory system to be effective. These principles are broadly categorized into two groups, the first group (principles 1 to 13) focus on powers, responsibilities, and function of supervisors while the second group (Principle 14 to 29) focus on prudential regulations and requirement for banks (Basel Bank for International Settlements, 2012). According to the Basel core principles for effective banking supervision, Principle 15 "risk management processes" requires that banks and banking groups must have comprehensive risk management processes to identify, evaluate, monitor and control or mitigate all material risks and assess their overall capital adequacy in relation to their risk profile (Basel Bank for International Settlements, 2012).

Risk management failures at major corporations have captured headlines for many years not only in the financial sector but also in other sectors as well. Some of the major failures included, Olympus, Enron, World Com, Satyam and Parmalat in the non-financial sector, these failures were primarily due to accounting fraud (Organization for Economic Co-operation and Development, 2014). In the financial sector, seven major bank failures have occurred. During the 1980's savings and loan crisis, three major banks collapsed in the United States. Continental Illinois National

Bank Trust, the 6th largest bank in the United States collapsed in 1984 due to a significant increase in losses stemming from non-performing loans. First Republic bank collapsed in 1988 due to increased non-performing loans which led to a bank run. American Savings and Loan also collapsed in February 1989 due to bank run (Schranz & Eisenegger, 2011).

A study by Elbannan (2017), on the financial crisis, Basel accords and Banking regulations revealed that most risk models used by banks were not effective enough to rely upon and failed to forecast, and mitigate the financial failures that resulted from economic shocks during the crisis. In view of these failures, the Basel committee on banking supervision (BCBS) issued the first Basel accord known as Basel I in 1988. Basel I regulation sets out the minimum capital requirements of financial institutions with the goal of minimizing credit risk. Banks that operate internationally are required to maintain a minimum amount of (8%) of capital based on a percentage of risk-weighted assets. This was in response to the findings of the Basel committee that the major cause of financial failures in 1980's was due to capital risk, that is most financial institutions did not have adequate capital on account to absorb unexpected losses (BCBS,2012).

In spite of the Basel I guideline being introduced to address the failures during 1980's savings and loan crisis, financial failures persisted, Bank of New England failed on January 6th, 1991 along with two sister banks Maine National Bank and Connecticut bank due to the bad loan portfolio (Kaminsky & Reinhart,1999). In response to this persistence, the BCBS amended the Basel I in 1996 to incorporate market risk into the risk-based capital requirement. The objective was to give a strong cushion against interest rate risk, equity risk in trading portfolios; foreign exchange risk and commodities risk. It was followed further by issuing Basel II in 2001. The objective of Basel II was to expand the Basel I which focused only on credit risk. The Basel II constitutes three pillars; minimum capital requirement, supervisory review and market discipline (BCBS, 2012).

Despite the efforts of Basel I and Basel II, financial failures continued during the 2008 financial crisis. Indy Mac Bank of United States closed in 2008 as it was not able to withstand a bank run coupled with eroding loan portfolio while Washington mutual also of the United States was placed into receivership the same year due to a

severe bank run on its deposits (Schranz & Eisenegger, 2011). To cure the failures that resulted from the 2008 financial crisis, the BCBS introduced some reforms in the banking regulations requirements known as the Basel III. The reforms were issued in late 2009 giving banks approximately three years to satisfy all the requirements. The aim of the Basel III was to strengthen the global bank capital, enhance liquidity position and to develop a strong framework for resilient banking systems (Elbannan, 2017). Often these failures were facilitated by corporate governance failures, where boards did not fully appreciate risks that the companies were taking (OECD, 2014).

Deloitte and Touche carries out the annual global risk management survey. In the first quarter of 2016, it conducted the 10^{th} edition of the survey. The survey was aimed at the assessment of the state of risk management in the global financial services industry. The survey was based on responses of 77 financial institutions from around the world and across multiple financial services sector. According to the survey findings, boards of directors devoted more time and took a more active role in the oversight of risk management, the chief risk officer (CRO) role became almost universal and Enterprise Risk Management (ERM) programs designed to identify and manage risks across the enterprise became the norm (Deloitte, 2017).

Over the 20 years that Deloitte and Touche has been conducting its global risk management series, the financial services industry has become more complex with the evolution of the financial sector, the increase in the size of financial institutions, the global interconnectedness of firms and introduction of new products and services (Deloitte, 2017). At the same time regulatory requirements and expectations for risk management have broadened to cover a range of issues and also become more stringent especially in the years since the global financial crisis (Deloitte, 2017).

The global financial crisis has been characterized by market volatility, a lack of liquidity in many financial markets and enhanced systematic risk for most financial institutions. This trouble has underscored the critical importance of risk management. Many institutions are rethinking their risk management governance models (Hui-Nee, 2014). The global financial crisis started in the sub-prime markets in the USA and spilled over to the UK, Europe and to the rest of the world due to the high integration of world markets and the international structure of financial services sector (Muradoglu, 2010). A study by Abdelharim (2013) on the effectiveness of credit risk

management of Saudi Banks in light of global financial crisis revealed that credit risk management had a significant positive impact on the financial performance of Saudi banks.

The Asian Financial Crisis 1997-1998 also drew attention to the shortcomings of the banking sector risk management and also the weaknesses of Malaysian corporate governance practice. The Bank of Nagara Malaysia (BNM) net non-performing Loans (NPL, s) were relatively high at 13.2% in 1997-1998 (Ibrahim, 2011). Bank of Nagara is the central bank of Malaysia. This crisis led the government to adopt corporate reforms where concerted efforts were taken by the BNM to enhance credit risk management infrastructure and underwriting practices. This culminated in the issue of guidelines on Risk Governance (RG) by BNM in March 2013. The Guideline is the final piece of the jigsaw in bringing together the other guidelines on risk into a complete and cohesive risk management framework for all banks in Malaysia. One of the key principles underlying the risk governance guidelines is the creation of a Chief Risk Officer (CRO) role.

Subsequent to this guideline issued by the BNM, Hui- Nee, (2014) carried out a study on risk management in Malaysian commercial banks where he conducted a content analysis on nine commercial banks listed in Bursa Malaysia. The results of the study indicated that Malaysian bankers are aware of the importance of risk management guidelines and have implemented risk management strategies and effective risk management frameworks. A study by Haan and Kakes (2018) reveals that European banks were hard hit by the 2007-2009 global financial crises and the subsequent European debt crisis. According to the study, losses were still accumulating for some banks up to 2017. The conclusions of the study point out that regulatory measure remains essential to promote financial systems resilience and that the overall experience in Europe illustrates that prudential measures to mitigate systemic risks are relevant for broader categories of banks.

1.1.2 Regional Perspective

In the regional perspective risk management guidelines among financial institutions has attracted a number of studies. Kumah and Sare (2013) carried out a study on risk management practices among commercial banks in Ghana. The study found out that risk monitoring and control were the most influencing variables in risk management

practices among the banks in Ghana. Njanike (2009) also carried out a study on the impact of effective credit risk management on bank survival in Zimbabwe where the results obtained from the study supported the assertion that poor credit management contributed to a greater extent to bank failures in Zimbabwe.

Kolapo, Ayeni and Oke (2012) also conducted an empirical investigation into the quantitative effect of credit risk on the performance of commercial banks in Nigeria over a period of 11 years (2000-2010). They found out that the effect of credit risk on performance measured by return on Assets of banks is a cross-sectional invariant, that is nature and managerial patterns of individual firms do not determine the impact. Based on their findings they recommended that banks in Nigeria should enhance their capacity in credit analysis and loan administration while the regulatory authority should pay more attention to banks compliance to relevant provisions of the banks, other financial Institutions act and prudential guidelines.

1.1.3 Local Perspective

Kenya has experienced banking problems since 1986 culminating in major bank failures (37 failed as at 1998) following the crisis of 1986-1989, 1992-1994 and 1998 (Waweru & Kalani, 2009). Before the passing of the banking act of 1989 nine bank failures were recorded, these banks were; union bank, nationwide finance, Kenya savings and Mortgages, Jimba credit corporation, estate finance, estate building society, Citizen building society, and home savings and mortgages. Since 1999, the banking institutions in Kenya have been regulated under the Basel I Capital adequacy accord which was issued in 1988. The 1988 accord was later amended in 1996 to incorporate a capital charge for the market risk which Kenya also adopted (CBK, 2007). The Central Bank of Kenya put forward the risk management guidelines in order to address the risk management failures that were outlined in the risk management survey it conducted in 2004 (CBK, 2013). In 2004, the Basel committee issued Basel II capital accord which in addition to the credit and market risk, introduced a capital charge for operational risks.

In 2007, central bank of Kenya stated that Kenya was not able to implement the Basel II because it had not met the preconditions for its implementation which included the full implementation of the Basel I , Adoption of risk based supervision and adherence to the Basel core principles for effective banking supervision. These failures

precipitated the passing of the banking act 1989 and the enforcement of Basel I accord principle. Between 1993- 1995 a further 19 banks collapsed several of which had been wrapped up in the golden burg scandal. Some of the major failed banks during this period include; bullion bank, Trust bank, prudential bank, City finance bank and Reliance bank among others (Waweru & Kanani, 2009). These persistent failures triggered the Central Bank of Kenya to carry out a risk management survey for the banking sector in 2004. According to the report, many banks reported that they heavily relied on the Central Bank of Kenya's prudential returns to monitor risks, due to the absence of internal risk management information systems (CBK, 2010).

In response to the bank risk management survey conducted in 2004, the central bank introduced the risk management guidelines (RMGs) in 2005 to assist institutions under its purview in formulating and implementing internal risk management policies and procedures with a view to better monitor measure and report risks, this was in addition to enforcement of the Basel II principles which were also issued in 2004 (CBK, 2013). According to CBK (2010), as the banking sector in Kenya continues to embrace innovations, the intensity, and variety of risks that the players are exposed also continue to increase in tandem. To ensure that the growth in the banking sector does not jeopardize its stability, risk management is crucial. Risk management refers to the process established to ensure that all material risks and associated risk concentrations are identified, measured, limited, controlled, mitigated and reported on a timely and comprehensive basis (Basel Committee on Banking Supervision, 2015). Risk management is a cornerstone of prudent banking practice (Hui-Nee, 2014). Undoubtedly all banks in the present day volatile environment are facing a large number of risks such as credit risk, liquidity risk, foreign exchange risk, market risk, and interest rate risk among others which may threaten a bank's survival and success. For this reason, efficient risk management is absolutely required (Al-Mazoorei & Al-Tamimi, 2007).

Risk management guidelines formulated by the Central Bank of Kenya (CBK) are rules or suggestions that guide the risk management practices of a bank. A guideline aims to streamline particular processes according to a set of routine or sound practices, (CBK 2013). The central bank of Kenya introduced these risk management guidelines for the purpose of providing direction to all institutions on minimum

requirements for risk management systems and framework (CBK, 2013). The central bank of Kenya risk management guidelines borrows heavily from the Basel accord principles. Basel accord is a set of agreements issued by the BCBS which was set up by the Bank for International Settlement (BIS). The bank for international settlement is an international organization which fosters international monetary and financial co-operation and is located in Basel Switzerland. These guidelines are implemented internationally and are applied by all banks for the purpose of promoting monetary and financial stability. The Central Bank of Kenya has adopted these principles and requires all financial institutions under its supervision to implement them (CBK, 2013).

The document outlines that the risk management programs of each institution should at least contain the following elements of a sound risk management system; active board and senior management oversight, adequate policies, procedures and limits, adequate risk monitoring and management information system, adequate internal controls and capital and liquidity limits and the banks were given a six-month period in order to implement these guidelines (CBK, 2013). The guideline on board and senior management oversight stipulate that boards have the ultimate responsibility for the level of risk taken by their institutions. They should approve the overall business strategies and significant policies of their organizations. Senior management, on the other hand, is responsible for implementing strategies approved by the board in a manner that limits the risks associated with each strategy. They should be fully involved in the activities of their institutions and should possess sufficient knowledge of all business lines to ensure that appropriate policies, controls, and risk monitoring systems are in place. This guideline will ensure effective implementation and control of risk management strategies (CBK, 2013).

Policies and procedures guideline advocates that effective management of risk requires that policies and procedures limits should be established to ensure objective evaluation of and responsiveness to a bank's business environment. It further posits that policies on business strategies are critical in defining the business segments that the institution will focus on both the short run and in the long run. These policies and procedures should be tailored to the types of risks that arise from the activities of the institution (CBK, 2013).

Risk monitoring and management information guideline require institutions to identify and measure all material risks exposures and that the risk monitoring activities must be supported by an information system that provides senior managers and directors with timely reports on financial condition and risk exposure of the institution. In a competitive banking environment, the ability to effectively manage information is crucial to an institutions ability to remain competitive, introduce new products and services and to achieve its desired goals. Institutions should, therefore, ensure they have sufficient and robust management information system to support their strategic planning and decision making process (CBK, 2013).

Internal control guideline requires institutions to establish and maintain an effective system of controls including the enforcement of the official lines of authority and appropriate separation of duties. An institution's internal control structure is critical for the safe and sound functioning of the organization. It promotes effective operations and reliable financial and regulatory reporting, safeguard's assets and helps to ensure compliance with relevant laws, regulations and the institution's policies (CBK, 2013). Capital and liquidity limit guideline emanates from sections 19 of the banking act and it requires that an institution should maintain such minimum holding of liquid assets as the central bank may from time to time determine. It also endeavours to ensure that financial institutions conform to the statutory requirement on minimum capital. The objective is to ensure that financial institutions have enough cash on account to enable them to discharge their obligations and adequate capital to enable them to absorb unexpected losses caused by economic shocks (BCBS, 2012).

Since the introduction of the RMGs in 2005, bank failures persisted in Kenya evidenced by the collapse of Imperial bank, Dubai bank and Chase bank (Gathaiya, 2015). Subsequent developments in the global economy such as the 2008 global financial crisis and the Basel committee pronouncements (Basel III) have necessitated review by the central bank of both its prudential and risk management guidelines to ensure they remain relevant to the circumstances in the operating environment. The risk management survey (2010) aimed at evaluating what effect the RMGs have had on the institution's risk management functions, in order to determine the impact and adequacy of the RMG's.

Questionnaires were sent to 42 commercial banks and one mortgage institution in 2010. The questionnaire comprised of twelve questions that focused on the following aspects; existence of management and reporting lines in the risk function of the institution, risks faced by institutions, development of risk management manuals and programs by the institution's, challenges faced during establishment and roll out stages of the risk management function and strategies adopted to address those challenges, structure and staffing of risk management function, efforts undertaken by the institutions to create risk management awareness, usage of management information system in risk monitoring, measurement and reporting, changes experienced as a result of introduction of the risk management framework, budgetary allocation to the risk management function, review of the effectiveness of the risk management function , measures put in place to by institutions to enhance risk management function and finally recommendations by institutions on changes required in the current risk management guidelines.

Key findings of the survey indicated that 95% of the surveyed institutions reported that they had an independent risk management function. Market and operational risks were the risks of greatest concern to financial institutions and that the key challenges faced during the formulation and implementation of the risk management functions were lack of appropriate risk management policies and lack of skilled manpower among others. Bank failures continued to persist even with the risk management guidelines and the enforcement of the Basel II principles (Waweru & Kalani, 2009). These banks included; Kenya finance corporation, trade bank, euro bank, and charter house bank. From 2015 -2019 a further three banks collapsed, these included; Dubai bank, imperial bank, and Chase bank. Efficient financial risk management is required in any organization as return and risk are directly related to each other meaning that increase in one will subsequently increase the other and vice versa (Wanjohi, Wanjohi & Ndambiri, 2017). The findings of the study by Wanjohi et al., *(*2017) on the effect of financial risk management on the financial performance of commercial banks in Kenya concur with the findings of the study by Abdelharim (2013).

Several other studies have been conducted by researchers on the effect of particular risk management guidelines components on the financial performance of financial institutions and have found significant relationships. Fredrick, (2012) carried out a

study to analyse the impact of credit risk management on the performance of commercial banks. He attempted to establish if there exists any relationship between the credit risk management determinants by use of Capital adequacy, Asset Quality, Management, Earnings Stability, Liquidity and Sensitivity to Market Risk (CAMELs) indicators and financial performance of commercial banks in Kenya. The study found out that there is a strong impact of the CAMELs components on the financial performance of commercial banks.

According to the Kenyan financial stability report of 2016 the banking sub-sector recorded elevated credit risk which reflected in the deterioration of their asset quality following increased non-performing loans (NPLs) and provisions (CBK, 2017). The gross NPLs increased by 106 percent in the year to December 2016 compared to 30.14 percent in the year December 2015 (CBK, 2017). The sector also recorded a 10.9 percent increase in profits in the year to December 2016 but 11.7 present decline in profitability in the year to March 2017. The gross ratios of nonperforming loans (NPL, s) to gross loans increased from 8.3 percent in March 2016 to 9.5 percent in March, additionally between 2013 to March 2017 a total of seven banks have been or are in the process of being acquired or merged with others. (CBK, 2017. According to the central bank's annual report for 2016/2017 on financial position and performance of the Kenyan banking sector profits before tax decreased by 14.6 % from Kshs. 81.2 billion in the year to 30 June 2016 to Kshs. 69.3 billion in the year to 30 June 2017. These statistics point towards a situation where financial institutions in the Kenyan are struggling to remain profitable in the sector.

Profit is one of the ultimate goals of commercial banks. All the strategies designed and activities performed thereof are meant to realize this objective (Ongore, 2013)**.** To measure the profitability of commercial banks, there are a variety of ratios used which includes Return on Assets (ROA) and Return on Equity (ROE). From empirical studies return on assets is the most common measure of bank performance (Samson & Tarila (2015), Sarkar & Sarkar (2018), and Ozili (2015). ROA represents the bank's ability to make profits from its assets, while return on equity, on the other hand, represents the return to shareholders on their investments capital equity. According to Almazari & Alamri (2017), return on equity measures the return achieved by the company's shareholders. Return on Assets is an indication of the operational

efficiency while return on equity is a measure of equity holder's returns and the potential growth on their investments (Petersen & Schoeman, 2008)

1.2 Statement of the Problem

Commercial banks in Kenya have continued to face a myriad of challenges in their operations and vulnerability to both domestic and external shocks. This was evidenced by placement of one bank into liquidation in the second half of 2015 (Dubai bank) and two other banks into receiverships in the first quarter of 2016 (Imperial bank and Chase Bank (Gathaiya, 2015). This came against the backdrop of the implementation of the risk management guidelines by the central bank of Kenya in early 2005. Additionally, between 2013 and 2017, a total of seven banks were in the process of being acquired or merged with other banks (CBK, 2017). These banks included; Habib Bank Ltd, Fidelity Commercial Bank, Oriental Commercial bank, Equatorial Commercial Bank, Giro Commercial Bank, K-rep Bank, and Fina Bank. Another two banks, Commercial bank of Africa and NIC Banks also merged by the end of the year 2019. One of the key drivers for Mergers and Acquisitions (M & A) is an attempt to reduce risk of bank failure and curtail costs (both financial and social). Some other commercial banks in Kenya are struggling to remain operational in the sector have sought either to be acquired or to merge to ensure their survival.

Empirical studies carried out in Kenya have not specifically addressed all the components of the Central bank's risk management guidelines. Fredrick (2012) carried a study on credit risk management and performance of commercial banks in Kenya, while Ochieng (2014) also conducted a study on the effect of central banks prudential guidelines and regulations on the financial performance of commercial banks in Kenya. On the other hand, Karanja and Nasieku (2016) conducted a study on the effect of capital on the financial performance of commercial banks in Kenya while Rennox (2017) studied the effect of internal controls on the financial performance of commercial banks in Kenya. All these studies have focused only on isolated components of risk management guidelines and all the components of the Central bank's risk management guidelines. This study, therefore, seeks to fill this gap by examining all the five the components of the risk management guidelines which are commonly used and applicable in commercial banks in Kenya.

1.3 Objectives of the Study

1.3.1 General Objective

The general objective of the study was to determine the effectiveness of Central Bank's risk management guidelines on the financial performance of commercial banks in Kenya.

1.3.2 Specific Objectives

This study sought to achieve the following specific objectives

i. To determine the effect of the board and senior management oversight guideline compliance on financial performance of commercial banks in Kenya

ii. To examine the effect of policies and procedures guideline compliance on the financial performance of commercial banks in Kenya

iii. To establish the effect of the internal controls guideline compliance on financial performance of commercial banks in Kenya

iv. To determine the effect of risk monitoring and management information system guideline compliance on financial performance of commercial banks in Kenya

v. To evaluate the effect of capital and liquidity limits guideline compliance on financial performance of commercial banks in Kenya

vi. To determine the moderating effect of bank size on the relationship between CBK's risk management guidelines compliance and financial performance of commercial banks in Kenya.

1.4 Research Hypotheses

The following null hypotheses were tested:

H_{O1}: There is no significant effect of the board and senior management oversight guidelines compliance on financial performance of commercial banks in Kenya.

H_{O2}: There is no significant effect of policies and procedures guidelines compliance on financial performance of commercial banks in Kenya.

H_{O3}: There is no significant effect of internal controls guidelines compliance on financial performance of commercial banks in Kenya.

H_{O4}: There is no significant effect of risk monitoring and management information system guidelines compliance on financial performance of commercial banks in Kenya.

H_{O5}: There is no significant effect of capital and liquidity limits guidelines compliance on financial performance of commercial banks in Kenya.

H_{O6}: There is no significant moderating effect of bank size on the relationship between CBK's risk management guidelines compliance and financial performance of commercial banks in Kenya.

1.5 Significance of the Study

The findings of this study contribute to knowledge concerning risk management guidelines and its influence on the performance of financial institutions in Kenya more specifically the commercial banks. The study will benefit a diverse category of people. These include; the central bank of Kenya, Central Bank of Kenya being the regulator of commercial banks and also responsible for enforcing the risk management guidelines may be interested in the findings of the study to establish whether the risk management guidelines are effective in strengthening risk management practices among the commercial banks in Kenya or not. The management of commercial banks may also use the findings of this study to inform their policy decisions regarding effective risk management framework. Investors who are interested in committing their funds in purchasing stocks of listed commercial banks may use the findings of this study to evaluate the risk inherent in the institution they would wish to invest in. Finally, other researchers interested in expanding the literature on the subject may use the findings of this study to provide a foundation for comparison as well as to provide information for their literature.

1.6 Scope of the Study

The study sought to establish the effectiveness of Central Bank's risk management guidelines compliance on financial performance of commercial banks in Kenya. Risk management guidelines that the study focused included board and senior management

oversight, policies and procedures, internal controls, risk monitoring and management information system, and capital and liquidity limits. These represented the content scope of the study. The study's target population comprised of 42 commercial banks licensed by the CBK to operate in Kenya. The respondents of the study comprised of the chief risk officers and the chief financial officers or their equivalent working with the commercial banks at their respective head offices located in Nairobi, Kenya. This presented the population scope of the study. The primary data on which the study was based were collected in 2019 while secondary data, which were panel, covered the financial years 2005 to 2017. By the time of collecting primary data, commercial banks had published their financial reports up until the year ending December, 2017. The panel data were collected since year 2005 when the CBK's guidelines on risk management guidelines.

1.7 Limitations and Delimitations of the Study

The study sought to examine the performance of all commercial banks in Kenya which comprised of both listed and non-listed commercial banks. Information about the financial performance of listed commercial banks was readily available since it was obtained from the database of the regulator, which is the Capital Markets Authority (CMA). The major challenge that was encountered in the study was obtaining data for the non-listed commercial banks. The management was not willing to provide the information required citing breach of the fiduciary duty towards confidentiality. This challenge was overcome by explaining to them that the study was exclusively for academic purposes. It was further emphasized to them that, only their opinions (whose confidentiality they were assured) were sought in respect of their respective banks' compliance to CBK's risk management guidelines and financial performance. They were also not required to disclose their names or identity of their banks hence assuaging their scepticism.

This challenge was overcome by obtaining the required information from the central bank of Kenya website as they publish quarterly results of all commercial banks in their website. Though the study further intended to target the board members of the commercial banks, board members were inaccessible to their job cadre and busy schedules. However, the senior management team who comprised of chief financial

officers and the chief risk officers or their equivalent were knowledgeable on the risk management guidelines by the Central Bank of Kenya.

1.8 Assumptions of the Study

This study assumed that the respondents created adequate time to respond to the questionnaire keenly and as honest as possible. Another assumption is that the questionnaire took care of all ethical issues and that no respondent felt threated as they respond to the questionnaire. In addition, the study assumed that the sample size identified through scientific methods captured the broad perceptions of the commercial banks in Kenya with respect to the effectiveness of Central Bank's risk management guidelines on financial performance. The findings of the research were thus validated and generalized and particularly considered to be representative of all the views of the registered commercial banks in Kenya.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter presents both theoretical and empirical literature review on risk management guidelines compliance and financial performance particularly in commercial banks. A conceptual framework that indicates study variables and how they were supposedly related is also demonstrated in this chapter. The chapter also covers a precise illustration of research gaps.

2.2 Theoretical Review

This study was guided by three theories which are stakeholder theory, institutional theory, and systems theory. These theories are discussed in the context of risk management guidelines compliance and financial performance of commercial banks.

2.2.1 Stakeholder Theory

Stakeholder theory was put forward by Freeman (1984) as a proposal for the strategic management of the organizations in the late twentieth century. This theory argues that firms should pay attention to all their stakeholders when taking strategic decisions. The ideas of freeman which culminated in stakeholder theory emerged out of an organizational context in which a company is perceived as not being self-sufficient but actually dependent on the external and internal environment made up groups of individuals. These individuals include suppliers, employees, customers and shareholders among others (Wagner, Alves & Raposa 2011). Banks like any other organizations have stakeholders which include the employees, customers and the regulatory authorities. Among the employees as stakeholders of a firm are the board of directors and the senior management whose role in an organization is to provide oversight and strategic direction. In order to maximize the value of the firm board and senior management must pay attention to all stakeholders that can affect the firm (Donaldson & Preston, 1995).

Donaldson and Preston (1995) pointed out that the theory focuses on management decision making. Following the crises of 1988, 1994, 1998 and most recently 2008, the Basel Committee in October 2010 issued a set of principles for enhancing corporate governance in banking organizations and highlighted the importance of the

board of directors, their qualifications and the composition of the board (Basel, 2010). According to a study by Sarkar and Sarkar (2018) board oversight, monitoring risks at the firm level and the boards understanding of the bank's operational structure and risks is fundamental in enhancing the superior performance of the institution. Laeven (2013) noted that among the factors that precipitated to the financial crisis of 2008 was weak governance of financial institutions, especially with respect to how the board of directors discharged their fiduciary duties. Banks have several stakeholders with different interests in the company. The risk management guidelines are therefore not only meant to safeguard the welfare of the bank but also the welfare of the stakeholders. Stakeholder theory was therefore relevant to the study in guiding the study to determine the effect of the board and senior management oversight on the financial performance of financial institutions in Kenya.

2.2.2 Institutional Theory

This theory originated from the works of Meyer and Rowan (1977) and DiMaggio and Powel (1983). It proposes that organizations develop and design structures, processes, and systems not primarily on national economic cost-benefit analysis but because they are more or less required to incorporate new practices and procedures. According to Meyer and Rowan (1977) organizations are driven to incorporate new practices and procedures defined by prevailing rationalized concepts of organizational work and institutionalized in the society. Banks are required to put up structures, processes, and procedures that enable them to identify, monitor and mitigate all material risks arising from the changing banking environment (CBK, 2013). To this regard, the central bank issued the guideline on risk monitoring and management information system.

Organizations should establish a sound and well-defined policies and procedures for the management of risk (CBK, 2013). These should include lending policies and procedures (Nyamboga, 2016), credit approval policies (Gakure et al., 2012). Organizations that do so increase their legitimacy and their survival prospects, independent of the immediate efficacy of the acquired practices and procedures. "Organization structures such as internal controls are symbols of conformity and social accountability (DiMaggio & Powell, 1983). In another study by Arwinge (2013), controls are adapted and designed in order to increase legitimacy and survival

prospects. Empirical studies by Wang, 2008; Munyiri, 2010; and Musyoki and Kadubo, 2011 links sound and well-defined policies and procedures positively to the financial performance of Commercial Banks. Gakure et al., (2012) noted that effective lending policies reduce non-performing loans that effectively increases the bank's profitability. Therefore, the institutional theory was used to guide the study in determining the effect of policies, procedures and risk monitoring and management information system on financial performance of Commercial Banks in Kenya.

2.2.3 Systems Theory

Systems theory can be traced back to the works of Bertalanffy (1968). Systems theory is the transdisciplinary study of the abstract organization of phenomena, independent of their substance or type. It investigates both the principles common to all complex entities and the models which can be used to describe them (Von Bertalanffy, 1968). A system is a set of interrelated and independent components that interact in a way to achieve a set goal. These components or subsystems are inter-dependent and failure of one component leads to the failure of the whole system. An organization is a complex system which is divided into sub-systems and hence requires a system of control over the sub-systems for its effectiveness and survival (Ayagre, Appiah-Gyamerah, & Nartey, 2014).

Banks have an internal control system which should not only ensure their proper functioning but also ensure that their assets are safeguarded. According to the Central Bank of Kenya (2013), an institution's internal control structure is critical to the safe and sound functioning of the organization in general and to its risk management in particular. A well-functioning internal control system should ensure that all material risks to which an organization is exposed to are prevented or mitigated (CBK, 2013). Harvey and Brown (1998) identified a controlled environment, accounting system, and control procedures as the major components of internal control. According to Grieves (2000) an internal control system available to a firm consists of; Management oversight and control culture, risk recognition and assessment, control of activities and segregation of duties, information and communication, and monitoring activities.

Jin, Kanagaetnam, Lobo and Mathiew, (2013) found that banks without proper internal controls could grow temporarily but they have a higher likelihood of failing in the near future. In tracing the path to bank failure, the first stop point is credit risk

which is experienced through borrowers default before liquidity and insolvency sets in. The trajectory of bank failure follows that credit risk leads to liquidity risk then to insolvency, bankruptcy and then failure (Sekyi & Gene, 2016). According to Mawanda (2008), designing and implementation of proper internal controls will always lead to improved performance. In his study on the effects of internal controls on the financial performance of commercial banks in Kenya Rennox (2017) noted that effective internal controls reduce the risk of fraud and bad debts. Therefore systems theory was used to guide the study in establishing the effect of the internal controls system and capital and liquidity limits on the financial performance of Commercial Banks in Kenya.

2.3 Empirical Literature

This section presents a review of literature from the past studies that relate to the study objectives which include: board and senior management oversight guideline, policies and procedures guideline, internal control guideline, risk monitoring, and management information guideline, and capital and liquidity limit guidelines.

2.3.1 Board and Senior Management Oversight Guideline and Financial Performance of Commercial Banks

Boards have the ultimate responsibility for the level of risk taken by their institutions. Accordingly, they should approve the overall business strategies and significant policies of their organizations, including those related to managing and taking risks and should ensure senior management is fully capable of managing the activities that their institutions conduct (CBK, 2013). The role of the board of directors in the governance of financial institutions has come under increasing scrutiny from both public policymakers and researchers in the aftermath of the global financial crisis of 2008 (Sarkar & Sarkar, 2018).

Among the multitude of factors that had worked in conjunction to precipitate the crisis was the weak governance of the banking institutions, especially with respect to how the board of directors discharged their fiduciary duties (Laeven, 2013). Following the financial crisis of 2008 the Basel Committee in October 2010, issued a set of principles for enhancing corporate governance in banking organizations and highlighted the importance of the board of directors, their qualifications and

composition of the board, the boards understanding of the banks operational structure and risks (Basel Bank for International Settlements, 2010).

The level of technical knowledge required of directors may vary depending on the particular circumstances of their institutions. What is most important is for directors to have a clear understanding of the types of risks to which their institutions are exposed to and receive regular reports that identify the size and significance of the risks in terms that are meaningful to them (CBK, 2013). Directors should take steps to develop an appropriate understanding of the risks their institutions face, possibly through briefings from auditors and experts. Using this knowledge and information, directors should provide a clear guideline regarding the level of exposures acceptable to their institutions and have the responsibility to ensure that senior management implements the procedures and controls that are in tandem with adopted policies (CBK, 2013).

A study conducted by Kryvko and Reichling (2012) examined corporate governance and performance of commercial banks in Europe. The objective was to find out how corporate governance influenced performance of the aforesaid banks. The Generalized Method of Moments (GMM) technique was employed to estimate the relationship between governance and performance. Panel data spanning 5 years, that is, from 2005 to 2009 were collected and subsequently analyzed. According to the study results, gender diversity, board size, management board as well as existence of compensation committee influenced performance of commercial banks. It was also revealed that risk-taking behaviour of these banks was affected by personal characteristics of chief executive officers.

Another study by Sarkar and Sarkar (2018) examined bank ownership, board characteristics and performance of Indian banks where data was collected from all the 46 scheduled banks operating in the Indian banking sector covering for a period of ten years beginning 2003 to 2012. The study employed multiple regression model to establish the relationship between bank ownership, board characteristics, and performance. The results of the study suggest that while board size plays an insignificant role in banks outcomes, board independence plays a significant role. Board independence exhibited a significant positive correlation with the performance

of private banks and a significant but negative correlation with the performance of state-owned banks.

Ogege and Tarila (2014) carried out a study on corporate governance and financial performance of banks in Nigeria. The study used an econometric model to determine the relationship between performance and corporate governance practices on a sample of 15 listed banks. A descriptive research design was adopted by the study. Correlation analysis was used to measure the degree of association between various aspects of corporate governance and financial performance. Additionally, regression analysis was employed to determine the impact of corporate governance constructs (board size, board composition, and corporate governance disclosure) on performance. The study established that there existed a positive yet weak correlation between board size, board composition and return on assets. The results of regression analysis revealed that all the components of corporate governance did not have statistically significant effect on bank profitability measured in ROA.

A study carried out in Uganda centred on corporate governance and performance of commercial banks (Sendyona, 2020). The objective was to investigate the influence of corporate governance on performance of commercial banks in the country. Board composition was one of the aspects of corporate governance that was examined. A survey-based approach was adopted. Respondents were drawn from the study population using purposive sampling technique. A self-administered research instrument was used in data collection. Hierarchical regression analysis was used to analyze the collected data. The study found that when bank size and leverage were controlled, corporate governance did not have significant effect on performance of the commercial banks. More specifically, it was established that board composition did not significantly affect performance of commercial banks in Uganda. It was recommended that the central bank ought to step up its supervisory and regulatory policies in order for the performance of commercial banks to improve.

Mokekwa and Temesgen (2014) conducted a study on the effect of corporate governance on the performance of commercial banks in Kenya. Corporate governance was characterized by board size, independent directors and CEO Duality. The study was based on a survey of 37 commercial banks operating in Kenya for the period between 2005 and 2009. The study found that a large board size tended to negatively

affect performance of the surveyed banks. It was also revealed that the greater the number of independent directors the higher the performance of the aforesaid banks, and that there was no evidence that CEO duality or otherwise affected the said performance. The study recommended that for commercial banks to register high performance, they needed to check on the size of the board of directors and also increase the number of independent directors that sit on their boards.

A study conducted by Mwaura (2017) examined the relationship between board characteristics and profitability of commercial banks operating in Kenya. The objective of the study was to determine the relationship between characteristics of board members and banks' profitability. Stewardship, agency, and resource dependency theories guided the study. Both analytical and cross-sectional research designs were adopted. Data were collected from 43 commercial banks for a period beginning 2012 to 2016. Descriptive as well as inferential statistics were used to analyze the data. The board characteristics were found to explain 57.8% of variations in profitability of the aforementioned commercial banks. It was further revealed that there existed a statistically significant relationship between board characteristics and profitability of banks. It was recommended that there was a need to enhance board diversity in order to increase profitability of commercial banks operating in Kenya.

2.3.2 Policies and Procedures Guideline and Financial Performance of Commercial Banks

Establishment of sound and well-defined policies and procedures is vital for the management of credit risk. These should be well documented, duly approved by the board and strictly implemented by the management (CBK, 2013). Credit policies establish a framework for lending as well as guiding credit granting activities of the banking institutions (CBK, 2013). A policy is a deliberate plan of action to guide decisions and achieve rational outcome(s). A bank's lending policy is a statement of philosophy, standards, and guidelines that its employees must observe in granting or refusing a lending request (Munyiri, 2010).

The very first purpose of a bank's credit strategy is to determine the risk appetite of the bank. Once it is determined the bank develops a plan to optimize return while keeping credit risk within predetermined limits (Nyaboga, 2016). Commercial banks' lending policies determine who the target customer is. Lending policies that are

unfavourable to business customers are likely to lower profitability of the banks (Munyiri, 2010). Credit procedures aim to obtain an in-depth understanding of the bank's clients, their credentials and their businesses in order to fully know their customer. The bank's management with the help of the board designs its own credit risk strategy or plan that establishes the objectives guiding the bank's credit activities and adopts necessary policies and procedures for conducting such activities (Nyaboga, 2016). Commercial banks should adopt policies and procedures that minimize the risk of bad credit (Richard, 2011). Credit policy should set out a bank's lending philosophy and specific procedures and means of monitoring the lending activity (Nyaboga, 2016).

A number of studies have been carried out with regard to policies and procedures guidelines particularly in the banking sector. Samad (2015) carried out a study on bank profitability determinants in Bangladesh. According to the study, the determinants are classified into three, one of which is the bank's internal factors. The study further posits that the internal factors of the bank play a great role in determining the profitability of the bank. The study identified banks' operational efficiency, bank liquidity, and credit quality as the major internal factors. Credit quality was influenced to a greater extent by the policies and procedures adopted by the banks.

In a case of commercial banks in Asia-Pacific region, a study by Yang, Gan and Li (2019) examined the role of bank regulation on bank performance. The specific objective of the study was to assess how bank regulations affected performance of banks in the Asia-Pacific region. Panel data were collected from the aforementioned banks for a period beginning 2005 to 2014. Double bootstrap data envelopment analysis was employed to measure the efficiency of banks as well as to assess the relationship between supervision, regulations, and state ownership of the banks. In accordance with the study findings, it was indicated that both bank supervision and regulation had a positive relationship with bank technical efficiency. It was further established that by tightening regulations and supervision, the efficiency of banks of all sizes was significantly enhanced.

An empirical study conducted in Mali focused on government regulations, bank risk, and bank performance (Abdrahamane, Xi, Alpha, & Kargbo, 2017). The study

objective was to examine the moderating role played by government regulation on the relationship between bank risk and bank performance. The study relied on panel data from year 1998 to year 2013. Panel least square regression was used in data analysis. Indicatively, the impact of government regulations relative to bank risk and bank performance revealed banks took greater risk when there was lower minimum capital adequacy requirement and blanket guarantee hence affecting the performance of the banks. The study recommended that, in order to reduce risk contagion, the Central Bank of Mali ought to ensure that there are optimal levels of banks' capital ratios.

A study by Ochieng (2014) put into perspective the effect of CBK's prudential guidelines and regulations on the financial performance of commercial banks in Kenya. The objective of the study was to examine the effect of the aforementioned guidelines and regulations on financial performance of local commercial banks. The requisite data were collected from banks supervision reports the CBK. Descriptive and inferential statistics were used in the analysis. It was established that there existed a positive and strong relationship between prudential guidelines and regulations, and financial performance of banks. It was also found out that prudential guidelines explained 29.9% of variability in financial performance of the surveyed commercial banks.

2.3.3 Internal Controls Guideline and Financial Performance of Commercial Banks

Internal control is defined as the process effected by an entity's board of directors, management and other personnel, designed to provide reasonable assurance regarding the achievement of the objectives in several categories. These include effectiveness and efficiency of operations, reliability of financial reporting, compliance with applicable laws and regulations, and safeguarding the assets (Ayagre, et al., 2014). Internal controls are important to all business organizations and, more so, the banking sector whose business environment is prone to risks which must be mitigated for profitability to be realized (Rennox, 2017). Several studies have been reviewed relative to internal controls and financial performance of commercial banks.

Kumuthinidevi (2016) carried out a study on the effectiveness of the internal control system in the private banks in Trincomalee, Sri Lanka. The study used both secondary and primary data. Questionnaires were distributed among permanent staff of ten

banks. Univariate and well as bivariate analysis methods were used to analyse the data. Study findings indicated that all the study variables which included control environment, risk assessment, accounting information and communication, control activities and self-assessment were moderately supportive in the effectiveness of internal control systems.

A study conducted by Akwaa-Sekyi and Gené (2016) examined the effect of internal control on credit risk among listed Spanish banks. The study employed a quantitative research approach to test the hypothesis on the relationship between internal control and credit risk among listed banks in Spain. Data from bank scope and company websites from 2003 -2014 were used. The results of the study showed that internal controls explain credit risk very much. According to the results of coefficient of determination the study indicated that 72% of the variation in credit risk was attributed to internal controls.

A study carried out by Ayagre, et al., (2014) examined the effectiveness of internal control systems of banks in Ghana. Data for the study was gathered using questionnaires administered to managers of all banks in Ghana. Statistical Package for Social Sciences (SPSS) facilitated data analysis. The findings of the study indicated that strong controls exist in the control environment and monitoring activities components of the internal control systems of banks in Ghana.

Rennox (2017) also studied the effect of internal controls on the financial performance of commercial banks in Kenya. The study used 43 commercial banks and primary data was collected using a structured questionnaire. Descriptive statistics were obtained from the data and inferential findings were the relationship between internal control and financial obtained presented using correlations and regression tables. The study findings revealed that commercial banks that effectively implemented elements of internal control had relatively better financial performance. Regression results showed that there was a significant positive association between internal controls and financial performance of commercial banks in Kenya.

A study carried out by Wanyiri (2019) centred on internal controls and their effect on financial performance of commercial banks in Kenya. The objective was to examine the influence of internal control on profitability of commercial banks in the country.

Data were collected from the databases of the CBK as well as from the surveyed banks. The data covered the period from 2014 to 2018. Descriptive as well as inferential statistics were used in the analysis. The findings of the study indicated that performance of commercial banks was attributed to their internal controls. Consequently, it was recommended that, it was advisable for the banks' management to ensure that there were effective and efficient internal control systems, which should encompass control activities as well as risk assess in form of procedures and regulations.

A related study conducted amongst commercial banks listed on the Nairobi Securities Exchange put into perspective internal controls and credit risk (Agang, 2020). The objective was to establish the effect of internal controls on credit risk. Additionally, the effect of assessing risk, and activities in control and monitoring on credit risk in listed commercial banks was examined. Liquidity preference theory, agency theory, and modern portfolio theory guided the study. The 11 listed commercial banks constituted the study population. Descriptive and inferential statistics were used in data analysis. According to the study findings, there was a positive and statistically significant relationship between monitoring and credit risk. Whereas risk assessment had a significant effect on credit risk, internal controls were not strong enough. It was concluded that risk assessment, control activities, and monitoring and control environment had a significant effect on credit risk among listed commercial banks.

2.3.4 Risk Monitoring and Management Information Systems Guideline and Financial Performance of Commercial Banks

Effective risk monitoring requires institutions to identify and measure all material risk exposures. Consequently, risk-monitoring activities must be supported by information systems that provide the senior management and directors with timely reports on the financial condition, operating performance and risk exposure of the institutions (CBK, 2013). Management information system (MIS) is a set of systems and procedures to gather information from a variety of sources, compile it, and present it in a reliable format (Al-Adwan, 2016). Managers use the management information system to generate reports that provide them with a comprehensive overview of the information that they need to make decisions.

Risk monitoring, on the other hand, entails the on-going process of identifying possible events or future changes that could have a negative impact on the institution's credit portfolio or a bank's ability to withstand the changes (Mutua, 2015). Risk monitoring can be used to ensure that risk management practices are in line and proper. It helps banks' management to discover mistakes at early stages (Al-Tamimi & Al-Mazooei, 2007). Effective risk management is a critical component of a comprehensive approach to risk management and essential to long term success of any banking organization (Mutua, 2015). Various empirical studies have been done in respect of risk monitoring and MIS guidelines.

Monitoring of borrowers is very important as current and potential exposures change with both the passage of time and the movements in the underlying variables (Gakure, Ngugi, Ndwiga, & Waithaka, 2012). Monitoring involves among others, frequent contact with borrowers, creating an environment that banks can be seen as solver of problems and trusted advisor, develop a culture of being supportive to borrowers whenever they are recognized to be in difficulties and are striving to deal with the situation, monitoring the flow of borrowers business through the bank accounts, regular review of the borrowers reports as well as an on-site visit, updating borrowers credit files and periodically reviewing the borrowers rating assigned at the end of the credit period (Mwisho, 2001).

A comparative study empirically examined risk management in some selected conventional and Islamic banks in Bangladesh (Islam, Islam, & Zaman, 2013). The general objective was to compare risk management practices of the aforementioned banks. A total of 14 private banks were involved in the study where a respondent from each of these banks was selected to participate in the study. The study findings indicated that while Islamic banks demonstrated greater inclination to traditional practices, conventional banks attached greater importance to advanced techniques of risk management and risk mitigation. In addressing risk, the study recommended setting up of central MIS, moral persuasion of borrowers, long-term guideline by the central bank, as well as putting in place a modern loan monitoring system.

In a case study of Jordan Islamic Bank, an empirical study conducted by Al-Basheer and Shtanawi (2015) examined the impact of management information systems on financial performance. The objective of the study was to establish the effect of MIS

on the financial performance of Islamic banks. A descriptive research design was adopted. Data were collected using a set of questionnaires. The study revealed that there was statistically significant effect of MIS on financial performance of the a fore stated banks.

An empirical study by Mutuku (2016) examined the effect of risk management on financial performance of commercial banks operating in Kenya. The specific objectives were to assess the risk management practices adopted by commercial banks; and to examine their effect on profitability of the aforesaid banks. The pertinent data were collected using structured questionnaires. Additionally, secondary data were collected from published financial reports of the 42 commercial banks hitherto in operation in the country. The study found that risk management practices affected financial performance of commercial banks. However, both capital adequacy and risk monitoring negatively influenced the aforementioned performance.

2.3.5 Capital and Liquidity Limits Guidelines and Financial Performance of Commercial Banks

Capital is one of the banks specific factors that influence the level of banks profitability (Ongore & Kusa, 2013). The banks' capital plays an important role in maintaining the safety and durability of the bank and integrity of the banking system in general, capital represents the wall or barrier that prevents any unexpected loss that can be exposed to the bank (Almazari & Alamri, 2017). Capital adequacy is the level of capital necessary for a bank as determined by the regulatory and supervisory authorities to assume the bank's financial health and soundness (Ejoh & Iwara, 2014) (Ojoh and Iwara, 2014). According to Dang (2011), the adequacy of capital is judged on the basis of the capital adequacy ratio (CAR).

Capital adequacy shows the internal strength of the bank to withstand losses during the crisis. The ratio is directly proportional to the resilience of the bank to crisis situations. It also has a direct effect on the profitability of the bank by determining its expansion to risky but profitable ventures or areas (Sangmi & Nazir, 2010). Capital adequacy is beneficial in pricing banks services and maximizing returns from the bank's operations, in addition to policy development and procedures necessary for the prevention of different types of risks, which arise as a result of technological and

electronic evolution and increasing complexities in the banking and competition between banks (Almazari & Alamri, 2017).

A study by Almazari and Alamri (2017) was conducted purposely to compare the effect of capital adequacy on profitability of Samba and Sabb banks which operate in Saudi Arabia. The objective was to examine the effect capital adequacy had on profitability of the aforesaid banks. The study adopted a descriptive research design as well as analytical approach. Time series data from 2010 to 2015 were collected and subsequently analyzed. The results of regression analysis revealed that there was a positive and strong correlation between ROA and capital adequacy ratio.

In a case of rural banks in Philippines, Mendoza and Rivera (2017) examined the effect of credit risk and capital adequacy on the banks' profitability. The objective was to establish the effect of both credit risk and capital adequacy on profitability. A sample of 567 banking institutions was considered by the study. In line with the study results, it was found that credit risk had a negative and statistically significant relationship with profitability. However, it was found that capital adequacy did not have significant effect on profitability.

Ejoh and Iwara (2014) carried out a study on capital adequacy and banks profitability in Nigeria. The objective was to empirically assess the impact of capital adequacy on profitability of banks operating in Nigeria. The study adopted a survey design and a sample of 518 respondents drawn from the staff working with various banks in the country. The study relied on data that covered a period of five years from 2006 to 2010. According to the study findings, capital ratio was directly related to banks' profitability. It was also noted that in line with Basel recommendations, there ought to be a regular review of minimum capital requirement of deposit money banks in Nigeria to optimal level. It was further recommended that banks in Nigeria should we sufficiently capitalized in order to enable them to have access to cheaper funding sources thus resulting in improved profits.

Another study conducted by Aymen (2013) examined the impact of capital on the financial performance of banks in Tunisia. The study was based on a sample of 19 banks belonging to the Professional Association of Tunis for the period between 2000 and 2009. A multiple regression model was used to establish the effect of capital

adequacy measures on profitability of Tunisian banks measured using ROA, ROE, and NIM. The study results revealed that the relationship between capital adequacy and ROA was significant.

In South Africa, Molefe and Muzindutsi (2016) studied the effect of capital and liquidity management on profitability of major banks. The objective was to assess the effect of new rules (guidelines) regarding capital and liquidity management on profitability of banks. The scope was on five leading South African banks. The study used co-integration panel analysis for the period of 2004 to 2014. The results of their study showed that, on one hand, there was no long-run relationship between banks' profitability and liquidity and capital while, on the other hand, the capital ratio was found to have a significant positive effect on bank's profitability in the short-run. The study inferred that capital adequacy was the most effective instrument of ensuring that financial institutions were both sound and safe.

A study by Karanja and Nasieku (2016) sought to determine the effect of capital on the financial performance of commercial banks in Kenya. The study adopted a descriptive research design. The target population comprised of listed commercial banks licensed by the Central Bank of Kenya as at 2014. The study was based on secondary data retrieved from the aforesaid bank's annual audited financial reports spanning a period of 5 years, that is, from 2010 to 2014. The study revealed that the level of core capital positively related to the financial performance of listed commercial banks in Kenya.

Another local study examined the effect of bank capitalization on liquidity of commercial banks operating in Kenya (Bowa, 2015). The objective was to assess the effect of bank capitalization on the liquidity of commercial banks. The 42 banks licensed to operate in Kenya were involved in the study. Panel data were collected from these bank for the period spanning 5 years (2010 to 2014). The results of the study indicated that capital asset ratio, asset quality, and bank size were positively and significantly related to liquidity of the banks. The findings further indicated that bank recapitalization policy could potentially enhance the liquidity levels of the surveyed banks. The study recommended that financial regulatory body (CBK) ought to provide effective measures geared towards ensuring that there is transparent accountability in the accountability process.

2.4 Conceptual Framework

The conceptual framework shown in Figure 1 outlines the study variables and how they were presumed to relate. The variables shown fall under three categories: Independent, moderating, and dependent variables. The framework also demonstrates the indicators used to measure each of these variables as well as how the study constructs were hypothesized to relate to each other.

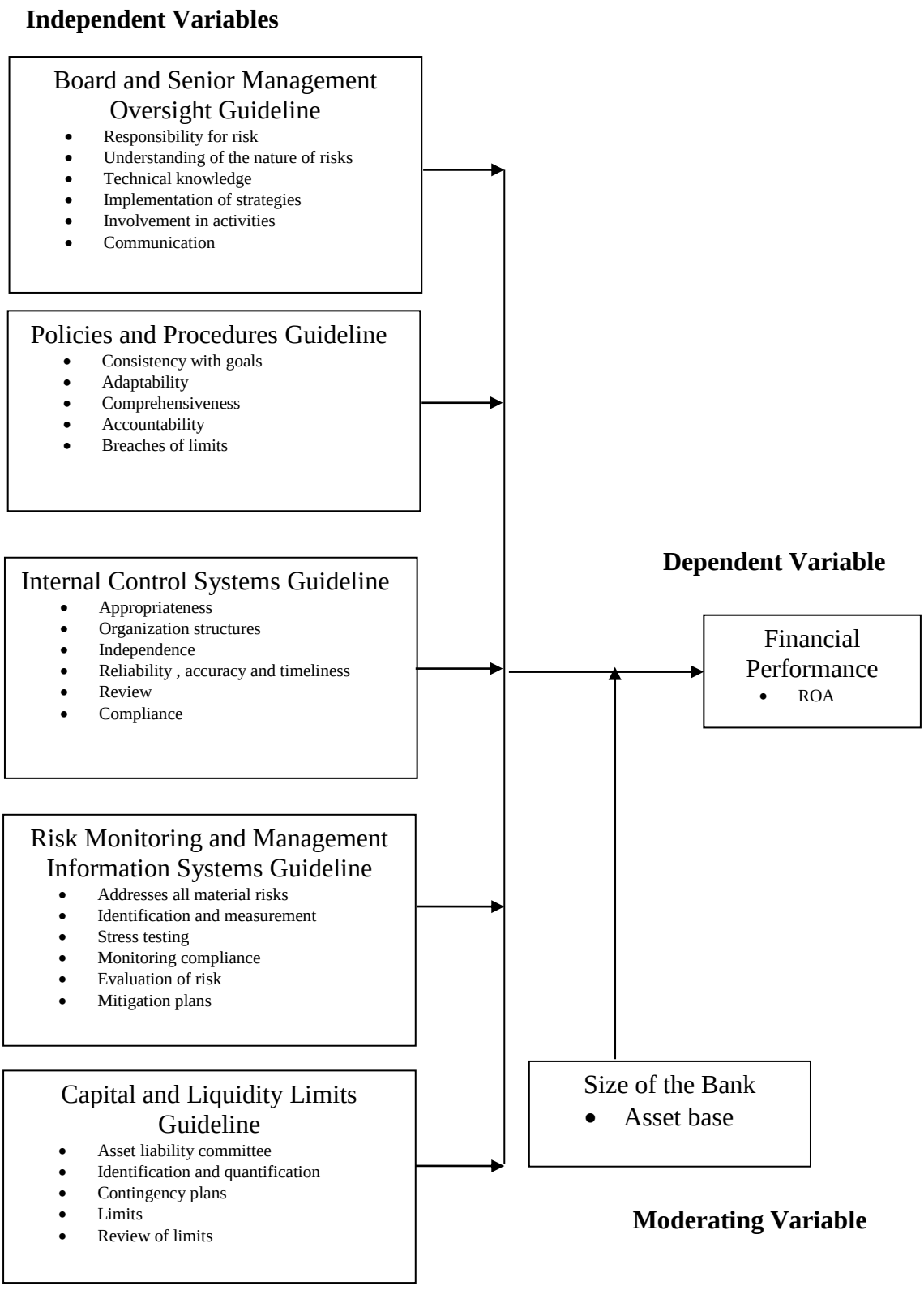

Figure 1: Conceptual Framework

Source: Author 2021

2.4.1 Independent Variables

The independent variable is the Central Bank's risk management guidelines which encompass; active board and senior management oversight, policies and procedures, internal control systems, risk monitoring and management information systems and finally capital and liquidity limits. The study used all these guidelines because they all apply and are actively used in the banking sector in Kenya as a requirement under the regulation of the Central Bank of Kenya. Additionally, the guidelines are interlinked and, therefore, it was prudent to examine all the guidelines in this study in order to establish their effect on financial performance of commercial banks in Kenya.

Board of directors are charged with oversight of management on behalf of shareholders. Agency theorists argue that in order to protect the interest of shareholders the board of directors must assume an effective oversight function. Board performance of its monitoring duties is influenced by the effectiveness of the board which is in turn influenced by factors such as; board composition and quality, size of the board diversity, duality of CEO/Chairman positions and the board culture. Monitoring performance and controlling operations by the board will lead to better performance. Boards improve market performance by influencing the perception of potential investors (Brennan, 2006).

Policies and procedures adopted by a financial institution influence the quality of credit and the level of nonperforming loans. A high level of nonperforming loans resulting from bad credit lowers the profitability of a financial institution as it reduced the expected interest income (Nyaboga, 2016). Internal controls systems are designed to ensure the effectiveness and efficiency of operations of an organization. According to Rennox (2017) commercial banks that effectively implement internal controls have relatively better financial performance.

Risk monitoring and management are critical. Risk is directly related to returns. The higher the risk taken, the higher is the return expected. Effective risk management mitigates or reduces the potential effect of risk exposures which may result in significant losses that can materially reduce the profitability of a banking institution. Capital adequacy has been the focus of many studies and regulators as it is considered to be one of the main drivers of any financial institutions profitability. The major source of any banks income is derived from interest on loans advanced to customers.

Adequate capital ensures a large loan portfolio which directly impacts on profitability due to increased interest income.

2.4.2 Dependent Variable

The dependent variable of the study was financial performance. According to previous empirical studies, the most commonly measures for financial performance of commercial banks are Return on Assets (ROA), Return on Investment (ROI) and Return on Equity (ROE) (Ochieng, 2014; Samson & Tarila, 2014; Ozili, 2015). This study used ROA as the indicator of the financial performance of commercial banks. Whereas not all banks readily disclose the status of equity or investments, it is a requirement by the CBK for all licensed banks to publish or make disclosures on their asset base. Indeed, ROA is clearly captured in the bank supervision annual reports published by the CBK (CBK, 2019).

2.5 Research Gaps

Reviewed literatures on the study variables reveal contradictions in the findings. Ogege and Tarila (2014) in their study found a positive weak correlation between board oversight and Return on assets which is a measure of financial performance. Sarkar and Sarkar (2018) however found an insignificant relationship between board oversight and financial performance of commercial banks while Mokekwa and Temesgen found a negative relationship between board oversight and financial performance. Aymen (2013) and Karanja and Nasieku (2016) in their studies found a positive relationship between capital adequacy and financial performance. These findings however contradict the findings of the study by Ojoh and Iwara (2014) which found a negative impact between capital adequacy and banks profitability. These findings further contradict the findings of the study by Mendoza and Rivera (2017) which found no significant effect of capital adequacy on profitability. Another study by Albasheer and Shtanawi (2015) found a statistically significant relationship between management information system and financial performance. This finding was inconclusive since it did not indicate whether the relationship was positive or negative. All these studies either present inconsistent or inconclusive results that present gaps that the study sought to fill.

CHAPTER THREE

RESEARCH METHODOLOGY

Introduction

This chapter discusses the methods and procedures that were employed in conducting the study. It discusses the research design, the target population, sample and sampling technique, the research instruments that were used, data collection procedures, pilot testing, data analysis and finally how data was presented.

3.2 Research Philosophy

A research philosophy refers to the underlying belief on how data should be collected, analysed and presented (Rehman & Alharthi, 2016). This study adopted the positivist philosophy. The positivistic philosophy involves exploring social reality based on philosophical ideas of the French philosopher August Comte (Antwi & Hamza, 2015). According to Comte as cited by Atwi and Hazma (2015), observation and reason are the best means of understanding human behaviour and that true knowledge is based on experience of senses and can be obtained by observation and experiment. Positivistic thinkers adopt scientific methods and systematize the knowledge generation process with the help of quantification in the description of parameters and the relationship among the variables under study (Antwi & Hazma, 2015). The positivist philosophy was suited for this study due to the following reasons; first positivists approach relies heavily on numerical data (Gall, Gall & Borg, 2003). For the quantitative approach, a positivist philosophy applies. The use of quantification to represent and analyze the features of social reality is consistent with positivistic philosophy (Rehman & Alharthi, 2016). This study used quantitative data that was obtained from the secondary data.

Secondly, the study used questionnaires as the primary data collection tool. According to Rehman and Alharthi (2016), quantitative data that positivists use to answer research questions and formulate theories can be collected through experiments, surveys, and questionnaires. Finally, for this study hypothesis tests were done in order to establish the relationship between the independent variables and the dependent variable. Positivists rely heavily on experimentation (Antwi & Hazma, 2015). Hypotheses are formulated in propositional or question form about the causal

relationship between phenomena. Empirical evidence is then gathered, analysed, and formulated into the form of a theory that explains the effect of the independent variable on the dependent variable (Rehman & Alharthi, 2016). The approach to analysing data is deductive where the proposed hypothesis is either confirmed or rejected depending on the results of the statistical analysis (Cohen, Manion, & Morrison, 2007).

3.3 Research Design

A research design is a plan for data collection, reduction, and analysis (Gatara, 2010). It constitutes a blueprint for the collection, measurement, and analysis of data in order to address research questions (Cooper & Schindler, 2011). The study used mixed research design comprising a descriptive research design as well as ex post facto research design. The goal of descriptive research design is to describe a phenomenon and its characteristics without manipulation (Gall, Gall, & Borg, 2003). A descriptive design was preferred for this study because it allowed for the collection of large quantifiable information that was used for the statistical analysis of the population sample. Additionally, descriptive research design allowed for the collection of qualitative data which was analysed quantitatively using frequencies, percentages, averages and other statistical analysis to determine relationships (Gall, et al., 2003).

Ex post facto design is arguably ideal for use in social research (similar to the present study) where it is impractical or unethical to manipulate the characteristics of the study participants. It was chosen for use in this study due to the fact that, it can be employed in testing correlational relationships or to test hypothesis regarding cause-and-effect in the absence of application of a true experimental research design (Simon & Goes, 2013). This research not only sought to examine the correlation between Central Bank management guidelines compliance and banks' financial performance, but it also tested pertinent null hypotheses linking the aforesaid constructs. The ex post facto research design is also used to illustrate the influence of a variable (independent) on another variable (dependent) as well as in testing a given claim by use of statistical hypothesis testing techniques (Simon & Goes, 2013).

3.4 Population of the Study

A population refers to the whole set of available objects for which the data obtained can be used to make conclusions and get relevant information pertaining given research (Kothari, 2004). The population of the study constituted all the 42 commercial banks licensed to operate in Kenya. This formed the unit of analysis of the study. A unit of analysis refers to the subjects about which the conclusions of a given study are drawn (Neuman, 2014). From the 42 commercial banks licensed to operate in Kenya, the study targeted senior management staff comprising the chief financial officers and the chief risk officers or their equivalent. Only one of these staff was selected from each bank. Therefore, the study population comprised a total of 42 management staff. Though the study further intended to target the board members of these banks, they were inaccessible due to the fact that they do not hold offices within the banks. The choice of these staff was based on the fact that they were knowledgeable on the risk management guidelines stipulated by the CBK. The aforesaid staff formed the unit of observation. Unit of observation refers to the individuals or items that a researcher actually observe, measure, or collect in the course of the study within the unit of analysis (Neuman, 2014).

3.5 Census Design

The study adopted a census method. This implied that all the 42 commercial banks participated in the study. According to Nayak and Singh (2016), census method refers to a complete enumeration of the population. This implies that the unit of observation is the same as the unit of analysis. The advantage of census method is that it represents zero sampling error and that the findings can be fully generalized to the study population. Unless in the event of budget and time constraints, impracticability of surveying the entire population, and need to for quick results, it is ideal to conduct a census of the study population (Saunders, Lewis, & Thornhill, 2007). The overriding reason for adopting the census design was informed by the relatively small study population comprising 42 projected participants as well as the desire to maximize the reliability and generalizability of the study results to both the study and target populations.

3.6 Data and Research Instruments

The study used both primary and secondary data. Primary data were collected using a structured questionnaire. The questionnaire was designed to gather the intended data through closed-ended questions which were on a 5-point Likert scale. The questionnaire is illustrated in Appendix I. Secondary data were collected using a data collection form that was designed to capture data pertinent to firm (bank) size and financial performance (ROA) from the published financial reports and/or statements of the 42 commercial banks licensed by the CBK to operate in Kenya. The secondary data collection sheet or form is shown in Appendix II. It is important to note that the secondary data were panel due to the fact that it represented the size and financial performance of the 42 banks over a period spanning 12 years. Panel dataset is defined as time-series dataset which is cross-sectional. It provides measurements repeatedly of a given number of study constructs for a period of time on observed units such as individuals, households, and firms (Eom, Lee, & Xu, 2008).

3.7 Pilot Study

A pilot study is defined as a small study purposed to test research protocols, data collection instruments, sample recruitment strategies and other research techniques in preparation for a larger study (Hassan, Schattner, & Mazza, 2006). Pilot testing enables the researcher to ascertain the effectiveness of the data collection instrument and also make sure that everyone in the survey not only understands the questions but also understands them the same way (Wepukhulu, 2016). Pilot testing also aims to identify potential problematic areas and deficiencies in the research instruments and protocols prior to implementation during the full study. It also helps the researcher or the research team to become familiar with the procedures in the protocol and can inform the choice or modification of the research instrument (Hassan, et al., 2006).

According to Mugenda and Mugenda (2003), at least 10% of the participants in the final study should take part in the main study. In concurrence, such number of participants is considered to be sufficient in representing the characteristics of the main study (Creswell & Clark, 2017). In respect of this study, five commercial banks were involved in the pilot study. This represented approximately 10% of the 42 commercial banks hitherto licensed to operate in Kenya (10% of 42 = 4.2). These included Equity Bank, KCB, Absa Bank, DTB, and Cooperative Bank of Kenya. It is

important to note that the respondents were drawn from the branches of these banks based in Nakuru Town. The rationale was to ensure that the same banks were included in the main study whose respondents were drawn from the banks' head offices based in Nairobi City. The major reason for carrying out the pilot study was to verify the validity and reliability of the research questionnaire intended to be employed in collecting data for the main study.

3.7.1 Validity

Validity is the extent to which an instrument measures what it purports to measure (Kimberlin & Winterstein, 2008). It determines whether the research truly measures what it was intended to measure or how truthful the research results are (Golafshani, 2003). The study determined the content validity of the research questionnaire. In ensuring that the research tool was valid, the researcher formulated the research instruments in line with the research objectives in order to ensure items were a representative of the research phenomenon that the study intended to measure. In addition, the assigned research supervisors were involved to assess the extent to which the questionnaire addressed the content of the research study. Their feedback was used to improve the research instrument. Furthermore, the content of the questionnaire was thoroughly discussed with the respondents during the pilot study in order to identify any flaws or ambiguities in the questionnaire. The findings informed the revision and adjustments in the instrument to address the concerns raised by the respondents of the pilot study.

3.7.2 Reliability

Reliability refers to the extent to which results are consistent over time and an accurate representation of the total population under study (Golafshani, 2003). To test the reliability of the instruments, the study used the Cronbach's alpha coefficient for measuring the reliability of the study. According to Nayak and Singh (2016) internal consistency gives the estimate of the equivalence of a set of items from the same test. Cronbach's alpha valued at 0.7 and above is considered to be a good indicator of internal consistency (Latude, 2017). For the secondary data, reliability was ensured by obtaining data from audited financial statements and/or reports of the commercial banks. Audited statements normally provide an assurance by the auditors that the

information provided in those statements represents a true and fair view of the state of affairs.

3.8 Data Collection Procedure

The data collection procedure commenced after being issued with a letter of introduction from the Institute of Postgraduate Studies of Kabarak University. The permit for the research was then obtained from the National Commission of Science, Technology and Innovation (NACOSTI). With the letter from the NACOSTI, the researcher obtained a written consent from the top management of the 42 licensed commercial banks in Kenya. The researcher further booked appointment for data collection from the chief finance and/or credit risk officers of the aforesaid banks. Before filling in the questionnaire, the researcher first informed the respondents the purpose of the study and why they were selected to participate. The questionnaires were administered through the 'drop off' and 'pick-up-later' method. The method was used in this study because of its high response rate since the respondents have sufficient time to fill in the questionnaire and at their own free time.

3.9 Data Analysis and Presentation

After collection of the data, it was carefully edited to detect errors and omissions before being corrected for consistency and completeness. Factor analysis was then done to determine the most important constructs of the independent variables that were most effective in describing the variables. Data analysis was done using both descriptive and inferential statistics. Descriptive statistics were used to quantitatively describe the important features of the variables such as frequencies, percentages, means, standard deviations, skewness, and kurtosis. The inferential analysis was done using correlation and regression analyses. Inferential statistics were used to draw conclusions with regard to the effect of CBK's guidelines compliance on financial performance of commercial banks. The following regression models were adopted and were used in testing the respective null hypotheses.

$$\mathbf{ROA} = \beta_0 + \beta_1 \mathbf{BSMOGC} + \varepsilon \quad \text{..... i}$$

$$\mathbf{ROA} = \beta_0 + \beta_2 \mathbf{PPGC} + \varepsilon \quad \text{..... ii}$$

$$\mathbf{ROA} = \beta_0 + \beta_3 \mathbf{ICGC} + \varepsilon \quad \text{..... iii}$$

ROA = β_0 + β_4RMISGC + ε iv

ROA = β_0 + β_5CLLGC + ε v

ROA = β_0 + β_1BSMOGC + β_2PPGC + β_3ICGC + β_4RMISGC + β_5CLLGC + ε vi

ROA = β_0 + β1BSMOGC + β2PPGC + β3ICGC + β4RMISGC + β5CLLGC + β_6I + ε vii

Where;

ROA = Return on Assets

β_0 = Constant

β_1 - β_6 = Coefficients of the independent variables and interaction term

BSMOGC = Board and senior management oversight guidelines compliance

PPGC = Policies and procedures guidelines compliance

ICGC = Internal controls guidelines compliance

RMISGC = Risk monitoring and management information system guidelines compliance

CLLGC = Capital and liquidity limits guidelines compliance

I = Interaction term (product of CBK's risk management guidelines compliance and bank size)

ε = Margin of error or precision level

3.9.1 Diagnostic Tests

Prior to conducting inferential statistical analysis, pertinent diagnostic tests were carried out to test various assumptions. These included multicollinearity test, linearity test, normality test, homoscedasticity test, and autocorrelation test.

a) Multicollinearity Test

According to McDonald (2015) multicollinearity refers to the condition in which the independent variables are highly correlated amongst themselves in a multiple linear regression analysis. Multicollinearity occurs in the data when two or more independent variables are highly correlated. The multicollinearity problem leads to shared variance between the independent variables in respect to their influence on the dependent variable. This leads to a situation in which the influence of the regression coefficient on the dependent variable are not efficient predictors of the dependent variable. The multicollinearity was examined through the use of the tolerance and the Variance Inflation Factor (VIF)

$$\text{Tolerance} = 1 - \text{R}^2$$

$$\text{VIF} = \frac{1}{1 - \text{R}^2}$$

Where R^2 is the coefficient of determination obtained after regressing all the independent variables in the model. Multicollinearity exists when the VIF exceeds 10 (Kim, 2019).

b) Linearity Test

In carrying the inferential analyses, it was presumed that each of the independent variables (CBK's risk management guidelines compliance) and the dependent variables (financial performance measured in ROA) were linearly related. Scatter plots were used to test the aforementioned linearity. This is in concurrence to assertion that the critical linearity assumption can be assessed by determining the relationship between y (outcome variable) and x (predictor variable) on the scatter plot (Franzco & Farmer, 2014).

c) Normality Test

It was also assumed that the data collected in respect of CBK's risk management guidelines compliance and financial performance were normally distributed. Multiple regression assumes that the data is normally distributed and that the residuals follow a normal distribution curve (Osborne & Waters, 2002). Non- normally distributed variables arise from the skewness of data, Kurtotic variables and substantial outliers.

Lack of normal distribution can distort relationships between variables and the significance of the results. In respect of this study, normality of the variables was established through visual inspection of data plots illustrated on histogram that exhibit Q-Q plots and/or P-P plots.

d) Heteroscedasticity Test

Heteroscedasticity refers to a systematic change in error terms or residuals in a regression over a range of measured values. It demonstrates unequal scatter (Latude, 2017). Multiple linear regression assumes that the data are obtained from a population that contains a constant variance. Constant variance in residual across measured values is referred to as homoscedasticity. Homoscedasticity implies that the residuals do not increase with increase in the values of independent variables and thus the values of independent variables do not affect the residuals (Bilgin, 2017). In this study, two methods were used to test for Heteroscedasticity. First, a scatter plot for regression standardized predicted values against regression standardized residuals. Second, Breusch-Pagan test was used to regress all the independent variables against the squared residuals.

e) Autocorrelation Test

Autocorrelation problem occurs when the error term observation in regression are correlated, making the estimated coefficients unbiased, the variance of coefficients estimates to increase hence suppressing the standard errors given by the ordinary least squares. In respect of this study, the Durbin-Watson (D-W) statistic was used in testing the first order autocorrelation. According to Hartwig (2015), D-W statistic with a value of 2 means that there is no autocorrelation while values approaching 0 indicate positive autocorrelation and values toward 4 indicate negative autocorrelation. Durbin-Watson statistic in the range of 1.5 to 2.5 is an indication that there is no concern for autocorrelation.

3.10 Ethical Considerations

The study was conducted as per the relevant laws as well as institutional and government policies. This was addressed by obtaining a research permit from NACOSTI and a letter of introduction from the Institute of Postgraduate Studies of Kabarak University that enabled the researcher to collect data from the field. It was

the researcher's intention also to conduct the study with a high level of openness and integrity. This called for a careful approach to the study so as to avoid careless errors and negligence. The researcher was also open to criticism and new ideas during the course of the study. All materials obtained from previous researchers was properly acknowledged or cited in my work. Confidentiality and anonymity also come to the fore during the reporting stage of research (Saunders, Lewis, & Thornhill, 2009). The confidentiality of the information that was obtained from the respondents for the purpose of this study was observed. Finally, the findings of this study were reported honestly without any form of manipulation. It is asserted that the maintenance of objectivity is vital during the analysis stage to make sure that there is no misrepresentation of data (Saunders, et al., 2009).

CHAPTER FOUR

DATA ANALYSIS AND INTERPRETATION

4.1 Introduction

This chapter examines the data analysis and interpretation with regard to CBK's risk management guidelines compliances and financial performance of commercial banks licensed to operate in Kenya. Respectively, the chapter presents the response rate, pilot test results, demographic information, and results and interpretation in respect of both descriptive and inferential analyses.

4.2 Response Rate

The data for this study was collected by use of structured questionnaires which were distributed to the respondents. The response rate is presented in Table 1

Table 1: Response Rate

Unit of Observation	Issued Questionnaires	Returned Questionnaires	Response Rate
42	42	39	92.86%

A total of 42 questionnaires were distributed to the respondents who comprised of the chief financial officers and the chief risk officers or their equivalent. Out of the 42 questionnaires that were distributed, a total of 39 questionnaires were returned having been completely and appropriately filled. This translated to a response rate of 92.86% as presented in Table 1. Mugenda and Mugenda, (2003) recommends that a 50% response rate is adequate, 60% is good and any other response rate above 70% is very good. Based on this recommendation, the response rate of 92.86% achieved by this study was considered to be very good. This implied that the collected data were capable of enabling the researcher to arrive at satisfactory conclusions with regard to CBK's risk management guidelines compliance.

4.3 Validity of the Research Instruments

The content of validity of the research questionnaire was determined by consulting the supervisors assigned by Kabarak University. The expert opinions and criticisms were considered in modelling the final research questionnaire.

4.4 Reliability of the Research Instruments

To ensure that the questionnaire helped to collect reliable and valid data, a pilot study was done on four (10% of 42 banks) microfinance banks and from which eight (10% of 84 respondents) chief risk officers and chief finance officers were selected. The questionnaires used in the study were tested for reliability using Cronbach's Alpha test of internal consistency and the results are shown in Table 2.

Table 2: Reliability

Variable	Number of Items	Cronbach's Alpha
Board and senior management oversight	8	0.813
Policies and Procedures	8	0.806
Risk Monitoring and Management	8	0.901
Policies and Procedures	8	0.792
Internal controls	9	0.835
Capital and Liquidity limits	8	0.764
Bank Size	5	0.703
Overall Cronbach Coefficient	**54**	**0.802**

The Cronbach's alpha reliability coefficient for the eight items for Board and senior management oversight was 0.813 while the reliability coefficient for the eight items for Policies and Procedures was 0.806. On the other hand, the study achieved a reliability coefficient of 0.901 for the eight items relating to Risk Monitoring and

Management and 0.792 on the eight items relating to Policies and Procedures. The achieved Cronbach's alpha reliability coefficient for the nine items for internal controls was 0.835 while that for capital and liquidity limits and Bank Size was 0.764 and 0.703 respectively. The overall reliability achieved for all the 54 items used in the questionnaire was 0.802. Mugenda (2003) recommends a reliability coefficient of at least 0.7 for any instrument to be used for data collection. This implied that the reliability achieved for the questionnaire met the required threshold for use in data collection. This further indicated that the questionnaires would give consistent results each time is used on the same group of respondents.

4.5 Demographic Characteristics of the Respondents

The demographic characteristics examined were the working experience as well as the highest level of education of the chief risk officers and chief financial officers working with commercial banks in Kenya.

4.5.1 Length Worked at the Institution

The respondents were asked to indicate for how long they had worked in their institutions. The results of findings were presented in Table 3.

Table 3: Working Experience with Commercial Banks

Working Experience	Frequency	Percentage
1-5 Years	3	7.1
6-10 Years	8	19.0
11-20 Years	13	31.0
Over 20 Years	18	42.9
Total	**42**	**100**

Results shown in Table 3 revealed that 7.1% of the respondents had worked in their banks for a period of between 1 and 5 years; 19.0% of the respondents had worked for the banks for duration of between 6 and 10 years; while 31.0% and 42.9% of the

respondents had worked for the banks for a period of between 11 and 20 years and for a period of over 20 years respectively. The study thus noted that a large number of the respondents at 93.5% had served in their organizations for more than 6 years. A longer period of service in a bank implies that an individual has become more conversant with the bank and has acquired adequate information about the banks operations and activities. This individual is therefore expected to give reliable information about the bank. With 93.5% of the respondents in this study having worked for their banks for a period of 6 years and above, the data collected from the respondents is more likely to be reliable for analysis (O'Gorman & MacIntosh, 2014).

4.5.2 Level of Education of the Respondents

The respondents in the study were asked to indicate their level of education. The findings were presented in Table 4.

Table 4: Level of Education of the Respondents

Highest Education Level	Frequency	Percentage
Undergraduate	3	7.1%
Post Graduate	39	92.9%
Total	**77**	**100%**

The results in Table 4 showed that none of the respondents had certificate, diploma and professional course qualifications as their highest level of education. 7.1% of the respondents indicated that they had attained undergraduate degree as their highest level of education while the remaining 92.9% of the respondents having attained a post graduate degree as their highest level of education. The level of education of the respondents becomes an important factor in the study because of the validity of the data. An educated respondent is likely to give a more appropriate response to the questions asked in the questionnaire. This is because of their ability to comprehend questions (Altinok, 2017; Psaki, McCarthy, & Mensch, 2018). According to the findings, a majority of the chief risk officers and chief financial officers had attained higher levels of education which meant that they had a better understanding of the

issues regarding CBK's risk management guidelines and financial performance of their respective banks. Therefore, the data collected from them were more likely to be appropriate and reliable for analysis (Cooper & Schindler, 2013).

4.6 Descriptive Statistics

The descriptive statistics presented in this section are in respect of the collected primary and secondary data. These statistics include frequencies, percentages, means, standard deviations, skewness, and kurtosis. Importantly, descriptive statistics pertinent to board and senior management oversight guidelines compliance, policies and procedures guidelines compliance, internal controls guidelines compliance, risk management and MIS guidelines compliance, capital and liquidity limits guidelines compliance, and bank size. The descriptive statistics with regard to the foregoing were percentages, means, and standard deviations. Secondary data were collected pertinent to bank size and financial performance (ROA). The descriptive statistics to this effect were frequencies, percentages, ranges, means, standard deviations, skewness, and kurtosis.

4.6.1 Board and Senior Management Oversight Guidelines Compliance

Descriptive statistics were presented on the construct of board and senior management oversight guidelines compliance. The results are presented in form of percentages, means, and standard deviations as shown in Table 5. The descriptive results are presented on a five-point Likert scale, that is, 1 = No Extent (NE), 2 = Small Extent (SE), 3 = Moderate Extent (ME), 4 = Large Extent (LE) and 5 = Very Large Extent (VLE).

Table 5: Board and Senior Management Oversight Guidelines Compliance

Statements	NE	SE	ME	LE	VLE
	F	F	F	F	F
	%	%	%	%	%
Board and Senior Management's Responsibility Oversight Guideline					
The board exercises ultimate responsibility for the level	0	2	13	26	1
of risk taken by the institution	0.0	4.8	31.0	61.9	2.4
Senior management implements strategies in a manner	0	4	10	28	0
that limits the risk associated with each strategy	0.0	9.5	23.8	66.7	0.0
Senior Management Oversight Guideline					
Management is fully involved in the activities of the	1	4	17	17	3
organization	2.4	9.5	40.5	40.5	7.1
Management possesses sufficient knowledge of all major	0	3	17	21	1
business lines	0.0	7.1	40.5	50.0	2.4
Senior management establishes awareness of effective	0	3	17	21	1
internal controls	0.0	7.1	40.5	50.0	2.4
Directors' Oversight Guideline					
The directors have technical knowledge depending on	0	1	16	21	4
the particular circumstances of the organization	0.0	2.4	38.1	50.0	9.5
Directors have a clear understanding of the types of risks	0	3	11	27	1
to which their institutions are exposed to	0.0	7.1	26.2	64.3	2.4
Directors provide clear guidance regarding the level of	0	0	12	26	4
exposures acceptable to the institution	0.0	0.0	28.6	61.9	9.5
Board of Directors' Oversight Guideline					
All the board of directors understands the nature of risks	0	5	9	28	0
significant to the organization	0.0	11.9	21.4	66.7	0.0
Senior management communicates need for high ethical	0	3	24	14	1
standards	0.0	7.1	57.1	33.3	2.4

The respondents were asked on whether the board exercised the responsibility for the level of the risk taken by the institution. A majority of the respondents at 61.9% were of the opinion that the board did exercise this responsibility to a large extent. On the

other hand, 4.8%, 31.0%, and 2.4% of the respondents indicated small extent, moderate extent and very large extent respectively in respect of the metric. These results are in line with those by Angote, Malenya, and Musiega (2015) who noted that there was full responsibility by the board in ensuring that financial institutions took risks at levels they could manage. However, Azhar, Ikram, Rashid, and Saqib (2018) noted that some financial institutions suffered losses because of their boards of management failing to access the level of risks they could manage.

These results on the board exercising ultimate responsibility on the risk undertaken by the institution were in line with the CBK guideline on the functions of board in a commercial bank. According to CBK (2013), the boards have the ultimate responsibility for the level of risk taken by their institutions. Accordingly, they should approve the overall business strategies and significant policies of their organizations, including those related to managing and taking risks and should ensure senior management is fully capable of managing the activities that their institutions conduct (CBK, 2013). The role of the board of directors in the governance of financial institutions has come under increasing scrutiny from both public policymakers and researchers in the aftermath of the global financial crisis of 2008 (Sarkar & Sarkar, 2018).

It was observed that in line with the board and senior management oversight guidelines, 66.7% of the respondents were in agreement to a large extent that all the board members understood the nature of risks significant to their banks. The directors were asked on whether they had technical knowledge depending on the particular circumstances of the commercial banks. Accordingly, half (50.0%) of the surveyed respondents were in concurrence with none indicating to have no knowledge on the same. These results differed with the findings of a previous study conducted by Ghani and Mahmood (2015) that some directors did not possess technical skills and knowledge to adopt in the ever changing business environment of financial institutions which led to loss of business opportunities and sometime leading to losses.

The result of this study in respect to the technical knowledge level of the directors was consistent with the CBK guidelines on the technical expertise requirement for the directors of the commercial banks. CBK (2013) indicates that the level of technical

knowledge required of directors may vary depending on the particular circumstances of their institutions. What is most important is for directors to have a clear understanding of the types of risks to which their institutions are exposed to and receive regular reports that identify the size and significance of the risks in terms that are meaningful to them (CBK, 2013). Directors should take steps to develop an appropriate understanding of the risks their institutions face, possibly through briefings from auditors and experts. Using this knowledge and information, directors should provide a clear guideline regarding the level of exposures acceptable to their institutions and have the responsibility to ensure that senior management implements the procedures and controls that are in tandem with adopted policies (CBK, 2013).

The study sought to establish whether the directors had a clear understanding of the types of risks to which their banks were exposed to. A majority (64.3%) of the respondents indicating that the directors understood to a large extent the various types of risks their banks were exposed to. On the other hand, 7.1%, 26.2% and 2.4% of the respondents indicated to have understanding that was to small extent, moderate extent and very large extent respectively. In line with this, Mwangi and Muturi (2016) noted that directors were aware and understood the kinds of risks that their organizations faced and they were able to formulate guidelines to mitigate the risks. However, some studies revealed that sometimes the board and management of some commercial banks were not aware of the potential risks that their firms were exposed to and this affected financial performance of the firms negatively (Getu, 2015; Ghani, Tarmezi, Said, & Yuliansyah, 2016; Mugi, 2015).

The ability to provide clear guidance on the level of exposures acceptable to the bank was examined. The study found that a majority of the respondents at 61.9% were of the opinion that the directors provided clear guidance regarding the level of exposures acceptable to the commercial banks. The role of the directors in provision of the direction in relation to the level of exposures acceptable to the bank is consistent with the findings by Kumah and Sare (2013) as well as Njanike (2009). Kumah and Sare (2013) carried out a study on risk management practices among commercial banks in Ghana. The study found out that risk monitoring and control were the most influencing variables in risk management practices among the banks in Ghana. Njanike (2009) also carried out a study on the impact of effective credit risk

management on bank survival in Zimbabwe where the results obtained from the study supported the assertion that poor credit management contributed to a greater extent to bank failures in Zimbabwe. Contrary to the finding by Njanike (2009), Camanda and Rosemary (2017) noted that financial firms did not have clear guidelines on the level of risks that the firms were willing to assume and they only relied on the discretion of the directors decision making at that given time.

It was established that 66.7% of the respondents admitted that the senior management implemented strategies in a manner that limits the risk associated with each strategy to a large extent with 23.8% stating that the aforesaid implementation was to a moderate extent. These findings a consistent to those by Angote et al., (2015) that noted that the senior management team understood the levels of risks associated with different strategies that the firms implemented and that each strategy was carefully executed depending on the level of risk appetite at the given level. In disagreement to the results revealed in the current study, Azhar et al., (2018) found that all strategies in the financial institutions were considered to have equal risks and therefore resulting into losses in the event when the market was turbulent.

The respondents were also asked on whether the management was fully involved in the activities of the organization. Cumulatively, 81.0% of the respondents opined that their involvement was wither to a moderate or large extent with an additional 7.1% stating that the management was involved to a very large extent. In agreement with this, several authors have indicated that the senior management of the financial institutions in different contexts are fully involved in all activities of their firms at different levels (Li, Armstrong, & Clarke, 2014; Maranga & Nyambane Nyakundi, 2017; Mwangi & Muturi, 2016). This attributes to better financial performance of the firms.

It was revealed that most of the respondents (50.0%) stated that the management of commercial banks in Kenya possessed sufficient knowledge of all major business lines to a large extent. Another 40.5% opined that the management had the aforementioned knowledge to a moderate extent. In line with these findings, Ogolla, (2017) found that the board of management was well constituted and that the team comprised of individuals who were well knowledgeable in diverse areas on business

and education background. The study noted that a qualified management team was critical in improving financial performance of the Commercial Banks.

According to the study findings, 40.5% and 50.0% held the view that the senior management established awareness of effective internal controls to a moderate and large extent respectively. These results are similar to those by Mutange and Datch (2017) who noted that senior management establishment of awareness of effective internal controls were knowledgeable on various ways of implementing internal controls and how each control is effective in enabling an organization meet its financial performance goals. However, Ayyash, (2017) revealed that some senior management were insufficiently knowledgeable on the diverse ways of implementing internal controls and relied on other staff members to implement such controls.

The role of the senior management in the establishment of the awareness of effective internal controls found in this study is consistent with CBK (2013) guideline. According to CBK (2013), policies and procedures guideline advocates that effective management of risk requires that policies and procedures limits should be established to ensure objective evaluation of and responsiveness to a bank's business environment. It further posits that policies on business strategies are critical in defining the business segments that the institution focused on both the short run and in the long run. These policies and procedures should be tailored to the types of risks that arise from the activities of the institution (CBK, 2013).

Most of the respondents (57.1%) were of the view that the senior management of the commercial banks communicated the need for high ethical standards to a moderate extent with a further 33.3% indicating that the communication was to a large extent. A study by Sultan and Zafar (2016) noted that good communication skills with adherence to all ethical standards by the management was associated with good working environment and in return increased employee productivity. The study noted that increased employee productivity resulted to better financial; performance of organization. To the contrary in a survey conducted by Wambuku (2015), the study noted that top management was not keen to adhere to all ethical requirements in communication which reduced employee motivation and hence the performance of the organization.

4.6.2 Policies and Procedures Guidelines Compliance

The opinions of the chief finance officers and/or chief risk officers were sought with regard to the extent to which the commercial banks operating in Kenya complied with the CBK's guidelines on policies and procedures. The pertinent results are presented in Table 6. The descriptive results are presented on a five-point Likert scale where: 1 = No Extent (NE), 2 = Small Extent (SE), 3 = Moderate Extent (ME), 4 = Large Extent (LE) and 5 = Very Large Extent (VLE).

Table 6: Policies and Procedures Guideline Compliance

	NE	SE	ME	LE	VLE
	F	F	F	F	F
Statements	%	%	%	%	%
The management provides for adequate risk	0	1	18	17	6
management activities for its operations	0.0	2.4	42.9	40.5	14.3
The management ensures that economic substance of	0	2	21	15	4
banks risk exposures are fully recognized	0.0	4.8	50.0	35.7	9.5
The bank's policies are consistent with the banks stated	0	5	18	16	3
mandate	0.0	11.9	42.9	38.1	7.1
The policies clearly delineate accountability within the	0	3	14	20	5
bank	0.0	7.1	33.3	47.6	11.9
The bank policies clearly delineate the lines of authority	2	3	13	19	5
across banks various business activities	4.8	7.1	31.0	45.2	11.9
The policies address breaches of internal control position	0	1	18	17	6
limits	0.0	2.4	42.9	40.5	14.3
The policies include a schedule for reviewing of bank	0	1	21	18	2
process whenever appropriate	0.0	2.4	50.0	42.9	4.8
The policies and procedures include a schedule for	1	3	18	19	1
updating of bank process whenever appropriate	2.4	7.1	42.9	45.2	2.4
The bank policies are tailored to the types of risks that	1	6	11	15	9
arise from the activities that the institution conduct	2.4	14.3	26.2	35.7	21.4
The bank procedures are tailored to the types of risks	2	5	11	18	6
that arise from the activities that the institution conduct	4.8	11.9	26.2	42.9	14.3

As shown in Table 6 although a majority of the surveyed officers (42.9%) indicated that the banks' management provided for adequate risk management activities for the banks' operations to moderate extent, 40.5% stated that the provision was to a large extent. In line with this, Kiio and Ambrose (2017) found that the senior management outline risk management activities in order to ensure that there were minimal chances of suffering financial losses in their Institutions. However, Kihara and Muturi (2013) noted that some activities in the commercial banks did not outline ways in which to mitigate risks while carrying out the operations and this was a threat to the financial performance of the firms.

The results of the current study are in tandem with the CBK (2013) guidelines on the role of the senior management in the formulation of the bank policies and strategies. In this context, CBK (2013) indicates that the senior management of the commercial bank is responsible for implementing strategies approved by the board in a manner that limits the risks associated with each strategy. They should be fully involved in the activities of their institutions and should possess sufficient knowledge of all business lines to ensure that appropriate policies, controls, and risk monitoring systems are in place. This guideline will ensure effective implementation and control of risk management strategies (CBK, 2013).

The respondents were asked on whether the management ensured that economic substance of the bank's risk exposures were fully recognized. The study found that a majority (50.0%) of the respondents indicated that management ensured that economic substance of their banks risk exposures were fully recognized to a moderate extent. A considerable proportion (35.7%) of the respondents stated that the recognition was to a large extent. In agreement with this finding, Mugi (2015) found that when commercial banks were unable to recognize the risks that they are exposed to, it affected the way the banks ran its activities and consequently influencing their financial performance.

The ability of the bank policies to address the material risks associated with the bank are key to the financial performance of the bank. According to CBK (2013), the policies and procedures guideline advocates that effective management of risk requires that policies and procedures limits should be established to ensure objective evaluation of and responsiveness to a bank's business environment. It further posits

that policies on business strategies are critical in defining the business segments that the institution will focus on both the short run and in the long run. These policies and procedures should be tailored to the types of risks that arise from the activities of the institution (CBK, 2013).

Eighty-one per cent of the respondents stated that the bank's policies were consistent with the banks' stated mandate either to a moderate or large extent. Aligning banks policies to its goals and objectives was also found to affect their financial performance and therefore a key aspect to be considered by any organization (Mohammadreza, Arman, Alireza, & Zahra, 2013). Similarly, a cumulative of 80.9% held the view that the bank policies clearly delineated the accountability within the bank to either moderate or large extent. Consistent to this, Roy (2017) found that there were clear policies that described the aspects of accountability and monitoring in the organization which in the long run improved the financial performance of the firm through prudent management of funds. These findings were however contrary to the finding by Ongera & Onditi (2017) who noted that there were no policies linked to accountability and those that were available were not very clear and they were never implemented leading to financial performance challenges.

It was also revealed that while 42.9% of the respondents admitted that the policies addressed breaches of internal control position limits to a moderate extent, 40.5% others indicated that banks addressed the aforesaid breaches to a large extent. Similarly, Ngari (2017) found that most of financial firms had adequate policies and guidelines addressing issues relating to breaches of internal controls and remedies to such eventualities.

The study further examined on whether the banks policies and procedures included a schedule for reviewing of the banks processes whenever appropriate. The study found that 50.0% and 42.9% of the respondents indicated that policies and procedures included a schedule for the reviewing of bank processes whenever it was appropriate to moderate extent and large extent respectively. Cumulatively, all the respondents (100.0%) indicate that the policies and procedures included a schedule for reviewing of bank processes whenever appropriate to a given extent. The respondents were further asked on whether the bank policies included a schedule for updating the bank's processes whenever appropriate. To this end, respondents indicated that the

updating was mainly to large extent (45.2%) and moderate extent (42.9%). These results are in contrary to those by Ahmed and Muhammed (2018) who noted that the available policies did not clearly outline when the policies needed to be evaluated and reviewed. The study also noted that the available policies had been in existence for long periods and some were redundant and irrelevant.

According to a majority of the surveyed chief finance and risk officers working with commercial banks in Kenya, 35.7% admitted that the banks' policies were tailored to the types of risks that arose from the activities that the banks conducted to a large extent while 26.2% and 21.4% indicated that it was to a moderate and very large extent respectively. On bank procedures, most of the respondents (42.9%) admitted that the tailoring of the aforesaid risks was to a large extent with 26.2%, 14.3%, and 11.9% stating that the customization of the procedures was to a moderate, very large and small extent respectively. Interpretively, one of the key activities that the commercial banks undertake is the lending activities in which the bank is exposed to credit risks as a result. The findings of this study are consistent with those of Munyiri (2010) and Richard (2011) who found that lending policies that are unfavorable to business customers are likely to lower profitability for the banks.

4.6.3 Risk monitoring and Management Information System Guidelines Compliance

The study further sought the views of the chief finance officers as well as chief risk officers on risk monitoring and management information system guidelines compliance. The results to this effect are presented in Table 7. The descriptive results are presented on a five-point Likert scale where: 1 = No Extent (NE), 2 = Small Extent (SE), 3 = Moderate Extent (ME), 4 = Large Extent (LE) and 5 = Very Large Extent (VLE).

Table 7: Risk Monitoring and Management Information Guidelines Compliance

Statement	NE F %	SE F %	ME F %	LE F %	VLE F %
Risk Mitigation					
Key procedures used in measuring risks are adequately tested for reliability on an ongoing basis	0 0.0	2 4.8	24 57.1	12 28.6	4 9.5
The management action plans are undertaken to mitigate the risks identified in these stress tests are put in place	1 2.4	3 7.1	12 28.6	18 42.9	8 19.0
Reports to the bank's management are timely in nature	2 4.8	5 11.9	3 7.1	29 69.0	3 7.1
Risk Identification					
Periodic stress testing of bank procedure are periodically conducted	0 0.0	3 7.1	18 42.9	16 38.1	5 11.9
Reports to the bank's management are accurate in nature	0 0.0	0 0.0	10 23.8	28 66.7	4 9.5
Risk Monitoring					
The institutions risk monitoring practices reports addresses all of its material risks	4 9.5	6 14.3	13 31.0	13 31.0	6 14.3
Reports to the bank's management contain sufficient information for decision-makers to identify any adverse trends.	1 2.4	4 9.5	5 11.9	30 71.4	2 4.8
Risk Analysis					
Communication within the bank is structured to monitor exposures	0 0.0	2 4.8	16 38.1	17 40.5	7 16.7
Reports to the bank's management contain sufficient information to evaluate the level of risk faced by the institution	0 0.0	3 7.1	1 2.4	32 76.2	6 14.3
The institution measures all material risk exposures	0 0.0	5 11.9	4 9.5	27 64.3	6 14.3

In respect of whether the banks' risk monitoring practices reports address all of the material risks, 31.0% apiece held the view that it was to a moderate and large extent. The results differed with those by Mbabazize, Daniel, and Ekise (2014) who found that the available risk monitoring practices did not address all the material risks and thus threatening the performance of the organization. However, Ghani and Mahmood (2015) noted that it was very crucial to have risk monitoring practices addressing all material risks in an organization which in turn led to achievement of company's objectives.

The results of this study are in line with the CBK (2013) guidelines on the purpose of the risk monitoring. According to CBK (2013) effective risk monitoring requires institutions to identify and measure all material risk exposures, consequently, risk-monitoring activities must be supported by information systems that provide senior management and directors with timely reports on the financial condition, operating performance and risk exposure of the institution (CBK, 2013).

The study noted that most of the respondents (57.1%) believed that the key procedures used in measuring the risks were adequately tested for reliability on an ongoing basis to a moderate extent. It was also observed that 28.6% and 9.5% were of the view that the reliability testing was to large extent and very large extent respectively. Mamai and Yinghua (2017) noted that some of the procedures used in measuring risks were not evaluated to establish whether they were the best methods and whether they were reliable in establishing the risk exposures to an organization. However, Lin and Parinyavuttichai (2015) noted that organizations should use reliable procedures and methods to measure risks.

The study also examined the extent to which the periodic stress testing of bank procedures were periodically conducted. The study results indicated that a majority (42.9%) of the respondents were in agreement to a moderate extent while 38.1% and 11.9% were in concurrence to a large extent and very large extent respectively. These results differ with those by Murunga (2018) who noted that there were no periodic stress testing of bank procedure and sometimes the procedures were unrealistic. However, Ghani and Mahmood (2015) found that there was a periodic updating of bank procedures for risks management.

The study further enquired on whether the management action plans that were undertaken to mitigate the risks identified during stress testing were put in place or not, and if yes, to what extent. It was revealed that, 42.9%, 28.6%, and 19.0% opined that the undertaking of the aforesaid plans was to a large extent, moderate extent, and very large extent respectively. In line with this, Nyongesa (2017) found that there was an active process for mitigating risks in the organization and testing the potential threats of the identified risks.

The respondents were asked on whether the communication within the bank was structured to monitor exposures. On this aspect, 40.5%, 38.1%, and 16.7% indicated that communication was structured to large extent, moderate extent, and very large extent respectively. This findings concurred to those of a previous study carried out by Wainaina (2017) who found out that there was a significant association between the communication that the banks made about exposures to risk and the financial performance of the firm. On the contrary, Rahim (2016) noted that there was no clear communication about potential threats and risk exposures to the firm.

It was established that all the respondents held the view that reports to the banks' management were accurate in nature, to a moderate extent (23.8%), large extent (66.7%) or very large extent (9.5%). A previous study by Waweru and Ngugi (2014) also found that the reports that were given to the management for decision making were accurate and they led to evidence-based decision making and good financial performance of the organizations. Most of the respondents (69.0%) indicated that the reports to the banks' management were submitted timely. It was also noted that 11.9% indicated to a small extent about the timeliness of the reports' submission. In line with this, several studies have shown that most of the financial institutions had timely reports handed over to the management team in order to make timely decisions for the organizations and this resulted to high performance of the organizations in diverse ways (Ghani et al., 2016; Mahboub, 2017; Ofeh & Jeanne, 2017; Sultan, 2014).

The respondents were further asked on the sufficiency of the bank's reports to the management in order to enable the decision makers to identify any adverse trends. On this issue, 71.4%, 11.9%, 9.5%, and 4.8% were in agreement to a large extent, moderate extent, small extent, and very large extent respectively. The results of this study were in tandem with the findings by Mutua (2015), and Al-Adwan (2016).

These studies noted that managers use the management information system to generate reports that provided them with a comprehensive overview of the information that they needed to make decisions ranging from the daily details of the strategy to the strategic level. Effective risk management is a critical component of a comprehensive approach to risk management and essential to long term success of any banking organization (Mutua, 2015).

In respect of whether or not the reports to the bank's management contained sufficient information to evaluate the level of risk faced by the institution, the study found that majority of the respondent were in agreement either to a large extent (76.2%) or very large extent (14.3%). Other studies suggest the same results where most of the authors noted that reports submitted to the management team contained sufficient information concerning the true position of the organization, the risks that the organization faced and suggestions for possible decisions to be made in order to keep the organization afloat (Johl, Kaur, & Cooper, 2013; Buah, 2015; Roy, 2017; Osadchy, et al., 2018).

Finally, it was observed that, cumulatively 78.6% of the respondents agreed either to a large extent or very large extent that the banks measured all material risk exposures. On a related note, 11.9% and 9.5% indicated that the measures were to a small extent and moderate extent respectively. On the contrary to these findings, Al-Basheer and Shtanawi (2015) in their study of the impact of management information system on the financial performance of Islamic bank in Jordan found a statistically significant relationship between Management information system and financial performance.

4.6.4 Internal Controls Guidelines Compliance

This section evaluates the views of chief finance officers and chief risk officers working with commercial banks licensed to operate in Kenya with regard to the banks' compliance with internal controls guidelines set out by the CBK. Internal control guideline requires institutions to establish and maintain an effective system of controls including the enforcement of the official lines of authority and appropriate separation of duties. An institution's internal control structure is critical for the safe and sound functioning of the organization. It promotes effective operations and reliable financial and regulatory reporting, safeguard's assets and helps to ensure compliance with relevant laws, regulations and the institution's policies (CBK, 2013). Table 8 shows a summary of descriptive statistical results on internal controls

guidelines compliance. These results were presented on a five-point Likert scale where: 1 = No Extent (NE), 2 = Small Extent (SE), 3 = Moderate Extent (ME), 4 = Large Extent (LE) and 5 = Very Large Extent (VLE).

Table 8: Internal Controls Guidelines Compliance

Statements	NE F %	SE F %	ME F %	LE F %	VLE F %
Effectiveness of Internal Controls					
Systems of internal control are appropriate to the type of risks posed by the nature of the institution's activities	0 0.0	4 9.5	2 4.8	33 78.6	3 7.1
Institutions audit committee or board of directors reviews the effectiveness of controls	1 2.4	4 9.5	0 0.0	34 81.0	3 7.1
Independence of Internal Controls					
Systems of internal control are appropriate to the level of risks posed by the nature of the institution's activities	0 0.0	3 7.1	3 7.1	29 69.0	7 16.7
Organization structure establishes clear lines of authority for monitoring adherence to procedures	0 0.0	4 9.5	5 11.9	29 69.0	4 9.5
Reporting lines provide sufficient independence of the control areas from business lines throughout the institution	0 0.0	1 2.4	4 9.5	33 78.6	4 9.5
Information Controls					
Organization structure establishes clear lines of responsibility for monitoring adherence to procedures	1 2.4	1 2.4	5 11.9	32 76.2	3 7.1
Exceptions noted on the reports are promptly investigated	1 2.4	4 9.5	2 4.8	27 64.3	8 19.0
Information system are adequately reviewed	0 0.0	4 9.5	5 11.9	30 71.4	3 7.1

Statements	NE F %	SE F %	ME F %	LE F %	VLE F %
Internal Control Reviews					
Various bank reports are always reliable	1 2.4	1 2.4	2 4.8	31 73.8	7 16.7
Control review practices provide for independence in bank operations	2 4.8	6 14.3	1 2.4	28 66.7	5 11.9

In accordance with the results shown in Table 8, it was revealed that a majority (78.6%) of the participating officers held the view that the systems of internal controls were appropriate to the type of risks posed by the nature of the banks' activities to a large extent. None of the officers indicated that the aforesaid systems were not appropriate to the risk types. These results were in concurrence to the findings of a past study conducted by Bett (2014) which revealed that the internal controls put in place by the organization were in line with the type of risks that the organization faced emanating from of its activities. However Mutange and Datche (2017) noted that the internal controls were common to competing organizations and thus were not specific to their activities and nature of risks that the specific organization faced.

Banks have an internal control system which should not only ensure their proper functioning but also ensure that their assets are safeguarded. According to the Central Bank of Kenya (2013), an institution's internal control structure is critical to the safe and sound functioning of the organization in general and to its risk management in particular. A well-functioning internal control system should ensure that all material risks to which an organization is exposed to are prevented or mitigated (CBK, 2013). Harvey and Brown (1998) identified a controlled environment, accounting system, and control procedures as the major components of internal control. According to Grieves (2000) an internal control system available to a firm consists of; Management oversight and control culture, risk recognition and assessment, control of activities and segregation of duties, information and communication, and monitoring activities.

The respondents were further asked on whether the systems of internal control are appropriate to the level of risks posed by the nature of the institution's activities. It

was established that, cumulatively, 85.7% of the respondents opined that the systems were appropriate to the level of risks to at least great extent. The vast majority of the respondents (69.0%) stated that the organizational structure established clear lines of authority for monitoring adherence to procedures to a large extent. On the same vein, it was noted that 11.9% and 9.5% of the respondents indicated that the establishment of clear lines of authority were to a moderate and a very large extent respectively. These results differed with those by Ahmed and Muhammed (2018) who noted that the internal control measures put in place were not reflective of the levels of risks the organization faced. These results supported findings of an earlier study on the effects of internal controls on the financial performance of commercial banks in Kenya conducted by Rennox (2017) which indicated that effective internal controls reduced the risk of fraud and bad debts.

On a related note, the study established that most of the surveyed respondents (76.2%) held the opinion that the organizational structure established clear lines of responsibility for monitoring adherence to procedures to a large extent. Almost twelve per cent (11.9%) and 7.1% of the respondents indicated that the lines of responsibility were established by the organization structure of their banks to a moderate extent and a very large extent respectively. In tandem, establishment of clear responsibility lines for monitoring adherence to procedures by the management was found by an earlier study to be related to the level of financial performance of organization in diverse ways (Bonvas, 2017).

In respect of the reporting lines providing sufficient independence of the control areas from business lines throughout the institution, the study found that 78.6% of the respondents were in agreement to a large extent while 9.5% were in concurrence to a moderate and very large extent apiece. The results concurred with Bubilek's (2017) study which indicated that there was independence of internal controls processes in the institution which led to better financial performance of the concerned institutions.

The respondents were further asked to what extent the various bank reports were always reliable. Majority of the respondents indicated that the reliability was to a large extent (73.8%) followed by 16.7% who stated that the reliability of the bank reports was to a very large extent. In agreement to this, Mutange and Datche (2017) and Ngari (2017) also found that the reports for various banks were reliable and were

used for decision making in the banks. They also noted that having reliable financial reports and records enhanced the financial performance of the banks. However, Oppong, Owiredu, Abedana and Asante (2016) found that not all records are accurate and thus unreliable for decision making.

It was also observed that according to 64.3% and 19.0% of the respondents, exceptions noted on the reports were promptly investigated to a large extent and a very large extent respectively. These results differed with those by Siyakulima (2016) who noted that there were filers of reports that needed to be investigated but the organizations were reluctant in investigating the reports and implementing the given recommendations. The study further revealed that a majority (66.7%) of respondents agreed to a large extent that control review practices provided for independence in bank operations while 11.9% concurred with this assertion to a very large extent. The findings were consistent to those of a past study carried out by Bubilek (2017) who found that there was independent of internal controls processes in the institution and this led to better financial performance of the institution.

Cumulatively, 78.5% of the surveyed officers agreed to a large extent and very large extent that information systems were adequately reviewed by the commercial banks operating in Kenya. It was also noted that 11.9% of the respondents agreed to a moderate extent that the review of the information systems was adequately done. It was indicated to a large extent by 81.0% of the respondents that the commercial banks' audit committees or boards of directors reviewed the effectiveness of the internal controls set out by those financial institutions. These results tallied with previous findings which established that assessing the effectiveness of internal controls keeps an organization on track in meeting the goals for the internal controls as well as the goals of the organization at large (Simangunsong, 2014).

4.6.5 Liquidity and Capital Limits Guidelines Compliance

The study also examined the views of chief credit officers and chief risk officers regarding compliance of commercial banks with the liquidity and capital limits guidelines stipulated by the CBK association between liquidity and capital limits guidelines and the financial performance was examined in this section through use of ten indicators. Both the frequency distribution and chi-square results were presented as depicted in Table 9. The results were presented on a five-point Likert scale where:

1 = No Extent (NE), 2 = Small Extent (SE), 3 = Moderate Extent (ME), 4 = Large Extent (LE) and 5 = Very Large Extent (VLE).

Table 9: Liquidity and Capital Limits Guidelines Compliance

Statements	NE F %	SE F %	ME F %	LE F %	VLE F %
Setting Liquidity Limits					
Management sets limits that are appropriate to the financial condition of the institution	0 0.0	0 0.0	13 31.0	26 61.9	3 7.1
Limits are periodically reviewed when risk tolerances change	0 0.0	2 4.8	8 19.0	32 76.2	0 0.0
The management always ensures adherence to the set liquidity limits	0 0.0	0 0.0	9 21.4	31 73.8	2 4.8
Liquidity Risk Contingencies					
There is a contingency plan for handling liquidity crisis	1 2.4	2 4.8	13 31.0	24 57.1	2 4.8
The institution has instituted systems that enable it to capture liquidity risk ahead of time so that remedial measures are prompted to avoid significant losses	0 0.0	2 4.8	13 31.0	21 50	6 14.3
Capital Limits Adherence					
Management accurately quantifies the primary sources of liquidity risk in a timely manner	1 2.4	6 14.3	10 23.8	21 50	4 9.5
The management always ensures adherence to the set capital limits	0 0.0	1 2.4	18 42.9	22 52.4	1 2.4
Assessment of cash flows is done to identify the potential future funding shortfalls	0 0.0	4 9.5	10 23.8	24 57.1	4 9.5
Liquidity Risks Monitoring					
Management ensures adherence to Capital limits	0 0.0	3 7.1	13 31.0	22 52.4	4 9.5
The asset-liability committee is in place to effectively monitor organizations liquidity risk	1 2.4	2 4.8	17 40.5	17 40.5	5 11.9

As shown in Table 9, it is apparent that half of the respondents (50.0%), to a large extent, admitted that the management of commercial banks accurately quantified the primary sources of liquidity risk in a timely manner. On the same note, 23.8% agreed on the aforesaid issue to a moderate extent while 14.3% and 9.5% agreed to a small extent and very large extent respectively. These results differed with those made by in a study conducted by Madushanka and Jathurika (2018) who noted that the organizations did not quantify sources of risks related to liquidity in a timely money and this resulted to poor financial performance.

According to 61.9% of the respondents, to a large extent, the management of the commercial banks had set limits that were appropriate to the financial condition of the financial institutions. The aforementioned assertion was also admitted to a moderate extent by 31.0% and to a very large extent by 7.1% of the respondents. The findings concurred with those of a study by Mengesha (2016) which noted that the liquidity limits set by the management of banks and the central bank were in line with the financial conditions of the individual banks. The study also noted that the liquidity limits affected the financial performance of the individual banks. To a large extent and moderate extent, 57.1% and 31.0% of the respondents respectively indicated that there was a contingency plan for handling liquidity crisis in commercial banks in Kenya. These findings were consistent to the results of a previous empirical study conducted by Kimani (2015) which indicated that financial institutions had contingency plans to deal with risks emanating from liquidity crisis.

The respondents were asked to indicate the extent to which they agreed with the assertion that liquidity limits were periodically reviewed when risk tolerances changed. A majority (76.2%) of the respondents agreed to this proposition to a large extent while 19.0% agreed to moderate extent. These findings were in agreement to the results of a past study conducted by Li et al., (2014) which indicated that the liquidity limits were reviewed from time to time. The latter study, however, noted that the study noted that the period that it took to review the limits was long leading to loss of business opportunities.

The study further examined the extent to which management ensured adherence to capital limits. The study found that, most of the respondents agreed to either large extent (52.4%) or moderate extent (31.0%) that the management of the surveyed

commercial banks ensured adherence to capital limits set out by the CBK. In respect of the banks' management always ensuring adherence to the set capital limits, 52.4% and 42.9% agreed to a large extent and moderate extent respectively. These findings, however, differed with those of a previous study by Ymenu (2018) which revealed that there were instances where the senior management did not adhere to the capital limits, an issue which led to financial challenges amongst the commercial banks.

The adherence to the capital limits is a key component of the banking process. Capital and liquidity limit guideline emanates from Section 19 of the Banking Act. It requires that a banking institution should maintain such minimum holding of liquid assets as the Central Bank may determine from time to time. It also endeavours to ensure that financial institutions conform to the statutory requirement on minimum capital. The objective is to ensure that financial institutions have enough cash on account to enable them to discharge their obligations and also to have adequate capital to enable them to absorb unexpected losses caused by economic shocks (BCBS, 2012).

The respondents were asked the extent to which the management always ensured adherence to the set liquidity limits. In this respect, most of the respondents (73.8%) as well as 21.4% and 4.8% stated to a large extent, moderate extent, and very large extent respectively that, the management of commercial banks in Kenya ensured adherence to the set liquidity limits. These results tallied with the findings of a past study carried out by Ogolla (2017) which indicated that there was a significant relationship between liquidity or capital limits and the financial performance of commercial banks in Kenya.

The study further indicated that 50.0%, 31.0%, 14.3%, and 4.8% of the respondents admitted to a large extent, moderate extent, very large extent, and small extent respectively that the commercial banks had instituted systems that enabled them to capture liquidity risk ahead of time so that remedial measures were prompted to avoid significant losses. These findings concurred to those of a study by Ong'era and Onditi (2016) which established that the senior management was very keen in the analysis of liquidity risks that were likely to affect the financial performance of the commercial banks. The study added that early diagnostic analysis of liquidity risks enabled the commercial banks to avoid future risks emanating from their liquidity status.

It was also revealed that 40.5% of the respondents agreed to a moderate extent that the asset-liability committee was in place to effectively monitor the liquidity risk of each of the surveyed commercial banks. An equal number of respondents agreed to this assertion to a large extent. These findings, however, departed from those of a past study carried out by Maranga and Nyakundi (2017) which indicated that there were no asset-liability committees in place to effectively monitor organizations' liquidity risk and that the firms relied on the individual employees. The study further noted that the individual risks monitoring and decision making led to biased decisions which consequently led to the firms incurring losses.

Finally, the respondents were asked to what extent the assessment of cash flows was done to identify the potential future funding shortfalls in their respective banks. Accordingly, 57.1% and 23.8% agreed to this proposition to a large extent and moderate extent respectively. The remaining respondents (19.0%) admitted to this assertion, either to a small extent or very large extent. In concurrence, a study by Nyasaka (2017) had observed that analysis of cash flows enabled an organization to plan for future activities as well as avoiding shortfalls due to unreliable cash flows. The latter study also found that there was a positive relationship between the analysis of cash flows and financial performance of the firms which was in agreement with the findings of the current study.

4.6.6 Bank Size

The study also sought the views of the chief finance officers and chief risk officers regarding the size of their commercial banks. Both primary and secondary data were collected in respect of the bank size. The results of descriptive statistical analysis involving primary data are presented in Table 10. The results were presented on a five-point Likert scale where: 1 = No Extent (NE), 2 = Small Extent (SE), 3 = Moderate Extent (ME), 4 = Large Extent (LE) and 5 = Very Large Extent (VLE).

Table 10: Descriptive Statistics on Bank Size

Statements	NE F %	SE F %	ME F %	LE F %	VLE F %
The banks' policies are consistent with the banks overall	0	1	16	20	5
financial strength	0.0	2.4	38.1	47.6	11.9
A management information system is consistent with the	0	5	17	18	2
complexity of the institution's operations	0.0	11.9	40.5	42.9	4.8
Systems of internal control are appropriate to the type of	0	1	17	11	13
risks posed by the scope of the institution's activities	0.0	2.4	40.5	26.2	31.0
Management sets limits that are appropriate to the size	1	4	14	20	3
of the institution	2.4	9.5	33.3	47.6	7.1
Growth in total assets has been satisfactory over the	0	4	18	12	8
years	0.0	9.5	42.9	28.6	19.0

It was revealed as shown in Table 10 that, while a majority (47.6%) of the officers admitted to a large extent that the banks' policies were consistent with the banks' overall financial strength, 38.1% agreed to a moderate extent. These results were in agreement to observations made in a previous study by Shelash and Mousa (2017) which indicated that there were differences in the policies for big banks and those for small banks based on their financial strengths. Similarly, 42.9% and 40.5% admitted to a large extent and moderate extent respectively that a management information system was consistent to the complexity of the operations of the respective commercial banks. This was in support of findings made in a study by Gunawan (2018) that the banks with complex operations due to their big size also had complex management information systems to simplify their operations. A study by Chansaenroj and Techakittiroj (2015) also added that big commercial banks had an increased adoption of information technology in their operations compared to small banks which had few operations and small client base.

Whereas 40.5% of the respondents admitted to a moderate extent that the systems of internal control were appropriate to the type of risks posed by the scope of the banks' activities, cumulatively, 57.2% of the respondents were in concurrence to the aforesaid assertion either to a large or very large extent. Similarly, Ayyash's (2017)

study found that there were many systems for internal controls for big financial institutions compared to small financial institutions since big firms had more employees and large scope of activities which necessitated many internal controls.

While 47.6% of the respondents agreed to a large extent that the management of the commercial banks set limits that were appropriate to the size of their institutions, a third (33.3%) of the respondents agreed to the same to a moderate extent. These results were consistent to the findings of a study conducted by Li et al., (2014) which revealed that the bigger the institution, the higher the capital and liquidity limits. Similarly, a study by Roy (2017) established that there was a significant association between the capital and liquidity limits and the financial performance of the firms. The study further revealed that 42.9%, 28.6%, and 19.0% of the surveyed officers agreed to a moderate extent, large extent, and very large extent respectively that the growth in total assets of the commercial banks was satisfactory over the years. Contrary to these findings, Ogolla's (2017) study found that there was no significant association between the growth in total assets over the years and the financial performance of financial institutions. The study also noted that increase in assets did not imply an increase in the financial performance of the firm.

The results of descriptive statistical analysis involving secondary data and with regard to bank size are presented in Figure 1.

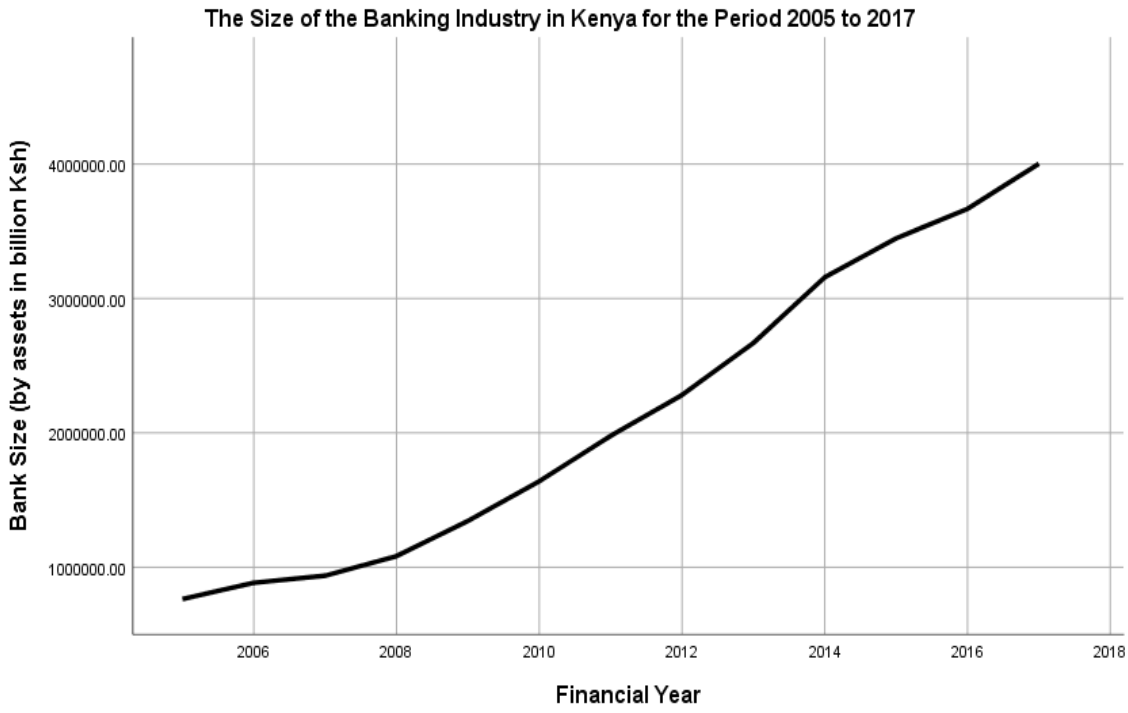

Figure 2: The Size of the Banking Industry in Kenya (2005 to 2017)

It is apparent from the results depicted in Figure 1 that, the size of commercial banks licensed to operate in Kenya recorded consistent growth over the period between year 2005 and year 2017. The size of the banks was measured using their assets as documented in their respective financial reports as well as the CBK's bank supervisory reports for each of the 13 financial years. The risk management guidelines were introduced by the Central Bank of Kenya in 2005 and also commercial banks in Kenya were required to commence complying with them. Since their introduction, it is imminent that the general size of the 42 commercial banks licensed to operate in the country has increased from Ksh 763,674 billion recorded in 2005 to Ksh 4,002,742 billion posted in 2017. The sharpest increase in asset base was reported between FY 2008 and FY 2014. The period recorded an increase of Ksh 2,075,406 which translated to 191.64% rise which was considered a drastic increase in asset base of the commercial banks in Kenya.

4.6.7 Financial Performance

This section presents the descriptive statistics for the financial performance of commercial banks in Kenya. In doing this, financial performance was presented in form of both primary and secondary data. The pertinent results are presented in Table

11 and Figure 2 respectively. Table 11 shows the frequencies and percentages from the primary data that was collected on financial performance of commercial banks in Kenya. The views of the surveyed chief finance officers and chief risk officers working with commercial banks in Kenya were presented on a five-point Likert scale where: 1 = No Extent (NE), 2 = Small Extent (SE), 3 = Moderate Extent (ME), 4 = Large Extent (LE) and 5 = Very Large Extent (VLE).

Table 11: Descriptive Statistics on Financial Performance

Statements	NE F %	SE F %	ME F %	LE F %	VLE F %
The bank has over the years posted profitability commensurate with its targets	0 0.0	3 7.1	9 21.4	20 47.6	10 23.9
The return on assets have been satisfactory to the bank management	2 4.8	1 2.4	12 28.6	15 35.7	12 28.6
The liquidity levels within the bank is always adequate for the bank to undertake its financial obligations	1 2.4	2 4.8	14 33.3	14 33.3	11 26.2
Our bank pays its creditors in a timely manner	0 0.0	0 0.0	20 47.6	17 40.5	5 11.9
Our bank always pays its creditors in full	1 2.4	2 4.8	12 28.6	21 50.0	6 14.3
The bank has experienced satisfactory retained earnings over the years	1 2.4	5 11.9	13 31.0	14 33.3	9 21.4
The management of the bank is always satisfied with the provided shareholder dividends	2 4.8	5 11.9	13 31.0	15 35.7	7 16.7
The return on equity has been satisfactory to the bank management over the years	3 7.1	1 2.4	16 38.1	17 40.5	5 11.9
The return on investments has always been satisfactory to the bank management over the years	1 2.4	2 4.8	16 38.1	17 40.5	6 14.3
The total assets of the banks are always within the set levels of the bank management	0 0.0	3 7.1	17 40.5	14 33.3	8 19.0

Apparently, it is clear as shown in Table 11 that, majority (47.6%) of the respondents agreed to a large extent that the commercial banks had over the years posted profitability commensurate to their targets. On the same issue, 23.9% and 21.4% agreed to a very large extent and to a moderate extent respectively. Contrary to these findings, Antero's (2016) study found that the profitability margins realized by the

commercial banks were lower than the targeted margins. With regard to the return on assets being satisfactory to the bank management, a majority (35.7%) of the respondents were in agreement to a large extent while equal number of the surveyed officers expressed their concurrence to a moderate extent (28.6%) and to a very large extent (28.6%). In agreement with these observations, a previous study by Getu (2015) found that the return on assets was satisfactory to the management a factor that improved the financial position of the bank.

The respondents were asked to express their level of agreement to the assertion that liquidity levels within the bank were adequate for the commercial banks to undertake their financial obligations. Towards this end, most of the respondents were in agreement either agreed to a moderate extent (33.3%) or to a large extent (33.3%). Notably, a considerable number of respondents (26.2%) admitted to a very large extent on the adequacy of liquidity levels within the aforesaid commercial banks. These results, however, differed with those of another study by Alalie, Harada and Noor (2018) which indicated that liquidity levels of the banks limited the banks to fulfill their intended obligations.

The study also examined the extent to which the respondents agreed that the commercial banks in Kenya paid their creditors in a timely manner. As indicated in Table 28, they agreed to this assertion either to a moderate extent (47,6%), large extent (40.5%) or to a very large extent (11.9%). On the extent to which the banks always paid their creditors in full, half (50.0%) of the respondents agreed to large extent while 28.6% and 14.3% were in agreement to a moderate extent and to a very large extent respectively. These results were, nevertheless, found to be inconsistent to the findings of a study carried out by Muchira (2013) which indicated that most creditors were neither paid in time nor in full, an issue which subsequently damaged the reputation of the banks as well as discouraged partners.

The study also found that most (33.3%) of the respondents admitted to a large extent that the commercial banks experienced satisfactory retained earnings over the years. The agreement of the other respondents was to moderate extent (31.0%), very large extent (21.4%), and to small extent (11.9%). Only one respondent representing 2.4% expressed their disagreement. These results tallied with the observation made in a study by Harelimana (2017) which indicated that commercial banks experienced

satisfactory retained earnings over the years. The respondents were also asked to indicate their extent of agreement to the bank management being always satisfied with the provided shareholder dividends. Towards this end, 35.7%, 31.0%, 16.7%, and 11.9% of the respondents expressed their agreement to a large extent, moderate extent, and very large extent respectively with 4.8% of them dissenting. In concurrence to these findings, Kireru, Ombui, and Omwenga (2016) asserted that the bank management team was always pushing for more profitability in order to increase the dividends given to shareholders. As such, the findings of the latter study implied the bank management was not satisfied with the dividends paid to shareholders.

Moreover, the study established that a majority of the surveyed officers expressed to a large extent (40.5%) and to a moderate extent (38.1%) their agreement that the return on equity had been satisfactory to the commercial banks in Kenya over the years. On the same aspect, 11.9% admitted to a very large extent. While 2.4% of the respondents agreed to the issue to small extent, 7.1% expressed divergent opinion of the same proposition.

The respondents were further asked to express their views regarding the return on investments being always satisfactory to the banks' management over the years. The study found that 40.5%, 38.1%, and 14.3% expressed their agreement to this assertion to a large extent, moderate extent, and very large extent respectively. Finally, it was revealed that 40.5%, 33.3%, and 19.0% agreed to a moderate extent, large extent, and very large extent that the total assets of the commercial banks were always within the level set by the banks' management. In agreement to these results, a study by Shelash and Mousa (2017) indicated that the return on equity and return on assets were both at satisfactory levels, though more returns were desired by the management team as well as shareholders towards meeting the set levels.

The study further obtained secondary data on the return on assets from the 42 licensed commercial banks in Kenya for the period of 13 years starting from 2005-2017. The panel data to this effect (ROA) represented the financial performance of the aforesaid banks. The data were collected over the aforementioned time period due to the fact that the CBK's guidelines came to effect in 2005. The pertinent results are presented in Figure 2.

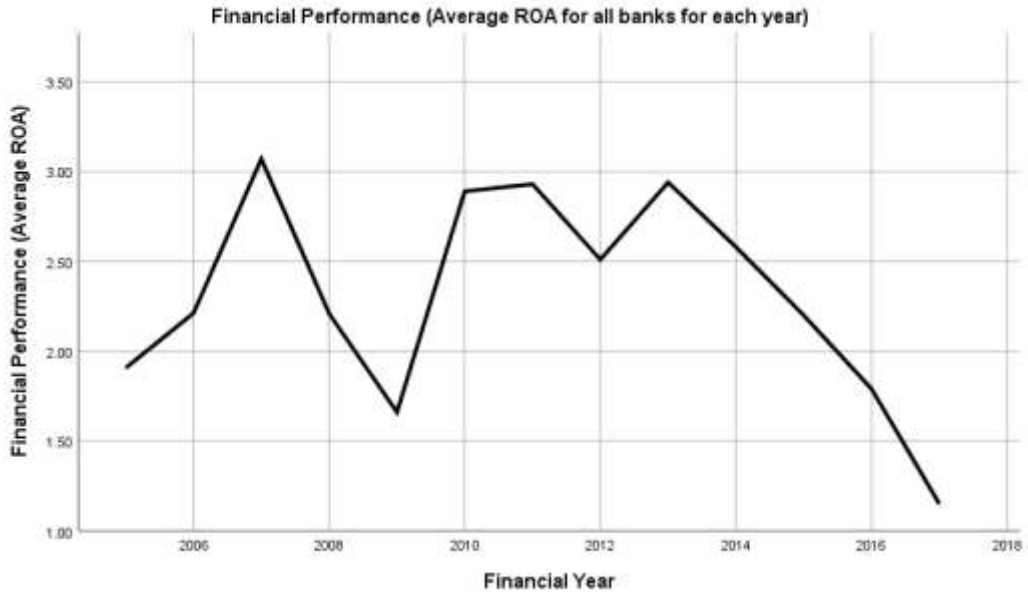

Figure 3: Financial Performance (Average ROA)

The results presented in Figure 2 show the return on assets (ROA) spanning a period of 13 years starting 2005 (when the CBK introduced risk management guidelines) to 2017. Accordingly, the ROA fluctuated with the highest average return on assets being reported in year 2007 (ROA = 3.07) and the lowest (ROA = 1.15) being reported for the year 2017. A sharp decline was noted in years 2008 and 2009 where ROA was 2.21 and 1.66 respectively. The foregoing represented 28.01% and 24.89% drop in ROA over the two financial years respectively. The sharp drop could have been attributed to the violence that proceeded the 2007 general elections where the Kenyan economy was seriously affected.

The very low ROA recorded in 2016 (ROA = 1.79) and 2017 (ROA = 1.15) could have been as a results of the introduction of interest rate capping in September 2016 (CBK, 2016) and the highly contested general elections in 2017 respectively. It is important to reckon that the introduction of the interest rate cap at a maximum of 4.00% above the Central Bank Rate (CBR) reduced the interest income significantly. The uncertainty brought about by the highly contested elections, where unprecedentedly, there was a rerun, played a conspicuous role in aggravating the economic situation in Kenya. On a related note, it is asserted that the election years register comparatively lower GDP growth rates when juxtaposed against years when there are no general elections in Kenya (Institute of Economic Affairs, 2017).

4.7 Factor Analysis

Factor analysis is a statistical method for reducing constructs to few constructs that attract maximum and common variance in a measured variable (Almalki & Arabia, 2016). Factor analysis was primarily done for dimension reduction. This was due to the fact that the independent variables had numerous constructs that required to be reduced into only what were considered to be important in explaining the variables (Creswell, 2014). However, Kunisch, Menz, Bartunek, Cardinal, and Denyer (2018) recommends that before a Factor Analysis is conducted, a preliminary analysis needs to be done to establish whether the data is fit for measurement reduction through Factor Analysis. This preliminary analysis includes KMO and Bartlett's test that checks whether there is homogeneity of variances. Factor analysis and other statistical analysis assume equal variance of means and thus important to test the fitness of the data to these statistical tests using KMO and Bartlett's test. This tests the null hypothesis that the correlation matrix is an identity matrix and that all of the diagonal elements are 1 and all off diagonal elements are 0 which needs to be rejected (Bilgin, 2017). Taken together, these tests provide a minimum standard which should be passed before a factor analysis (or a principal component analysis) should be conducted.

Table 12: KMO and Bartlett's Test

Variable	Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	Bartlett's Test of Sphericity		
		Approx. Chi-Square	df	Sign.
Board and senior management oversight	0.658	86.985	45	0.000
Policies and Procedures	0.514	71.682	45	0.007
Risk Monitoring and Management Information Guideline	0.501	63.035	45	0.047
Internal Controls Guideline	0.699	139.054	45	0.000
Capital and Liquidity limits	0.564	76.922	45	0.002
Bank Size	0.454	36.871	45	0.122
Financial Performance	0.428	24.509	21	0.269

The Kaiser-Meyer-Olkin Measure of Sampling Adequacy achieved in the study was above 0.5 for board and senior management oversight, policies and procedures, risk monitoring and management, internal controls, capital and liquidity limits and thus implied that Factor analysis would be beneficial in reducing the constructs of the study in regard to those variables. The corresponding Bartlett's Test of Sphericity was significant and thus implying that the items forming the items were not highly related and thus needed factor analysis for scale reduction of items. This is due to Bartlett's Test of Sphericity p-value of less than 0.05. However, Kaiser-Meyer-Olkin Measure of Sampling Adequacy of less than 0.5 and Bartlett's Test of Sphericity of more than 0.05 for Bank Size and Financial Performance implied that factor analysis would not have been useful for the two variables (Bryman, 2012). Based on these results, Factor Analysis was not performed for bank size and financial performance and thus no dimension reduction was done on the items forming the variables.

4.7.1 Principal Factor Analysis for Board and Senior Management Oversight Guideline

Since the KMO and Bartlett's Test for Board and Senior Management Oversight Guideline proved that factor analysis would be useful, the principal factor analysis was examined for the purposes of dimension reduction in a summated variable. This was undertaken through seeking to examine on whether the underlying unobservable (latent) variables that are reflected in the observed variables (manifest variables) (Masaki, 2017). The total variances were examined together with factor loading of the variables in the undertaking of the factor analysis. The eigenvalue was calculated in order to examine the number of the factors in which the indicators of the board and senior management oversight guideline could be categorized to. In doing this, all the ten items for the board and senior management oversight guideline were used in the factor analysis and the results were presented in Table 13.

Table 13: Total Variance by Board and Senior Management

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.460	24.603	24.603	2.460	24.603	24.603
2	1.246	12.455	37.058	1.246	12.455	37.058
3	1.125	11.249	48.307	1.125	11.249	48.307
4	1.020	10.201	58.507	1.020	10.201	58.507
5	0.911	9.114	67.622			
6	0.877	8.765	76.387			
7	0.819	8.189	84.576			
8	0.606	6.064	90.640			
9	0.542	5.419	96.058			
10	0.394	3.942	100.000			

Extraction Method: Principal Component Analysis.

Table 13 shows all the ten components used in the factor analysis for the board and senior management oversight guideline as well as their initial Eigen values and their extraction sums of squared loadings. Initial Eigen values shows the percentage

variance explained by each of the components of a latent variable. The higher the value the higher the variance explained by the component (Mohamad et al., 2018). In respect to this, component one explained for the highest variance of 24.603% while the second component explained for a variance of 12.455% while that third component accounted for 11.2249% variance and so on with the last component accounting for 3.942%. All the ten components accounted for 100% variation of the latent variable.

On the other hand, squared sums of squared loadings shows the squared variance explained by each component and is interpreted as the correlation of each item with the component (Yu & Richardson, 2015). According to Nayak and Singh (2016), higher values for Extraction Sums of Squared Loadings implies that the components loads well on the latent variable and that there is a strong correlation between the component and the rest of the items. This is also an indication of several items loading on the same component and thus attributing to large proportion of variance of the latent variable of the study.

According to Pedrosa, Rodrigues, Padilha, Gallani, and Alexandre (2016), Initial Eigenvalues and Extraction Sums of Squared Loadings values of at least 1.0 (10% of variance) implies that the component sufficiently accounts for the variation in the latent variable and thus should be retained as a measure of the latent variable while values less than 1.00 implies that the respective components accounts for less than 10% of the variance of the latent variable and the items weakly load of the latent variable and thus could be considered for removal in measurement reduction process of the factor analysis.

According to Yu and Richardson (2015), all items constituting a latent sufficiently loads on the components whose explained total variance is at 10% and thus the choice for the 1.0 factor loading. In this study, the first four components attributed to at least 10% of the variance of the board and senior management oversight guideline and in cumulatively the four components explained for 58.507% which is above the threshold of 50% of the variance of the board and senior management oversight guideline as explained by components with a loading factor of more than 1.0.

In order to determine whether there are items to remove in the construct for the latent variable, that is, board and senior management oversight guideline, the study computed component matric analysis to find out the number of items that load on specific components as well as the strength of the correction of each item to the individual components as shown in Table 14.

Table 14: Component Matrix of Board and Senior Management Oversight Guideline

Items	Component			
	1	2	3	4
The board exercises ultimate responsibility for the level of risk taken by the institution	0.526	0.400		0.422
All the board of directors understands the nature of risks significant to the organization			0.762	0.431
The directors have technical knowledge depending on the particular circumstances of the organization	0.481	-0.495		
Directors have a clear understanding of the types of risks to which their institutions are exposed to	0.606	-0.576		
Directors provide clear guidance regarding the level of exposures acceptable to the institution	0.758			
Senior management implements strategies in a manner that limits the risk associated with each strategy	0.395		0.366	-0.535
Management is fully involved in the activities of the organization	0.545			
Management possesses sufficient knowledge of all major business lines	0.361	0.488		-0.410
Senior management communicates need for high ethical standards	0.465			
Senior management communicates need for high ethical standards	0.367		0.589	

Extraction Method: Principal Component Analysis.
a. 4 components extracted.

Table 14 shows the items loading on the four component whose explained variance met the threshold of 10%. According to Masaki (2017), items with an absolute correlation coefficient of at least 0.3 indicates that the corresponding item sufficiently loads on the component and on the other hand a component with many items loading on it implies that the component sufficiently constitutes the measured construct and

that should be retained as a measure of the latent variable. In this study, nine items sufficiently loaded on the first component with correlation coefficients ranging between 0.361 and 0.758. However, Item 3 and Item 7 loaded more on component 2 while Item 6 and Item 10 loaded more on component 4 and component 3 respectively. The nine items cumulatively accounted for the highest variance of 24.603% in board and senior management oversight guideline.

Four items sufficiently loaded on the second component with their loading factors being 0.400, -0.495, -0.576 and 0.4888 (items 1, 3, 4 and 8) thus explaining for 12.455% variance in board and senior management oversight guideline. However, items 1 and 4 loaded more on component 1 than they did on component 2. The third component had three items loading on it with their loading factors being 0.762 and 0.366 which accounted for a variance of 11.249% in board and senior management oversight guideline. The three Items were Item 2, Item 6 and Item 10. Though Item 6 sufficiently loaded on component 3, it did so more on component 4. Four items loaded on the fourth component with their loading factors being between -0.535 and 0.431. These items were Item 1, 2, 6 and Item 8. However, only Item 6 loaded more on component 4 compared to other items. The four items explained for a variance of 10.201% in board and senior management oversight guideline.

When an item loads sufficiently on multiple components it implies that the items sufficiently measures the latent variable (Hidayat, Habibi, Mohd, Mukminin, & Wan Idris, 2018). In respect to this study, all the ten items sufficiently loaded on the components that accounted for at least 10% variance on the board and senior management oversight guideline. This therefore implies that all the items measuring board and senior management oversight guideline were retained for constituting sufficient measurement of the latent variable. In order to perform measurement reduction where some items load sufficiently on more than one component, the study analysed the pattern matrix for board and senior management oversight guideline and the results shown in Table 15.

Table 15: Pattern Matrix for Board and Senior Management Oversight Guideline

	Component			
	1	**2**	**3**	**4**
The board exercises ultimate responsibility for the level of risk taken by the institution				0.667
All the board of directors understands the nature of risks significant to the organization			0.881	
The directors have technical knowledge depending on the particular circumstances of the organization		-0.617		
Directors have a clear understanding of the types of risks to which their institutions are exposed to		-0.903		
Directors provide clear guidance regarding the level of exposures acceptable to the institution		-0.695		
Senior management implements strategies in a manner that limits the risk associated with each strategy				-0.646
Management is fully involved in the activities of the organization	0.596			
Management possesses sufficient knowledge of all major business lines	0.773			

	Component			
	1	2	3	4
Senior management establishes awareness of effective internal controls	0.423			
Senior management communicates need for high ethical standards			0.589	

Extraction Method: Principal Component Analysis.

Rotation Method: Oblimin with Kaiser Normalization.

Table 15 shows the pattern in which the items load into different components and thus implying a common pattern of set of items which suggest a common variable. Item 7, item 8 and item 9 imply a common pattern and thus the study combined the items as one category of variable. The study categorized the set of items as "senior managements' oversight guidelines". Likewise, a common pattern is seen on item 3, item 4 and item 5 and thus the set of items were categorized as "directors' oversight guidelines". Item 2 and Item 10 were categorized on the theme of "board of directors' oversight guidelines". Item 1 and Item 6 had a common pattern and were categorized together as "Board and Senior Management's responsibility oversight guidelines". This therefore implies that the board and senior management oversight guideline was reduced from ten categories to four categories but with the same number of ten items as shown in Table 21.

4.7.2 Principal Factor Analysis for Policies and Procedures Guideline

The principal factor analysis for the policies and procedures guidelines was examined for the purposes of dimension reduction in a summated variable. This is undertaken through seeking to examine on whether the underlying unobservable (latent) variables are reflected in the observed variables (manifest variables) (Pedrosa et al., 2016). The total variance was examined together with factor loading of the variables in the undertaking of the factor analysis. The eigenvalue was calculated in order to examine the number of the factors in which the indicators of the policies and procedures guideline could be categorized to. The results were presented in Table 16.

Table 16: Total Variance Explained of Policies and Procedures Guideline

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.836	18.363	18.363	1.836	18.363	18.363
2	1.397	13.968	32.331	1.397	13.968	32.331
3	1.233	12.328	44.659	1.233	12.328	44.659
4	1.190	11.905	56.564	1.190	11.905	56.564
5	1.011	10.108	66.672	1.011	10.108	66.672
6	0.962	9.623	76.295			
7	0.786	7.862	84.157			
8	0.714	7.137	91.294			
9	0.536	5.356	96.650			
10	0.335	3.350	100.000			

Extraction Method: Principal Component Analysis

According to Table 16, the initial variance explained by the ten components ranged between 18.363% and 3.350 while on the other hand, five components met the threshold of at least 10% variance on the extraction sums of squared loadings. The first component accounted for 18.363% variance in policies and procedures guideline variable. The second component explained for 13.968%, third component for 12.328% and the fourth component explained for 11.905% of the variance in the policies and procedures guideline variable. The fifth variable accounted for a variance of 10.108% in the latent variable. This therefore implied that five components sufficiently explained for a cumulative percentage of variance of 66.672% which exceeds the threshold of 50% variance of components which accounts for at least 10% of variance in the latent variable.

The study further sought to find out the items that load on the five components that met the threshold of 10% as shown in Table 17.

Table17: Component Matrix of Policies and Procedures Guideline

Items	Component				
	1	2	3	4	5
The management provides for adequate risk management activities for its operations	0.323			-0.628	
The management ensures that economic substance of banks risk exposures are fully recognized		0.717		-0.324	
The bank's policies are consistent with the banks stated mandate	0.478	-0.309	-0.550		
The policies clearly delineate accountability within the bank	0.727		0.442		
The bank policies clearly delineate the lines of authority across banks various business activities		-0.609	0.424		
The policies address breaches of internal control position limits	0.376			0.600	
The policies schedule for reviewing of bank process whenever appropriate	0.423			0.304	
The policies schedule for updating of bank process whenever appropriate	0.669				0.520
The bank policies are tailored to the types of risks that arise from the activities that the institution conduct		0.574	-0.348		0.485
The bank procedures are tailored to the types of risks that arise from the activities that the institution conduct	0.435		-0.442		-0.500

Extraction Method: Principal Component Analysis.

The study found that the first component had seven items with factor loading of at least 0.3. The items had factor loading ranging from 0.323 to 0.727. However, Item 1 and Item 6 loaded more on component 4 while items e and 10 loaded more on component 3 and component 5 respectively. The seven items cumulatively accounted for 18.363% of variance in Policies and Procedures Guidelines. On the other hand, four items (Item 2, 3, 5 and item 9) sufficiently loaded on the second component with their factor loading ranging from -0.609 to 0.717. Though with a factor loading of more than 0.3, Item 3 loaded more on component 3. The study further found that five items loaded on component three, four items on component four and three items on component five. Their loading factors ranged between -0.628 and 0.600. This implied that these items met the threshold of 0.3 loading coefficient. This therefore meant that the items fully represented the construct and that it was part of measurement of policies and procedures guidelines and thus retained.

However, some of the items loaded more on some components than others. It was also noted that some elements loaded on more than one component and thus implying that the items fully represented the construct of policies and procedures guidelines. This implied that all the ten items were retained as a measure of policies and procedures guidelines in the study. However, rotation failed to converge in 25 iterations. (Convergence = 0.001) and thus the ten could not be further grouped into small categories for dimension reduction and thus the ten items were discussed separately in the entire analysis but as a common measure of policies and procedures guidelines as shown in Table 12.

4.7.3 Principal Factor Analysis for Risk Monitoring and Management Information Guideline

The principal factor analysis for risk monitoring and management information guideline was examined for the purposes of dimension reduction in a summated variable since its Kaiser-Meyer-Olkin Measure of Sampling Adequacy was above 0.5 and its Bartlett's Test of Sphericity was significant at 5% significance level. Table 18 shows the total explained variance of the components of the latent variable in form of initial Eigen values and Extraction Sums of Squared Loadings. This was done in order to examine the number of the components in which the indicators of the risk

monitoring and management information guideline could be categorized to. The results were presented in Table 18.

Table 18: Total Variance of Risk Monitoring and Information

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.598	15.979	15.979	1.598	15.979	15.979
2	1.536	15.363	31.342	1.536	15.363	31.342
3	1.392	13.921	45.262	1.392	13.921	45.262
4	1.066	10.663	55.925	1.066	10.663	55.925
5	0.947	9.473	65.398			
6	0.923	9.232	74.630			
7	0.861	8.615	83.245			
8	0.712	7.124	90.369			
9	0.609	6.092	96.461			
10	.354	3.539	100.000			

Extraction Method: Principal Component Analysis.

Table 18 shows that four components had initial eigenvalues above 1.0 and thus each component accounting for at least 10% of the variance in the latent variable. In respect to this, component 1, 2, 3 and 4 that had eigenvalues of 1.598, 1.536, 1.392 and 1.066 respectively. The study thus found that component 1, 2, 3 and 4 accounted for 15.98%, 15.36%, 13.92%, and 10.66% of the variance in risk monitoring and management information guideline. The four components cumulatively accounted for 55.925% of variance in the risk monitoring and management information guideline aspects at thus exceeding the 50% cumulative threshold for components accounting at least 10% variance each (Hidayat et al., 2018). The items that were loading into the specific components were examined through component matrix of risk monitoring and management information guideline aspects as shown in Table 19.

Table 19: Component Matrix of Risk Monitoring and Management Information

Items	Component			
	1	2	3	4
The institutions risk monitoring practices reports addresses all of its material risks				0.669
Key procedures used in measuring risks are adequately tested for reliability on an ongoing basis		0.598		
Periodic stress testing is of bank procedure are periodically conducted		0.343	-0.661	
The management action plans are undertaken to mitigate the risks identified in these stress tests are put in place	0.434	0.481		-0.394
Communication within the bank is structured to monitor exposures	0.521	-0.400	0.366	
Reports to the bank's management are accurate in nature			-0.661	0.301
Reports to the bank's management are timely in nature		0.700	0.479	
Reports to the bank's management contain sufficient information for decision-makers to identify any adverse trends.				0.511
Reports to the bank's management contain sufficient information to evaluate the level of risk faced by the institution	0.791			
The institution measures all material risk exposures	0.643			

Extraction Method: Principal Component Analysis.

Table 19 shows the items loading on the four components of risk monitoring and management information that accounted for at least 10% of the variance of the latent variance. The items displayed met the 0.3 threshold for adequacy of factor loading (Hidayat et al., 2018). Component 1 had four items (Item 4,5,9 and 10) with factor

loading ranging from -0.400 to 0.791 which were all above the threshold of 0.3. However, item 4 loaded more on component 2 than it did on component 1. This implies that the four items accounted for 15.979% variance in risk monitoring and management information. Component 2 had five items (Item 2,3,4,5 and 7) with factor loading ranging from 0.343 to 0.700 and the items met the threshold of factor loading of 0.3 and above. However, item 3 loaded more on component 3 than it did on component 2 while item 5 loaded more on component 1 than it did on component 2. Therefore, the 15.363% accounted by component 2 on risk monitoring and management information was as a result of the five items.

Component three had four items that had a factor loading of 0.3 and above. These were items 3, 5, 6 and 7. Though the four items had a factor loading of at least 0.3, item 5 loaded more on component 1 and item 6 loaded more on component 2. Thus, the four items explained for the 13.921% variance in risk monitoring and management information. Lastly, Items 1, 4, 6 and 8 sufficiently loaded on component four with item 4 and item 6 loading more on component 1 and component 3 respectively. The four items therefore accounted for the observed 10.663% variance in risk monitoring and management information. These results further indicated that the 10 items used for the measurement of risk monitoring and management information fully constituted its measurement and needs to be retained.

The study further examined the matric pattern of the components in order to establish the categories the items could be grouped into since some items sufficiently loaded on more than one pattern. These results are shown in Table 20.

Table 20: Pattern Matrix for Risk Monitoring and Management Information

Item	Component			
	1	2	3	4
The institutions risk monitoring practices reports addresses all of its material risks				0.665
Key procedures used in measuring risks are adequately tested for reliability on an on-going basis		0.628		
Periodic stress testing is of bank procedure are periodically conducted			-0.751	
The management action plans are undertaken to mitigate the risks identified in these stress tests are put in place		0.582		
Communication within the bank is structured to monitor exposures	0.610			
Reports to the bank's management are accurate in nature			-0.775	
Reports to the bank's management are timely in nature		0.814		
Reports to the bank's management contain sufficient information for decision-makers to identify any adverse trends.				0.567
Reports to the bank's management contain sufficient information to evaluate the level of risk faced by the institution	0.779			
The institution measures all material risk exposures	0.671			

Extraction Method: Principal Component Analysis.

Rotation Method: Oblimin with Kaiser Normalization.

According to Table 20, the ten items of the study could be regrouped into four categories where the first category compromised of items 5, 9 and 10 while the second category comprised of items 2, 4 and 7. The third category comprised of item 3 and item 6 while the last category comprised of item 1 and item 8. Therefore, the analysis and discussion of the findings were based on the four categories as shown in Table 20. Therefore, component 1 was renamed for risk analysis, component 2

renamed as risk mitigation, component 3 as risk identification and component three was renamed as risk monitoring.

4.7.4 Principal Factor Analysis for Internal Controls Guideline

Kaiser-Meyer-Olkin Measure of Sampling Adequacy and Bartlett's Test of Sphericity for Internal Controls Guideline was 0.699 and □2=139.054; p<0.005 respectively. This therefore implied that principal factor analysis would be useful in dimension reduction for this variable (Yu & Richardson, 2015). The total variance explained of internal control guidelines was presented in Table 21 for both initial eigenvalues and extraction sums of squared loadings.

Table 21: Total Variance Explained of Internal Control Guidelines

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.980	29.803	29.803	2.980	29.803	29.803
2	1.190	11.897	41.700	1.190	11.897	41.700
3	1.145	11.451	53.151	1.145	11.451	53.151
4	1.091	10.908	64.059	1.091	10.908	64.059
5	0.945	9.446	73.505			
6	0.688	6.879	80.384			
7	0.654	6.544	86.928			
8	0.552	5.521	92.450			
9	0.439	4.386	96.836			
10	0.316	3.164	100.000			

Extraction Method: Principal Component Analysis.

The study found that there were four factors with an eigenvalue of above 1.0 and above, that is, component 1, 2, 3 and 4 that had eigenvalues of 2.980, 1.190, 1.145, and 1.091 respectively. The study thus found that component 1, 2, 3 and 4 accounted for 29.803%, 11.897%, 11.451%, and 10.908% respectively of the variance in the internal controls guidelines. Cumulatively, the four components explained for 64.059% of the variance of the latent variable (internal controls guidelines). The

components that were loading into the specific factors were examined through the examination of the component matrix of internal controls guidelines aspects as shown in Table 22.

Table 22: Component Matrix for Internal Control Guidelines

Items	Component			
	1	2	3	4
Systems of internal control are appropriate to the type of risks posed by the nature of the institution's activities	0.665	0.305		
Systems of internal control are appropriate to the level of risks posed by the nature of the institution's activities	0.610			
Organization structure establishes clear lines of authority for monitoring adherence to procedures	0.443	-0.442	-0.400	0.400
Organization structure establishes clear lines of responsibility for monitoring adherence to procedures	0.761			
Reporting lines provide sufficient independence of the control areas from business lines throughout the institution	0.732		-0.407	
Various bank reports are always reliable		0.348		0.719
Exceptions noted on the reports are promptly investigated	0.626			
Control review practices provide for independence in bank operations			0.588	0.373
Information system are adequately reviewed	0.540		0.402	-0.319
Institutions audit committee or board of directors reviews the effectiveness of controls		0.740	-0.387	

Extraction Method: Principal Component Analysis.

According to Table 22, the study found that seven items loaded on the first component which accounted for 29.803% variance in internal controls guidelines. The

factor loadings for the seven items ranged between 0.443 and 0.761 and thus all attaining the threshold of at least 0.3 factors loading. Component 2 had four items, that is, Item 1, 3, 6 and item 10. The factor loadings ranged between -0.442 and 0.740. However, Item 1 and item 3 loaded more on component one and Item 6 loaded more on component 4. The four items cumulatively accounted for 11.897%. Five items (Item 3,5,8,9 and 10) had a factor loading of at least 0.3 on the third component. Though the five items accounted for 11.451% variance in internal controls guidelines, only one item (Item 8) loaded more on component 3 than the rest of the components. Component four had four items with a factor loading of more than 0.3 and in which the factor loading ranged between -0.319 and 0.719. The four items explained for 10.908% variance in internal controls guidelines, with Item 3, 8 and Item 9 loading more on other components. This further implied that the 10 items sufficiently measured internal controls guidelines and thus needed to be retained in the measurement of this latent variable.

The study however found that some items adequately loaded on more than one component and thus the need to perform pattern matrix in order to categorize the 10 items into fewer categories for dimension reduction. These results are shown in Table 23.

Table 23: Pattern Matrix for Internal Control Guidelines

Items	Component			
	1	2	3	4
Systems of internal control are appropriate to the type of risks posed by the nature of the institution's activities		0.529		
Systems of internal control are appropriate to the level of risks posed by the nature of the institution's activities			-0.448	
Organization structure establishes clear lines of authority for monitoring adherence to procedures			-0.866	
Organization structure establishes clear lines of responsibility for monitoring adherence to procedures	0.788			
Reporting lines provide sufficient independence of the control areas from business lines throughout the institution			-0.739	
Various bank reports are always reliable				0.788
Exceptions noted on the reports are promptly investigated	0.528			
Control review practices provide for independence in bank operations				0.706
Information system are adequately reviewed	0.799			
Institutions audit committee or board of directors reviews the effectiveness of controls		0.935		

Extraction Method: Principal Component Analysis.
Rotation Method: Oblimin with Kaiser Normalization.

According to Table 23, there is a common pattern for three items in component 1, two items in component 2, three items for component 3 and two items for component 4. Items 4, 7 and item 9 were categorized in one category named as information controls according to the merging theme. Item 1 and item 10 were grouped in one category and named as internal controls effectiveness. Items 2, 3 and 5 were categorized as independence of internal controls while item 6 and item 8 were categorized as internal

control reviews. This categorization guided the analysis and discussion of the form in regard to internal control guidelines as shown in Table 24.

4.7.5 Principal Factor Analysis for Liquidity and Capital Limits Guideline

From the KMO and Bartlett's test, the study found that liquidity and capital limits guidelines were fir for factor analysis. Initial eigenvalues and sums of squared loadings were extracted in order to establish the total variance explained by different components of the liquidity and capital limits guidelines. These results are as shown in Table 24.

Table 24: Total Variance Explained of Liquidity and Capital Limits Guidelines

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.024	20.241	20.241	2.024	20.241	20.241
2	1.393	13.927	34.167	1.393	13.927	34.167
3	1.240	12.404	46.571	1.240	12.404	46.571
4	1.126	11.257	57.828	1.126	11.257	57.828
5	0.966	9.657	67.486			
6	0.888	8.880	76.366			
7	0.787	7.866	84.232			
8	0.740	7.401	91.633			
9	0.443	4.433	96.066			
10	0.393	3.934	100.000			

Extraction Method: Principal Component Analysis.

According to Table 24, components 1, 2, 3 and 4 that had eigenvalues of 2.024, 1.393, 1.240, and 1.126 respectively. The study thus found that components 1, 2, 3 and 4 accounted for 20.241%, 13.393%, 12.40%, and 11.26% of the variance in the liquidity and capital limits guidelines. The rest of components however did not meet the 1.0 threshold factor loading and thus were excluded in the further analysis of matric components. The four components that met the 10% variance threshold cumulatively

accounted for more than 50% (57.828%) variance in the liquidity and capital limits guidelines. The study further performed component matric analysis in order to establish the items that sufficiently loaded on the four components established in Table 24. The results are as shown in Table 25.

Table 25: Component Matrix for Liquidity and Capital Limits Guidelines

Items	**Component**			
	1	**2**	**3**	**4**
Management accurately quantifies the primary sources of liquidity risk in a timely manner	0.615		0.324	
Management sets limits that are appropriate to the financial condition of the institution	0.675			-0.395
There is a contingency plan for handling liquidity crisis		-0.746		
Limits are periodically reviewed when risk tolerances change	0.433			-0.412
Management ensures adherence to Capital limits		0.539	0.629	
The management always ensures adherence to the set capital limits	0.629			
The management always ensures adherence to the set liquidity limits	0.652			
The institution has instituted systems that enable it to capture liquidity risk ahead of time so that remedial measures are prompted to avoid significant losses		0.669		
The asset-liability committee is in place to effectively monitor organizations liquidity risk			0.758	-0.349
Assessment of cash flows is done to identify the potential future funding shortfalls	0.302			0.696

Extraction Method: Principal Component Analysis.

The study established that six items loaded on component one and three items loaded on component two. On the other hand, three items loaded on component three and four items loaded on component four. These items had a loading factor of more than 0.3 and in which the factor loading ranged between |0.302| and |0.758|. This implied that the items sufficiently represented the latent variable and should be included in the measurement of the liquidity and capital limits guidelines. Therefore, all the 10 items were retained as indicators of liquidity and capital limits guidelines. The study further noted that some items loaded in more than one component and the level of factor loading was different for different components and thus the study examined the pattern matric of the components. This was done in order to establish the possible categories that the items could be grouped into in the process of dimension reduction. Table 26 shows these results.

Table 26: Pattern Matrix for Liquidity and Capital Limits Guidelines

Items	Component			
	1	2	3	4
Management accurately quantifies the primary sources of liquidity risk in a timely manner				0.500
Management sets limits that are appropriate to the financial condition of the institution	0.788			
There is a contingency plan for handling liquidity crisis		-0.794		
Limits are periodically reviewed when risk tolerances change	0.618			
Management ensures adherence to Capital limits			0.695	
The management always ensures adherence to the set capital limits				0.481
The management always ensures adherence to the set liquidity limits	0.618			
The institution has instituted systems that enable it to capture liquidity risk ahead of time so that remedial measures are prompted to avoid significant losses		0.690		
The asset-liability committee is in place to effectively monitor organizations liquidity risk			0.796	
Assessment of cash flows is done to identify the potential future funding shortfalls				0.779
Extraction Method: Principal Component Analysis.				
Rotation Method: Oblimin with Kaiser Normalization.				

The study observed that item 2, item 4 and item 7 had a common pattern and thus suggesting that they closely measure a common aspect of liquidity and capital limits guidelines. The three items were therefore categorized as one variable named as setting liquidity limits. Item 3 and Item 8 displayed a common pattern and thus the two items were grouped into one category and named as liquidity risk contingencies. Item 5 and item 9 on the other hand indicated a common pattern of variation and thus categorized as one variable named liquidity risks monitoring. Lastly, Items 1, 6 and

item 10 were categorized as one variable due to a common pattern of variance. This variable was named as capital limits adherence. Therefore, in the analysis of liquidity and capital limits guidelines, these categories were used as shown in Table 20.

4.8 Diagnostic Statistics

Prior to conducting inferential statistical analysis, pertinent diagnostic tests were carried out. The tests included linearity, multicollinearity, normality, heteroscedasticity, and autocorrelation or serial correlation respectively.

4.8.1 Linearity Test

Linearity assumption is a requirement in both correlation regression analyses. The test for linearity seeks to determine whether the relationship between a given independent variable and dependent variable is linear. The results of linearity test in respect of CBK's risk management guidelines compliance and financial performance are presented in Table 27 Linearity between two variables (independent and dependent) is attained when the deviation from linearity as shown in Table 27 is greater than the p-value of 0.05.

Table 27: A Summary of Linearity Test Results

		Sum of Squares	df	Mean Square	F	Sig.
BSMROGC	Linearity	19.504	1	19.504	2.275	.141
	Deviation from Linearity	54.385	7	7.769	.906	.514
PPGC	Linearity	.723	1	.723	.081	.778
	Deviation from Linearity	79.347	9	8.816	.988	.470
RMMISGC	Linearity	1.636	1	1.636	.169	.684
	Deviation from Linearity	65.627	10	6.563	.680	.734
ICGC	Linearity	36.571	1	36.571	3.884	.058
	Deviation from Linearity	28.334	9	3.148	.334	.957
CLLGC	Linearity	.000	1	.000	.000	1.000
	Deviation from Linearity	37.546	9	4.172	.405	.923

Dependent variable: Financial performance (ROA)

Key:

BSMROGC: Board and Senior Management Oversight Guidelines Compliance

PPGC: Policies and Procedures Guidelines Compliance

RMMISGC: Risk Monitoring and Management Information System Guidelines Compliance

ICGC: Internal Controls Guidelines Compliance

CLLGC: Capital and Liquidity Limits Guidelines Compliance

It is clear as shown in Table 27 that linearity was generally achieved. The results of the deviation from linearity in respect of board and senior management oversight guidelines compliance and financial performance (ROA) was 0.514. Given that this

value was above p-value = 0.05, it was inferred that the two variables were linearly related. The deviation from linearity of policies and procedures guidelines compliance and ROA (0.470) was found to be greater than p-value = 0.05. This led to the conclusion that relationship between the two variables was linear. It was also revealed that there existed a linear relationship between risk monitoring and MIS guidelines compliance and ROA (deviation from linearity = 0.734 > 0.05). Moreover, it was established that the deviation from linearity in respect of internal controls guidelines compliance and return on assets (p = 0.957) was greater than p-value = 0.05. As such, it was deduced that there existed a linear relationship between the two study constructs. The study further observed that the relationship between capital and liquidity limits guidelines compliance and ROA was linear (p = 0.923 > 0.05).

4.8.2 Multicollinearity

The study also examined on whether multicollinearity challenge exists in the data. According to McDonald (2015) multicollinearity refers to the condition in which the independent variables are highly correlated amongst themselves in a multiple linear regression analysis. The multicollinearity problem leads to shared variance between the independent variables in respect to their influence on the dependent variable. This leads to the situation in which the influence of the regression coefficient on the dependent variable are not efficient predictors of the dependent variable. The multicollinearity was examined through the use of the tolerance and the Variance Inflation Factor (VIF) as shown in Table 28. According to Creswell (2014) a VIF of above 10 indicates challenge of multicollinearity while a tolerance of above 1 also indicates presence of multicollinearity. It is important to note that VIF is reciprocal to tolerance.

Table 28: Results of Multicollinearity Test

	Collinearity Statistics	
Independent Variables	**Tolerance**	**VIF**
(Constant)		
Board and Senior Management Oversight Guidelines Compliance	.896	1.117
Policies and Procedures Guidelines Compliance	.866	1.155
Risk and Monitoring Management Information System Guidelines Compliance	.790	1.266
Internal Controls Guidelines Compliance	.931	1.074
Capital and Liquidity Limits Guidelines Compliance	.856	1.168

a. Dependent Variable: Financial Performance (ROA)

The results shown in Table 28 indicated that board and senior management oversight guidelines compliance (VIF = 1.117), policies and procedures guidelines compliance (VIF = 1.155), risk and monitoring management information system guidelines compliance (VIF = 1.266), internal controls guidelines compliance (VIF = 1.074), and capital and liquidity limits guidelines compliance (VIF = 1.168) were found to return VIF less than 10. Therefore, all the aforesaid independent variables were inferred to have acceptable collinearity. Consequently, the five predictors were adopted in the multiple regression analysis.

4.8.3 Normality Test

In order for multiple regression analysis to be conducted, there is an assumption that, the data are normally distributed. It is important to note that only the secondary data were subject to normality test because they were interval data. On the other hand, data in respect of the all the predictor variables (CBK's risk management guidelines compliance) were ordinal in nature and hence not expected to be normally distributed. Prior to conducting inferential statistical analysis on continuous data, normality testing of the data is imperative (Sundaram, Dwivedi, & Sreenivas, 2014). The normal Q-Q plot was used to graphically present the results of normality test. The results of

normality test with regard to bank size and financial performance (ROA) of commercial banks are presented in Figure 3 and Figure 4.

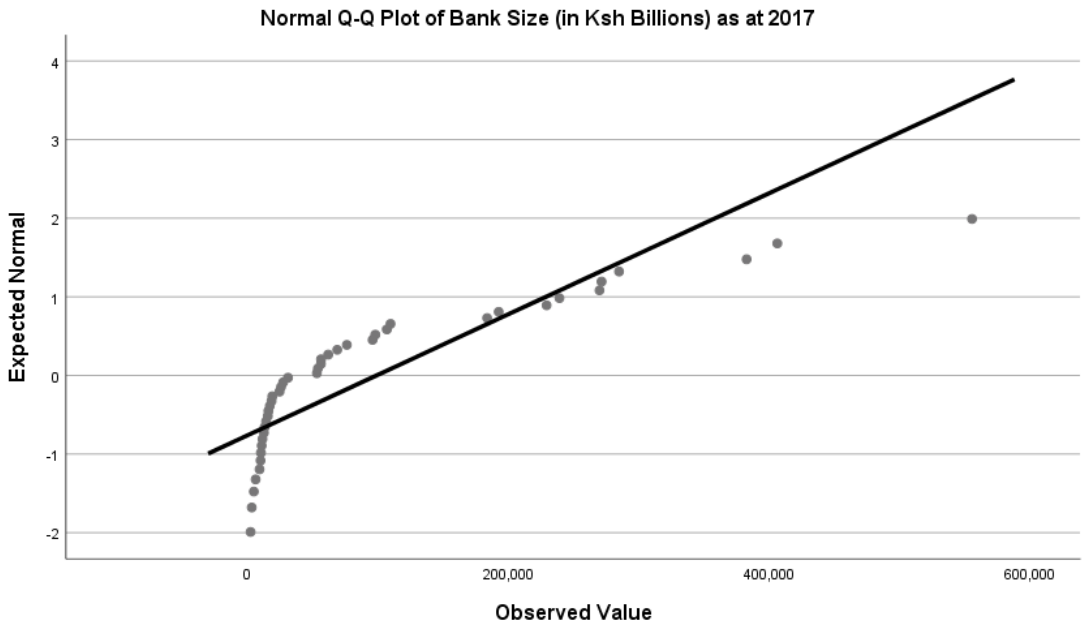

Figure 4: Normality Test for Bank Size

As shown in Figure 3, there are data points which are close to the diagonal line while several others are far off the line. The results imply that while some data regarding the bank size were found to be normally distributed, other data were not normally distributed, rather; it was highly skewed. This was attributed to the fact that, the average size of commercial banks in Kenya since 2005 to 2017 has been increasing consistently.

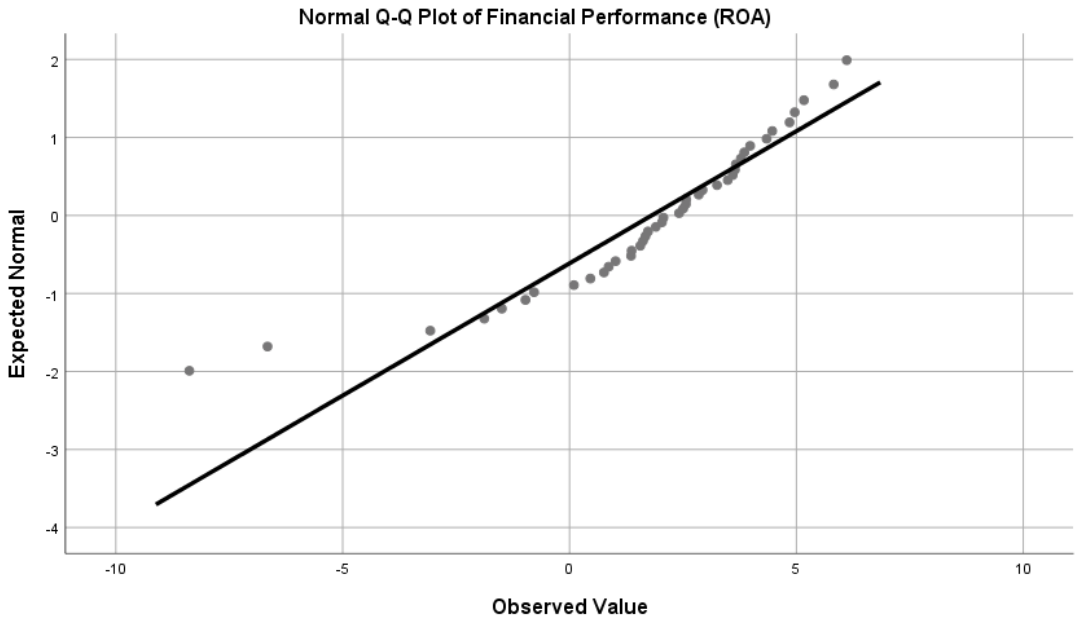

Figure 5: Normality Test for Financial Performance (ROA)

As shown in Figure 4, it is apparent that majority of the data points are close to the diagonal line. This was interpreted to mean that the data in respect of ROA were normally distributed. According to Kara (2015) the data points distributed in a fairly diagonal manner in Q-Q plots implies that the data is normally distributed.

4.8.4 Heteroscedasticity Test

Heteroscedasticity refers to a systematic change in error terms or residuals in a regression over a range of measured values. It implies unequal scatter (Latunde, 2016). Multiple linear regression assumes that the data is obtained from a population that contains a constant variance, that is, such data are homoscedastic. Homoscedastic is a condition that refers to the variance of residuals or error terms in a regression model being constant. Constant variance in residual across measured values is referred to as homoscedasticity. Homoscedasticity implies that the residuals do not increase with increase in the values of independent variables and thus the values of independent variables do not affect the residuals (Bilgin, 2017). The results of homoscedastic/heteroscedastic test are illustrated in Figure 5.

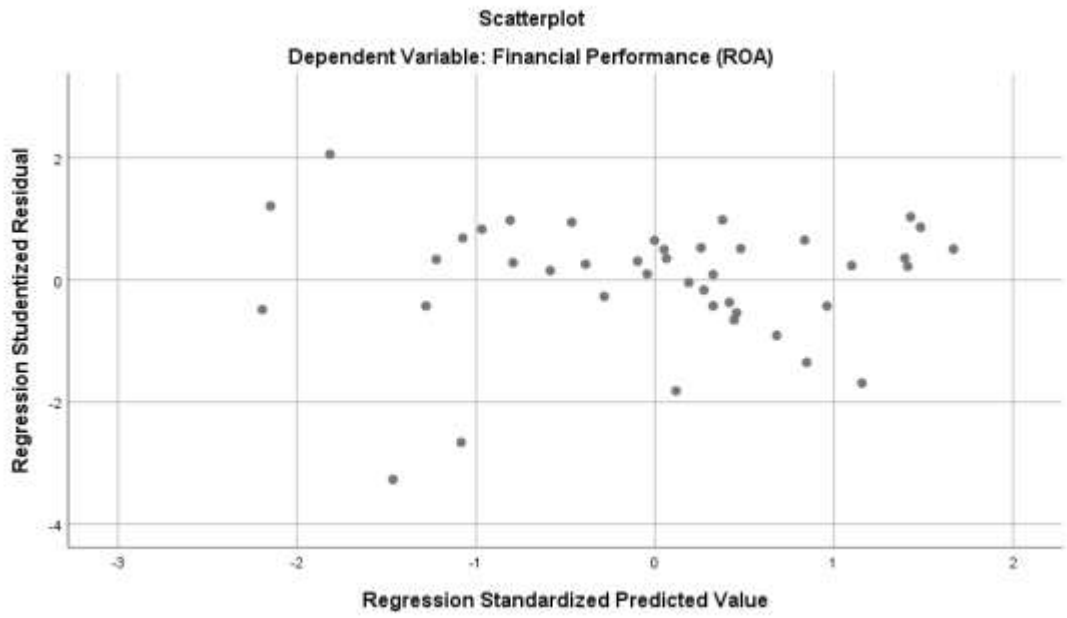

Figure 6: Results of Homoscedasticity/Heteroscedasticity Test

According to the results shown in Figure 5, there is no clear pattern that is formed by the data points. These results meant that the regression model was not affected by heteroscedastic problems. According to Bryman (2012), absence of heteroscedasticity is revealed by a fairly cone-shaped distribution of residuals from left to the right while presence of homoscedasticity is revealed by approximately oval-shaped distribution of residuals. Therefore, the distribution of the residuals as shown in Figure 5 depicts presence of homoscedasticity.

4.8.5 Autocorrelation Test

Autocorrelation, otherwise referred to as serial correlation, is present when successive values of a given variable which is ordered either across space or time (Clarke & Granato, 2005). In view of the aforesaid, autocorrelation testing was delimited to the data pertinent to bank size and financial performance (ROA) since data in respect of CBK's risk management guidelines compliance was neither serial nor panel data. Autocorrelation mainly result from omission of variables from the regression model. Such an omission is likely to result in either positive or negative correlation with the dependent variable (Babatunde, Ikughur, Ogunmola, & Oguntunde, 2014). The results of autocorrelation testing are presented in Table 29. The Durbin Watson (D-W) statistics was used to test the autocorrelation.

Table 29: Model Prediction and Durbin-Watson Test

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.522[a]	.272	.254	2.54803	2.171

a. Predictors: (Constant), Bank Size (in Ksh Billions) as at 2017

b. Dependent Variable: Financial Performance (ROA)

According to Hartwig (2015), a Durbin Watson statistic with a value of 2 means that there is no autocorrelation in the sample while values approaching 0 indicate positive autocorrelation and values toward 4 indicate negative autocorrelation. The results shown in Table 23 (D-W = 2.171) were within the acceptable range (1.5 to 2.5) of autocorrelation (Azami, Sharifi, & Alvandpur, 2020). Consequently, it was concluded that the values of the residuals had relative independence. Therefore, there was no autocorrelation or serial correlation in the panel data set for both bank size and return on assets.

4.9 Correlation Analysis

The study examined the relationship between CBK's risk management guidelines compliance and financial performance (ROA) of commercial banks in Kenya. The Spearman rank's correlation analysis was employed to examine the aforementioned relationship and the pertinent results are presented in Table 30.

Table 30: Spearman Rank Correlation Matrix

Spearman's rho	**BSMOGC**	Correlation Coefficient	1.000				
		Sig. (2-tailed)	.				
		N	42				
	PPGC	Correlation Coefficient	-.214	1.000			
		Sig. (2-tailed)	.173	.			
		N	42	42			
	RMMISGC	Correlation Coefficient	.167	.176	1.000		
		Sig. (2-tailed)	.291	.266	.		
		N	42	42	42		
	ICGC	Correlation Coefficient	-.129	-.066	.190	1.000	
		Sig. (2-tailed)	.417	.678	.228	.	
		N	42	42	42	42	
	CLLGC	Correlation Coefficient	.076	-.042	.340*	.016	1.000
		Sig. (2-tailed)	.635	.792	.028	.920	.
		N	42	42	42	42	42
	Financial Performance (ROA)	Correlation Coefficient	-.172	-.083	-.064	.225	-.029
		Sig. (2-tailed)	.277	.602	.689	.152	.856
		N	42	42	42	42	42

							1.000
							.
							42

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

According to the results shown in Table 30, the relationship between board and senior management oversight guidelines compliance (BSMOGC) and financial performance (ROA) was found to be negative, weak and not statistically significant (r_s = - 0.172; p = 0.277) at p-value = 0.05. Accordingly, there was minimal and unsubstantial likelihood that increased emphasis on the oversight role of the board of directors and senior management could affect the financial performance of commercial banks licensed to operate in Kenya. It was also revealed that there existed a negative, weak and not statistically significant relationship between policies and procedures guidelines compliance (PPGC) and ROA (r_s = -0.083; 0.602) at p-value = 0.05. Interpretively, complying to policies and procedures laid down by the CBK had very little (negative), if any, consequence on financial performance of commercial banks.

The relationship between risk monitoring and management information system guidelines compliance (RMMISGC) and return on asset was negative, weak and not statistically significant (r_s = -0.064; p = 0.689) at p-value = 0.05. Complying with the CBK's guidelines on risk monitoring and management information system was largely inconsequential to the return on asset recorded by the commercial banks operating in Kenya. The relationship between internal control guidelines compliance (ICGC) and ROA was positive, weak and not statistically significant at p-value = 0.05 (r_s = 0.225; p = 0.152). Albeit positive to financial performance of commercial banks in Kenya, adherence to internal controls guidelines set out by the CBK was of little substance to the aforesaid performance.

Moreover, the relationship between capital and liquidity limit guidelines compliance (CLLGC) and ROA was negative, weak and not statistically significant (r_s = -0.029; p = 0.856) at p-value = 0.05. These results meant that the more commercial banks complied with the CBK's guidelines on both capital and liquidity limits, the more likely they were to record reduced ROA. Yet, the implication of the aforementioned compliance was likely to have very minimal and unsubstantial consequence to the banks' financial performance.

4.10 Simple Linear Regression Analysis

The study conducted simple linear regression analysis with the objective of illustrating the effect of individual CBK's guidelines compliance constructs on financial performance of commercial banks expressed in form of return on assets.

4.10.1 Board and Senior Management Oversight Guidelines Compliance and ROA

The study analyzed the extent to which compliance to board and senior management guidelines laid down by the CBK affected financial performance of commercial banks in Kenya. The results to this effect are presented in Table 31.

Table 31: Model Summary of BSMOGC against ROA

Model	r	r Square	Adjusted r Square	Std. Error of the Estimate
1	.234[a]	.055	.031	2.90388

a. Predictors: (Constant), BSMOGC

According to the results of coefficient of determination ($r^2 = 0.055$) shown in Table 31, it is evident that compliance to guidelines by the CBK on board of directors and senior management oversight of the commercial banks explained only 5.5% variance in the financial performance (ROA) of the banks.

Table 32: ANOVA of BSMOGC against ROA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	19.504	1	19.504	2.313	.136[b]
	Residual	337.301	40	8.433		
	Total	**356.805**	**41**			

a. Dependent Variable: Financial Performance (ROA)

b. Predictors: (Constant), BSMOGC

It is indicated in the results of F-statistics shown in Table 32 ($F_{1,40} = 2.313$; $p = 0.136$) that the relationship between board and senior management guidelines compliance and return on asset was not statistically significant at p-value = 0.05. Therefore, the null hypothesis which stated that, board and senior management oversight guidelines compliance does not have significant effect on financial performance of commercial

banks was not rejected. Instead, it was considered to be true. The results were further interpreted to mean that the sample data did not fit the adopted linear regression model ($Y = \beta_0 + \beta_1 X_1 + \varepsilon$) connecting the aforesaid compliance to ROA of commercial banks operating in Kenya. Therefore, it was not feasible to precisely assess the effect of board and senior management guidelines compliance on financial performance of the commercial banks.

4.10.2 Policies and Procedures Guidelines Compliance and ROA

The study also sought to examine the extent to which compliance to CBK's guidelines on policies and procedures influenced financial performance of commercial banks licensed to operate in Kenya. The pertinent results are shown in Table 33 and Table 34.

Table 33: Model Summary of PPGC against ROA

Model	r	r Square	Adjusted r Square	Std. Error of the Estimate
1	.045[a]	.002	-.023	2.98363

a. Predictors: (Constant), PPGC

The results of coefficient of determination shown in Table 33 ($r^2 = 0.002$) indicated that policies and procedures guidelines compliance could explain only 0.2% of variability in ROA. These results were illustrative of the extent to which complying to CBK's guidelines on policies and procedures was inconsequential to financial performance of commercial banks in Kenya.

Table 34: ANOVA of PPGC against ROA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.723	1	.723	.081	.777[b]
	Residual	356.082	40	8.902		
	Total	**356.805**	**41**			

a. Dependent Variable: Financial Performance (ROA)

b. Predictors: (Constant), PPGC

It was revealed as shown in Table 34 ($F_{1,40}$ = 0.081; p = 0.777) that the relationship between policies and procedures guidelines compliance and ROA was not statistically significant at p-value = 0.05. Therefore, the null hypothesis (policies and procedures guidelines compliance does not significantly affect financial performance of commercial banks) was not rejected. It was taken to be true. This implied that the sample data in respect of the foregoing did not fit the simple linear regression model ($Y = \beta_0 + \beta_2 X_2 + \varepsilon$). Consequently, it was not practical to assess the effect of compliance to policies and procedures guidelines on financial performance of commercial banks in Kenya.

4.10.3 Risk Monitoring and Management Information Guidelines Compliance and ROA

The effect of compliance to risk monitoring and management information system guidelines outlined by the CBK on financial performance of commercial banks was examined. The results of the simple linear regression analysis to this effect are presented in Tables 35 and 36.

Table 35: Model Summary of RMMISGC against ROA

Model	r	r Square	Adjusted r Square	Std. Error of the Estimate
1	.068[a]	.005	-.020	2.97981

a. Predictors: (Constant), RMMISGC

It was established from the study findings (r^2 = 0.005) shown in Table 35 that only 0.5% of variation in ROA of commercial banks could be attributed to compliance with the CBK's guidelines on risk monitoring and management information system. Conclusively, the banks' complying with the said guidelines was almost inconsequential to their financial performance.

Table 36: ANOVA of RMMISGC against ROA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.636	1	1.636	.184	.670[b]
	Residual	355.170	40	8.879		
	Total	**356.805**	**41**			

a. Dependent Variable: Financial Performance (ROA)

b. Predictors: (Constant), RMMISGC

According to the results of F-statistics shown in Table 36 ($F_{1,40} = 0.184$; $p = 0.670$), the relationship between CBK's risk monitoring and management information system guidelines compliance and ROA of commercial banks was not statistically significant at p-value = 0.05. Therefore, the sample data fell short of being employable in the pertinent simple linear regression model ($Y = \beta_0 + \beta_3 X_3 + \varepsilon$). In tandem the results implied that the null hypothesis which, stated that risk monitoring and management information system guidelines compliance does not significantly affect financial performance of commercial banks, was not rejected. Consequently, the model could not be used to analyze the effect of risk monitoring and management information system on financial performance of commercial banks in Kenya.

4.10.4 Internal Controls Guidelines Compliance and ROA

The study also assessed how compliance with internal controls guidelines spelt out by the CBK affected financial performance of commercial banks in Kenya. The results to this effect are presented in Table 37, Table 38, and Table 39.

Table 37: Model Summary of ICGC against ROA

Model	r	r Square	Adjusted r Square	Std. Error of the Estimate
1	.320[a]	.102	.080	2.82946

a. Predictors: (Constant), ICGC

Illustratively (Table 37), it is indicated that complying with guidelines of the CBK on internal controls explained 10.2% variability in financial performance (ROA) of commercial banks licensed to operate in Kenya ($r^2 = 0.102$). These results underlined

the importance of commercial banks complying with the laid down internal controls guidance since such was bound to affect their financial performance to a significant extent.

Table 38: ANOVA of ICGC against ROA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	36.571	1	36.571	4.568	.039[b]
	Residual	320.234	40	8.006		
	Total	**356.805**	**41**			

a. Dependent Variable: Financial Performance (ROA)

b. Predictors: (Constant), ICGC

According to the results of F-statistics shown in Table 38, F (1,40) = 4.568; p = 0.039, it is evident that the relationship between compliance with CBK's internal controls guidelines and ROA was statistically significant at p-value = 0.05. Interpretively, the sample data fitted the adopted simple linear regression model linking the two study constructs ($Y = \beta_0 + \beta_4 X_4 + \varepsilon$). Therefore, it was feasible to determine the extent to which complying with the aforesaid CBK's guidelines influenced ROA of commercial banks in Kenya as expressed in Table 39.

Table 39: Regression Coefficients of ICGC against ROA

		Unstandardized Coefficients		Standardized Coefficients		
Model		**B**	**Std. Error**	**Beta**	**t**	**Sig.**
1	(Constant)	-11.568	6.275		-1.844	.073
	ICGC	3.477	1.627	.320	2.137	.039

a. Dependent Variable: Financial Performance (ROA)

The results shown in Table 39 ($Y = -11.568 + 3.477X_3$) indicated that a unit change in ROA of commercial banks was subject to 3.477 unit change in compliance with CBK's guidelines on internal controls when other factors were held constant. The results of t-statistics (t = 2.137; p = 0.039) depicted that complying with the CBK's guidelines on internal controls had a statistically significant effect on financial performance (ROA) of commercial banks at p-value = 0.05. These results led to the

rejection of the null hypothesis which stated that, internal controls guidelines compliance does not significantly affect the financial performance of commercial banks in Kenya. As such, it was imperative for the stated banks to comply with the aforementioned guidelines in order for them to enhance their return on assets.

4.10.5 Capital and Liquidity Limits Guidelines Compliance and ROA

Moreover, the study assessed the effect of complying with CBK's capital and liquidity limits guidelines on financial performance of commercial banks in Kenya. Tables 4.40 and 4.41 illustrate the pertinent simple linear regression analytical results.

Table 40: Model Summary of CLLGC against ROA

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.000[a]	.000	-.025	2.98666

a. Predictors: (Constant), CLLGC

According to the results shown in Table 34 ($r^2 = 0.000$), complying with both capital and liquidity limits guidelines outlined by the Central Bank of Kenya did not explain any variation in financial performance of commercial banks operating in Kenya. The results led to the inference that complying with capital and liquidity limits was absolutely inconsequential to return on assets of the aforesaid financial institutions.

Table 41: ANOVA of CLLGC against ROA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.000	1	.000	.000	1.000[b]
	Residual	356.805	40	8.920		
	Total	**356.805**	**41**			

a. Dependent Variable: Financial Performance (ROA)

b. Predictors: (Constant), CLLGC

The results of F-statistics shown in Table 41, that is, F (1,40) = 0.000; p = 1.000 indicated that the relationship between compliance with CBK's guidelines on capital and liquidity limits and ROA was not statistically significant at p-value = 0.05. Consequently, the pertinent null hypothesis (capital and liquidity limits guidelines compliance does not significantly affect financial performance of commercial banks in Kenya) was not rejected; rather, it was deemed to be true. The fact that the F-statistic was zero was a clear indication that the adopted simple linear regression model ($Y = \beta_0 + \beta_5 X_5 + \varepsilon$) was a perfect fit of the sample data. This meant that there was severe overfitting of the sample data. Therefore, the resultant findings could not enable drawing of accurate inferences.

4.11 Multiple Regression Analysis

The study sought to examine the combined effect of CBK's risk management guidelines compliance on financial performance of commercial banks in Kenya. The relevant results are illustrated in Table 42, Table 43, and Table 44.

Table 42: Regression Weights for Overall Model

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.382[a]	.146	.027	2.90978

a. **Predictors: (Constant), BSMOGC, PPGC, RMMISGC, ICGC, CLLGC**

As shown in Table 42, the general correlation between CBK's risk management guidelines compliance and financial performance (ROA) was positive and moderately strong (R = 0.382). It is also indicated by the results of coefficient of determination (R^2 = 0.146) that the aforementioned compliance could explain 14.6% of variance in ROA of commercial banks licensed to operate in Kenya. The remaining proportion of ROA variability (85.4%) could be attributed to other factors besides the stated compliance. The R^2 indicates the total variance in the dependent variable explained by the independent variables of the study (Creswell, 2014). The adjusted R-square shows the expected improvement of the model in addition of more predictor variables (Rogelberg, 2014). The conspicuously small adjusted coefficient of determination

(adjusted R^2 = 0.027) indicated that majority of the predictor variables (CBK's risk management guidelines) did not significantly affect the dependent variable (ROA).

Table 43: F-test of Overall Significance (without Moderation)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	52.000	5	10.400	1.228	.316[b]
	Residual	304.805	36	8.467		
	Total	**356.805**	**41**			

a. Dependent Variable: Financial Performance (ROA)

b. Predictors: (Constant), BSMOGC, PPGC, RMMISGC, ICGC, CLLGC

According to the results of F-statistic shown in Table 43 ($F_{5,36}$ = 1.228; p = 0.316), it is apparent that the relationship between CBK's risk management guidelines compliance (BSMOGC, PPGC, RMMISFC, ICGC, and CLLGC) and financial performance (ROA) was not statistically significant at p-value = 0.05. The results implied that the sample data did not fit the adopted multiple regression model that linked the aforesaid predictor variables to the outcome variable ($Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \beta_5X_5 + \varepsilon$). Therefore, it was impractical to precisely assess the effect of the aforementioned compliance on the ROA of commercial banks. Ordinarily the results shown in Table 38 should not be reported given that none of the predictor variables (representing CBK's risk management guidelines compliance) was statistically significant in their effect on financial performance (ROA) of commercial banks. However, the reporting has been indicated for comparative purposes with the results of moderated regression analysis presented in Table 47.

Table 44: Regression Results for Overall Model (Without Moderation)

Model	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
1 (Constant)	1.832	15.918		.115	.909
BSMOGC	-2.776	2.415	-.187	-1.150	.258
PPGC	-.337	1.896	-.029	-.178	.860
RMMISGC	-.701	1.624	-.075	-.431	.669
ICGC	3.243	1.734	.299	1.871	.070
LCLGC	.310	1.796	.029	.173	.864

a. Dependent Variable: Financial Performance (ROA)

4.12 Moderated Regression Analysis

The study further determined the implication of bank size in the relationship between CBK's risk management guidelines compliance and financial performance of commercial banks in Kenya. In other words, the objective was to test the hypothesis that the bank size, measured in form of the cumulative financial assets owned by the commercial banks over the period beginning 2005 to 2017, significantly moderated the effect of compliance with the stated CBK's guidelines on ROA of the commercial banks. The results of the moderated regression analysis are presented in Table 45, Table 46, and Table 47. It is important to note that the moderator variable (bank size) has not been directly captured; rather, an interaction term has been used. The interaction term is a product of the predictor variables (all the five CBK's risk management guidelines compliance constructs) and the moderator variable (bank size).

Table 45: Regression Weights for Overall Regression Model (with Moderation)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.382[a]	.146	.027	2.90978	.146	1.228	5	36	.316
2	.597[b]	.357	.246	2.56109	.211	11.470	1	35	.002

a. Predictors: (Constant), BSMOGC, PPGC, RMMISGC, ICGC, CLLGC

b. Predictors: (Constant), BSMOGC, PPGC, RMMISGC, ICGC, CLLGC, Interaction Term

It is apparent from the results shown in Table 45 that, the strength of the general relationship between CBK's risk management guidelines compliance and ROA was improved by the introduction of the bank size to the model from R = 0.382 to R = 0.597. Moreover, it was revealed that, without moderation, the aforementioned relationship was not statistically significant (p = 0.316); however, the relationship became statistically significant (p = 0.002) at p-value = 0.05 when the moderator variable (bank size) was introduced to the model. The coefficient of determination increased from 14.6% (R^2 = 0.146) to 35.7% (R^2_M = 0.357) when the bank size was included in the model. This implied that compliance with the aforementioned CBK's guidelines on risk management could explain an additional 21.1% of variation in ROA of the commercial banks operating in Kenya. On the same note, it was established that there was statistically significant change in the F-statistic (Sig F change = 0.002) at p-value = 0.05. These results underlined the critical role played by the size of commercial banks with regard to how they comply with the CBK's risk management guidelines as well as their financial performance.

Table 46: F-test of Overall Significance (with Moderation)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	52.000	5	10.400	1.228	.316[b]
	Residual	304.805	36	8.467		
	Total	356.805	41			
2	Regression	127.234	6	21.206	3.233	.012[c]
	Residual	229.571	35	6.559		
	Total	356.805	41			

a. Dependent Variable: Financial Performance (ROA)

b. Predictors: (Constant), BSMOGC, PPGC, RMMISGC, ICGC, CLLGC

c. Predictors: (Constant), BSMOGC, PPGC, RMMISGC, ICGC, CLLGC, Interaction Term

The results of F-test shown in Table 46 indicate that, when without moderation ($F_{5,36}$ = 1.228; p = 0.316), the relationship between CBK's risk management guidelines compliance and ROA was not statistically significant at p-value = 0.05. However, upon the introduction of the moderator variable (bank size), the stated relationship and at the same p-value of 0.05, became statistically significant ($F_{6,36}$ = 3.233; p = 0.012) at p-value = 0.05. This meant that although the sample data failed to fit the multiple regression model without moderation ($Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \beta_5X_5 + \varepsilon$), the data did fit the moderated regression model ($Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \beta_5X_5 + \beta_6I + \varepsilon$). Therefore, it the null hypothesis which stated that bank size did not significantly moderate the relationship between CBK's risk management guidelines compliance and financial performance of commercial banks in Kenya was rejected.

On the contrary, the alternate hypothesis was considered to be true. This was due to the fact that the bank size (in terms of financial assets) had statistically significant moderation effect on the aforesaid relationship. Given the statistical significance of the F-statistic, the effect of risk management guidelines compliance on ROA under the moderation of the bank size was examined. The results to this effect are presented in Table 47.

Table 47: Regression Results for Overall Model (with Moderation)

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	**Std. Error**	**Beta**	**t**	**Sig.**
1	(Constant)	1.832	15.918		.115	.909
	BSMOGC	-2.776	2.415	-.187	-1.150	.258
	PPGC	-.337	1.896	-.029	-.178	.860
	RMMISGC	-.701	1.624	-.075	-.431	.669
	ICGC	3.243	1.734	.299	1.871	.070
	CLLGC	.310	1.796	.029	.173	.864
2	(Constant)	-6.463	14.223		-.454	.652
	BSMOGC	.195	2.299	.013	.085	.933
	PPGC	-.313	1.669	-.027	-.188	.852
	RMMISGC	-.943	1.431	-.101	-.659	.514
	ICGC	3.013	1.527	.277	1.972	.057
	CLLGC	-.163	1.587	-.015	-.103	.919
	Interaction Term	6.868E-5	.000	.504	3.387	.002

a. Dependent Variable: Financial Performance (ROA)

In reference to the results shown in Table 47 are the changes occasioned by the interaction term and/or the moderator variable (bank size). It is apparent from the study results that the introduction of the bank size to the model altered either the magnitude or the direction of the predictor variables. A case in point is the change of board and senior management oversight guidelines compliance, and capital and liquidity limits guidelines compliance whose direction changed from negative (β_1 = -2.776) to positive (β_{1m} = 0.195), and from positive (β_5 = 0.310) to negative (β_{5m} = -0.163) respectively. It was revealed that the magnitude of some of the predictor variables was altered by the moderator variable. For instance, by introducing the bank size to the model, policies and procedures guidelines compliance reduced from -0.337 to -0.313, and also the internal control guidelines compliance recorded a decreased from 3.243 to 3.013. Nevertheless, it was revealed that the moderator variable did not improve the statistical significance (expressed by t-statistics) of the predictor variables given that, even after the bank size was introduced to the model, the effect of individual predictor variables (CBK's risk management guidelines compliance) on financial performance of commercial banks in Kenya. All the independent variables returned p > p-value = 0.05.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the summary of major findings of the study as well as study conclusions and recommendations. The chapter concludes by giving suggestions for further studies.

5.2 Summary of the Findings

This study sought to examine the effect of central bank risk management guidelines compliance on financial performance of commercial banks in Kenya. To achieve this objective, the study sought to examine the influence of the compliance with regard to the CBK's guidelines on board and senior management oversight, policies and procedures, internal controls, risk monitoring and management information system, and capital and liquidity limits on the financial performance of commercial banks licensed to operate in Kenya. This section presents a summary of the major findings of the study and it is organized according to the study objectives.

5.2.1 Board and Senior Management Oversight Guidelines Compliance and Financial Performance

The first objective of the study was to determine the effect of the board and senior management oversight guidelines compliance on the financial performance of commercial banks in Kenya. The study established that there was significant association between financial performance of commercial banks in Kenya and the board exercising ultimate responsibility for the level of risk taken by the institution, senior management implementing strategies in a manner that limits the risk and management being fully involved in the activities of the organization. It was further revealed that there was significant association between financial performance of commercial banks in Kenya and management possessing sufficient knowledge of all major business lines, directors having technical knowledge depending on the particular circumstances of the organization, and having a clear understanding of the types of risks to which their institutions were exposed to.

It was, however, revealed that the relationship between compliance with CBK's guidelines on board and senior management oversight and financial performance was

not statistically significant ($p = 0.277 > 0.05$). On the same breath, the aforesaid compliance was found to be largely inconsequential to return on assets of the commercial banks in Kenya. Therefore, the respective null hypothesis which stated that the effect of board and senior management oversight guidelines compliance on financial performance of commercial banks was not rejected. This was due to the fact that the aforementioned statement was concluded to be true since it was in agreement with the study findings.

5.2.2 Policies and Procedures Guidelines Compliance and Financial Performance

The second objective was to establish the effect of policies and procedures guidelines compliance on financial performance of commercial banks in Kenya. In respect of this, the study found that the management provision of adequate risk management activities for its operations and ensuring that economic substance of banks risk exposures is fully recognized, bank's policies being consistent with the banks stated mandate and the policies clearly delineating accountability within the bank were all statistically associated with financial performance of commercial banks in Kenya. In addition, the study found that bank policies clearly delineating the lines of authority across bank's various business activities, addressing breaches of internal control position limits, scheduling for reviewing or updating of bank process whenever appropriate and bank policies being tailored to the types of risks that arise from the activities that the institution conduct were all had statistically significant association with the financial performance of the commercial banks in Kenya.

The study revealed that the correlation between policies and procedures guidelines compliance and financial performance of commercial banks was not statistically significant ($p = 0.602 > 0.05$). These results were further reinforced by the findings of the simple linear regression analysis which indicated that effect of the mentioned compliance on ROA of commercial banks in Kenya was not statistically significant. The results watered down the importance of complying with the guidelines on policies and procedures relative to the financial performance of commercial banks licensed by the CBK to operate in Kenya.

5.2.3 Risk Monitoring and Management Information Guidelines Compliance and Financial Performance

The third objective sought to establish the effect of risk monitoring and management information system guidelines compliance on financial performance of commercial banks in Kenya. Key procedures used in measuring risks being adequately tested for reliability on an on-going basis, reports to the bank's management being timely and accurate in nature and containing sufficient information for decision-makers to identify any adverse trends were found to be statistically associated with financial performance of commercial banks in Kenya. Periodic stress testing of bank procedures, institutions risk monitoring practices reports addressing all of its material risks, communication within the bank being structured to monitor exposures and reports to the bank's management containing sufficient information to evaluate the level of risk faced by the institution underlined the importance of complying with the aforementioned guidelines.

The study established that it was very crucial to have risk monitoring practices addressing all material risks in an organization which in turn led to achievement of company's objectives. Procedures used in measuring the risks were adequately tested for reliability on an ongoing basis to a moderate extent. There was structured communication within commercial banks which enabled monitoring of risk exposures. Pertinent financial risk reports were submitted timely. In regard to the whether the risk monitoring and management information system variable was a statistically significant predictor of financial performance, the results were to the contrary. In other words, the correlation between the two study constructs was established not to be statistically significant ($p = 0.689 > 0.05$) at p-value = 0.05. Similarly, the results of simple linear regression analysis indicated that the effect of complying with CBK's risk monitoring and management information system guidelines on return on assets was not statistically significant.

5.2.4 Internal Controls Guidelines Compliance and Financial Performance

The fourth objective of the study sought to determine the effect of internal controls guidelines compliance on financial performance of commercial banks in Kenya. Internal control guidelines require commercial banks to establish and maintain an effective system of controls including the enforcement of the official lines of authority

and appropriate separation of duties. Internal controls put in place by commercial banks were found to be in line with the types of risks faced by these financial institutions. Moreover, the systems put in place by these banks were suitable for the level of risks they faced. The banks had established clear lines of responsibility for monitoring adherence to procedures.

Although the relationship between internal controls guidelines compliance and financial performance was not statistically significant ($p = 0.152 > 0.05$), the effect of the stated compliance significantly influenced return on assets of commercial banks operating in Kenya ($t = 2.137$; $p = 0.039 < 0.05$). These results underlined the importance of commercial banks complying with the guidelines laid down by the CBK on internal controls relative to their financial performance.

5.2.5 Liquidity and Capital Limits Guideline and Financial Performance

The fifth objective of the study sought to establish the effect of liquidity and capital limits guidelines compliance on financial performance of commercial banks in Kenya. In respect of this objective, limits being periodically reviewed when risk tolerances change, management always ensuring adherence to the set liquidity limits, there being a contingency plan for handling liquidity crisis and the institutions instituted systems being able to capture liquidity risk ahead of time so that remedial measures were prompted to avoid significant losses were found to be statistically associated with financial performance of commercial banks in Kenya. Management accurately quantifying the primary sources of liquidity risk in a timely manner and always ensuring adherence to the set capital limits, assessment of cash flows being done to identify the potential future funding shortfalls and management ensuring adherence to capital limits were also found to be statistically associated to financial performance of commercial banks in Kenya.

In respect of whether a capital and liquidity limit guidelines compliance was a statistically significant predictor of the financial performance of commercial banks, it was established that the aforesaid compliance had a relationship with return on assets which was not statistically significant ($p = 0.856 > 0.05$). Additionally, it was established that effect of the aforementioned compliance on financial performance was not significant. Therefore, the respective null hypothesis which had stated on the contrary, was not rejected.

5.2.6 Bank Size, CBK's Risk Management Guidelines Compliance and Financial Performance

Several key issues were examined with regard to the size of commercial banks as demonstrated in form of the cumulative asset base of the 42 such banks operating in Kenya. According to the study findings, the banks' policies were consistent with the banks' overall financial strength. However, there were differences in the policies for big banks and those for small banks based on their financial strengths. Commercial banks had recorded consistent increase in their financial size over the period beginning 2005 to 2017. Financial years 2008 and 2014 reported the sharpest increments in the asset base of commercial banks in Kenya.

It was noted that the commercial banks had over the years posted profitability commensurate to their targets. The liquidity levels within the bank were adequate for the commercial banks to undertake their financial obligations. It was also observed that the commercial banks in Kenya paid their creditors in a timely manner. The commercial banks experienced satisfactory retained earnings over the years. The return on equity had been satisfactory to the commercial banks in Kenya over the years. As documented in the published financial reports of the 42 commercial banks operating in Kenya, the financial performance, expressed in form of return on assets, was on consistent rise since the introduction of the CBK's guidelines on risk management. Moreover, the bank size was found to significantly moderate the relationship between CBK's risk management guidelines and financial performance of commercial banks in Kenya. Therefore, the null hypothesis which had stated on the contrary, was rejected.

5.3 Conclusions

Based on the summary of the major findings of the study, the following conclusions were made.

5.3.1 Board and Senior Management Oversight Guidelines Compliance and Financial Performance

The study concluded that there was statistically significant effect of board and senior management oversight guideline on financial performance of commercial banks in Kenya. In respect to this, the study concluded that the management exercising ultimate responsibility for the level of risk taken by the institution, possessing

sufficient knowledge of all major business lines, providing clear guidance regarding the level of exposures acceptable to the institution and understanding the nature of risks significant to the organization were major characteristics of board and senior management of most commercial banks in Kenya. It was further concluded that an improvement in the board and senior management oversight guidelines results in improvement in the financial performance of commercial banks in Kenya.

5.3.2 Policies and Procedures Guidelines Compliance and Financial Performance

This study concluded that there was statistically significant effect of policies and procedures guideline on financial performance of commercial banks in Kenya. In respect to this, the study concluded that the major policies and guidelines that were followed in the commercial banks in Kenya were policies on provision of adequate risk management activities for its operations, policies on ensuring that economic substance of banks risk exposures were fully recognized, policies on lines of authority across bank's various business activities, policies addressing breaches of internal control position limits and policies for updating the bank's processes. It was also concluded that an improvement in the policies and procedures guideline results in improvement in the financial performance of commercial banks in Kenya.

5.3.3 Risk Monitoring and Management Information System Guidelines Compliance and Financial Performance

The study further concluded that there was statistically significant effect of risk monitoring and management information guideline on financial performance of commercial banks in Kenya. With respect to this variable, the study concluded that the major contributions of monitoring and management information system guideline included ensuring that reports to the bank's management were timely and accurate in nature, contained sufficient information for decision-makers to identify any adverse trends and evaluate the level of risk faced by the institution and also ensuring that the institution measured all the material risk exposures. It was also concluded that an improvement in the risk monitoring and management information guidelines leads to the improvement in financial performance of commercial banks in Kenya.

5.3.4 Internal Controls Guidelines Compliance and Financial Performance

The study also concluded that there was statistically significant effect of internal controls guideline on financial performance of commercial banks in Kenya. In respect to this, the study concluded that the major aspects of internal controls guideline used by the commercial banks in Kenya included having systems of internal control which were appropriate to the type of risks posed by the nature of the institution's activities, having institutions audit committee or board of directors reviewing the effectiveness of controls, organization structure establishing clear lines of authority for monitoring adherence to procedures and having information system adequately reviewed. It was also concluded that an improvement in the internal controls guideline leads to the improvement in financial performance of commercial banks in Kenya.

5.3.5 Liquidity and Capital Limits Guidelines Compliance and Financial Performance

The study concluded that there was statistically significant effect of liquidity and capital limits guideline on financial performance of commercial banks in Kenya. In respect to this, the study concluded that the major aspects of liquidity and capital limits used by the commercial banks in Kenya included having limits periodically reviewed when risk tolerances change, management always ensuring adherence to the set liquidity limits, having a contingency plan for handling liquidity crisis and management ensuring adherence to Capital limits. It was also concluded that an improvement in the liquidity and capital limits guideline leads to the improvement in financial performance of commercial banks in Kenya.

5.3.6 Bank Size, Risk Management Guidelines Compliance and Financial Performance

The study concluded that the bank size had a statistically significant moderating effect on the relationship between the capital and liquidity limits, policies and procedures, risk monitoring and management information system, internal controls, board and senior management; and financial performance of commercial banks in Kenya. It was further concluded that utilization, adherence and appropriateness of risk management guidelines by Central Bank of Kenya improved with increase in bank's overall financial strength, complexity of the institution's operations, scope of the institution's activities, size of the institution, and bank's years in operation. Therefore the study

concluded that the financial performance of commercial banks in Kenya is affected by risk management guidelines by Central Bank of Kenya which depend on the size of the bank.

5.4 Recommendations

The study recommends that the board and senior management should be fully involved in the activities of the bank and communicate the need for high ethical standards by employees. This can be done through creating awareness on the existence and importance of Central Banks's risk management guidelines to the employees.

The study further recommends that the Central bank should ensure that the risk management policies are consistent with the commercial banks' stated mandate, and that the policies clearly delineate accountability within the commercial banks. The study further recommends the Central bank review the policies as well as to tailor-make the policies to the types of risks that arise from the activities that the commercial banks conduct.

Further recommendation is made that the Central bank to adequately test key procedures used in measuring risks for reliability. The study also recommends the management to have action plans to mitigate the risks identified in the stress tests put in place, to periodically conduct stress testing of bank procedures and also ensuring that the risk monitoring practices reports address all of the bank's material risks. These metrics were lowly rated among the indicators of risk monitoring and management information guidelines and thus reason for this recommendation.

In respect to internal control guidelines, the study recommends commercial banks in Kenya to improve on the systems of internal control in order to be appropriate to the level of risks posed by the nature of the institution's activities and also ensure that exceptions noted on the internal control reports are promptly investigated while ensuring the internal control practices are as independent as possible. These aspects were rarely done and thus the reason for this recommendation.

Focusing on liquidity and capital limits, the study recommends commercial banks to institute systems that enable the banks to capture liquidity risk ahead of time so that remedial measures are prompted to avoid significant losses. Further recommendation

is made that management of commercial banks to always ensure adherence to the set capital limits as well as assess cash flows in order to identify the potential future funding shortfalls. This would improve the financial performance of the commercial banks through mitigation of risks related to liquidity and capital limits.

The study recommends that the Central bank of Kenya should formulate risk management guidelines that take into consideration the bank size in terms of bank's overall financial strength, complexity of the institution's operations, scope of the institution's activities, size of the institution, and bank's years in operation. This would improve the relevance and usefulness of the guidelines to the commercial banks. This recommendation is based on the finding that bank size moderates the effects of risk management guidelines on financial performance of commercial banks in Kenya.

5.5 Suggestions for Further Studies

The study suggests a further study to be undertaken to examine the effect of other prudential guidelines such as guidelines on strategic risk, Credit Risk, Market Risk, Operational Risk, Information and Communication Technology Risk, Reputational Risk, Compliance Risk and Country and Transfer Risk on the financial performance of commercial banks in Kenya. A further study can be conducted by performing panel analysis of financial performance of different bank products for 10 years to establish the differences between and within the 42 registered commercial banks with a view of advising customers on the efficient investment portfolio.

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APPENDICES

Appendix I: Questionnaire

Dear Respondent,

The purpose of this study is to establish the "***effectiveness of Central Banks Risk Management Guidelines on the financial performance of commercial banks in Kenya***". Your participation in this study is purely voluntary and the responses provided will only be used for this study and not for any other purpose.

SECTION A: BACKGROUND INFORMATION

1. Name of the Institution ……..
2. How long have you worked for this Institution (Tick as appropriate)

   1-5 years [ ]

   6-10 years [ ]

   11-20 years [ ]

   Over 20 years [ ]

3. Indicate your highest level of Education

   Certificate [ ]

   Diploma [ ]

   Professional course [ ]

   Undergraduate [ ]

   Postgraduate [ ]

SECTION B: Board and Senior Management Oversight Guideline

The following questions relate to Central Banks Guidelines relating to the board and senior management oversight for all institutions. Using the key (Where: 1-Strongly disagree; 2 – Disagree; 3 – Indifferent; 4 – Agree; 5 – Strongly agree) tick as appropriate to indicate the extent to which you agree with them with respect to your institution board and senior management

No.	Statements	Scores				
		1	2	3	4	5
1.	The board have the ultimate responsibility for the level of risk taken by the institution					
2.	All the board of directors understands the nature of risks significant to the organization					
3.	The directors have technical knowledge depending on the particular circumstances of the organization					
4.	Directors have a clear understanding of the types of risks to which their institutions are exposed to					
5.	Directors provide clear guidance regarding the level of exposures acceptable to the institution					
6.	Senior management implements strategies in a manner that limits the risk associated with each strategy					
7.	Management is fully involved in the activities of the organization and possesses sufficient knowledge of all major business					

	lines					
8.	Senior management establishes and communicates strong awareness of and need for effective internal controls and high ethical standards					

SECTION C: Policies and Procedures Guideline

The following questions relate to Central Banks Guidelines relating to Adequate Policies and Procedures for all institutions. Using the key (Where: 1-Strongly disagree; 2 – Disagree; 3 – Indifferent; 4 – Agree; 5 – Strongly agree) tick as appropriate to indicate the extent to which you agree with them with respect policies and procedures of your institution

No.	**Statements**	**Scores**				
		1	2	3	4	5
9.	Provide for adequate and timely identification, measurement, monitoring, control and mitigation of risks posed by its activities					
10.	Ensures economic substance of banks risk exposures are fully recognized and incorporated into the bank's risk management system					
11.	Consistent with the banks stated goals and objectives as well as its overall financial strength					
12.	Clearly delineate accountability and lines of authority across banks various business					

	activities					
13.	Addresses breaches of internal control position limits					
14.	Provide for review of new business and product by bringing together all relevant risk management, controls, and business lines to ensure that the bank able to manage and control the activity prior to its being initiated					
15.	Include a schedule and process of reviewing the policies and procedures and for updating them as appropriate					
16.	Policies and procedures are tailored to the types of risks that arise from the activities that the institution conduct					

SECTION D: Adequate risk monitoring and Management information guideline

The following questions relate to Central Banks Guidelines relating to Adequate Risk Monitoring and Management Information for all institutions. Using the key (Where: 1-Strongly disagree; 2 – Disagree; 3 – Indifferent; 4 – Agree; 5 – Strongly agree) tick as appropriate to indicate the extent to which you agree with them with respect to risk monitoring procedures and Management information of your Institution

No.	**Statements**	**Scores**				
		1	2	3	4	5
17.	The institutions risk monitoring practices reports addresses all of its material risks					
18.	Key assumptions, data sources, and procedures used in measuring and					

	monitoring risks are appropriate and adequately documented and tested for reliability on an ongoing basis					
19.	Periodic stress testing is conducted and management action plans to mitigate the risks identified in these stress tests are put in place					
20.	Reports and other forms of communication are consistent with the institution's activities and structured to monitor exposures and compliance with established limits					
21.	Reports to management or to the institution's directors are accurate and timely and contain sufficient information for decision-makers to identify any adverse trends and evaluate the level of risk faced by the institution.					
22.	Risk monitoring activities are supported by an Information system that provides senior management and directors with timely reports on financial condition, operating performance and risk exposure of the institution					
23.	A management information system is consistent with the complexity and diversity of the institution's operations					
24.	The institution identifies and measures all material risk exposures					

SECTION E: Internal Controls Guideline

The following questions relate to Central Banks Guidelines relating to adequate internal controls for all institutions. Using the key (Where: 1-Strongly disagree; 2 – Disagree; 3 – Indifferent; 4 – Agree; 5 – Strongly agree) tick as appropriate to indicate the extent to which you agree with them with respect to your institution internal controls

No.	Statements	Scores				
		1	2	3	4	5
25.	Systems of internal control are appropriate to the type and level of risks posed by the nature and scope of the institution's activities					
26.	Organization structure establishes clear lines of authority and responsibility for monitoring adherence to policies, procedures, and limits					
27.	Reporting lines provide sufficient independence of the control areas from business lines and appropriate segregation of duties throughout the institution					
28.	Institutional structures reflect actual operating practices					
29.	Financial, operational and regulatory reports are reliable, accurate and timely and exceptions noted are promptly investigated					
30.	Procedures ensuring compliance with applicable laws and regulations are in place					

31.	Internal audit and other control review practices provide for independence and objectivity					
32.	Internal controls and information system are adequately tested and reviewed					
33.	Institutions audit committee or board of directors reviews the effectiveness of internal audits and other controls on a regular basis					

SECTION F: Liquidity and Capital Limits Guideline

The following questions relate to Central Banks Guidelines relating to capital and Liquidity limits for all institutions. Using the key (Where: 1-Strongly disagree; 2 – Disagree; 3 – Indifferent; 4 – Agree; 5 – Strongly agree) tick as appropriate to indicate the extent to which you agree with them with respect to liquidity and capital management of your Institution

No.	**Statements**	**Scores**				
		1	2	3	4	5
34.	Management accurately identifies and quantifies the primary sources of liquidity risk in a timely manner					
35.	Management sets limits that are appropriate to the size and financial condition of the institution					
36.	There is a contingency plan for handling liquidity crisis					
37.	Limits are periodically reviewed and adjusted when conditions or risk tolerances change					

38.	Capital and liquidity limits are set and management ensures adherence to these limits					
39.	The institution has instituted systems that enable it to capture liquidity risk ahead of time so that remedial measures are prompted to avoid significant losses					
40.	The asset-liability committee is in place to effectively monitor organizations liquidity risk					
41.	Assessment of cash inflows and outflows and liquidity values of assets is done to identify the potential future funding shortfalls					

Appendix II: Secondary Data Collection Form

Name of the Bank …….

Year	Total Assets Shs.	Shareholders Equity Capital Shs.	Net profit after Taxes Shs.	EBIT Shs.
2005				
2006				
2007				
2008				
2009				
2010				
2011				
2012				
2013				
2014				
2015				
2016				
2017				
2018				

Appendix III: List of Licensed Commercial Banks

Listed Licensed commercial banks

1. Barclays Bank
2. of Kenya
3. Cooperative Bank of Kenya
4. Diamond Trust Bank
5. Equity Bank
6. Housing Finance Company of Kenya
7. I&M Bank
8. Kenya Commercial Bank
9. National Bank Of Kenya
10. Nic Bank
11. Stanbic Bank Kenya
12. Standard Chartered Kenya

Non-listed licensed commercial Banks

13. ABC Bank (Kenya)
14. Bank of Africa
15. Bank of Baroda
16. Bank of India
17. Chase Bank Kenya
18. Citi Bank
19. Commercial Bank of Africa
20. Consolidated Bank of Kenya
21. Credit Bank
22. Development Bank of Kenya
23. Dubai Islamic Bank
24. Eco Bank Kenya
25. Family Bank
26. First Community Bank
27. Guaranty Trust Bank Kenya
28. Guardian Bank
29. Gulf African Bank
30. Habib Bank Ag Zurich
31. Imperial Bank+
32. Jamii Bora Bank
33. Mayfair Bank
34. Middle East Bank Kenya
35. Oriental Commercial Bank
36. Paramount Universal Bank

37. Prime Bank Kenya

38. SBM Bank Kenya Limited

39. Sidian Bank

40. Spire Bank

41. Trans-National Bank of Kenya

42. United Bank Of Africa

43. Victoria Commercial Bank

Appendix IV: University's Letter of Approval / Introduction

KABARAK UNIVERSITY

Private Bag - 20157
KABARAK, KENYA
http://kabarak.ac.ke/university-postgraduate-studies/

Tel: 0773 265 999
E-mail: directorpostgraduate@kabarak.ac.ke

BOARD OF POSTGRADUATE STUDIES

6th June, 2019

The Director General
National Commission for Science, Technology & Innovation (NACOSTI)
P.O. Box 30623 – 00100
NAIROBI

Dear Sir/Madam,

RE: STEPHEN OLOO MAGADI- REG. NO. GDB/M/1601/09/16

The above named is a Doctor of Philosophy student at Kabarak University in the School of Business & Economics. He is carrying out research entitled ***"Effectiveness of Central Bank Risk Management Guidelines on Financial Performance of Commercial Banks in Kenya"***. He has defended his proposal and has been authorized to proceed with field research.

The information obtained in the course of this research will be used for academic purposes only and will be treated with utmost confidentiality.

Please provide him with a research permit to enable him to undertake his research.

Thank you.

KABARAK UNIVERSITY DIRECTOR POST GRADUATE STUDIES 06 JUN 2019 PRIVATE BAG - 20157, KABARAK

Yours faithfully,

Dr. Betty Jeruto Tikoko
DIRECTOR, POSTGRADUATE STUDIES

Kabarak University Moral Code

As members of Kabarak University family, we purpose at all times and in all places, to set apart in one's heart, Jesus as Lord. (1 Peter 3.15)

Appendix V: Research Authorization from Ministry of Education

MINISTRY OF EDUCATION
STATE DEPARTMENT OF BASIC EDUCATION

Telegrams: "EDUCATION",
Telephone: 051-2216917
When replying please quote

Ref.CDE/NKU/GEN/4/21/VOL.VI/38

COUNTY DIRECTOR OF EDUCATION
NAKURU COUNTY
P. O. BOX 259,
NAKURU.

26th July, 2019

TO WHOM IT MAY CONCERN

RE: RESEARCH AUTHORIZATION –STEPHENE OLOO MUGADI
PERMIT NO. NACOSTI/P/19/89671/31195

Reference is made to letter NACOSTI/P/19/89671/31195 dated 23rd July, 2019.

Authority is hereby granted to the above named to carry out research on "***Effectiveness of Central Banks risk management guidelines on financial performance of Commercial Banks in Kenya***" in Nakuru County for a period ending **28th July, 2020.**

Kindly accord him the necessary assistance.

For: COUNTY DIRECTOR OF EDUCATION
NAKURU COUNTY

G.N. KIMANI
FOR: COUNTY DIRECTOR OF EDUCATION
NAKURU COUNTY

Copy to:
Kabarak University
Private Bag - 20157
KABARAK

Appendix VI: Research Authorization from the County Commissioner

THE PRESIDENCY
MINISTRY OF INTERIOR AND
CO-ORDINATION OF NATIONAL GOVERNMENT

Telegrams: "DISTRICTER" Nakuru
Telephone: Nakuru 051-2212515
When replying please quote

COUNTY COMMISSIONER
NAKURU COUNTY
P.O. BOX 81
NAKURU.

Ref No. CC. SR.EDU 12/1/2/VOL.V/11

26th July, 2019

Deputy County Commissioner
Nakuru East Sub County

RE:- RESEARCH AUTHORIZATION – STEPHENE OLOO MAGADI

The above named student from Kabarak University has been authorized to carry out research on **"effectiveness of Central Banks risk management guidelines on financial performance of Commercial Banks"** in Nakuru East Sub County in Nakuru County for a period ending 23rd July, 2020.

Please accord him all the necessary support to facilitate the success of his research.

MARY W. MWANGI
FOR COUNTY COMMISSIONER
NAKURU COUNTY

Appendix VII: Research Authorization from NACOSTI

NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY AND INNOVATION

Telephone:+254-20-2213471,
2241349,3310571,2219420
Fax:+254-20-318245,318249
Email: dg@nacosti.go.ke
Website : www.nacosti.go.ke
When replying please quote

NACOSTI, Upper Kabete
Off Waiyaki Way
P.O. Box 30623-00100
NAIROBI-KENYA

Ref: No. **NACOSTI/P/19/89671/31195**

Date: **23rd July, 2019.**

Stephene Oloo Magadi
Kabarak University
Private Bag - 20157
KABARAK.

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on ***"Effectiveness of Central Banks risk management guidelines on financial performance of Commercial Banks in Kenya."*** I am pleased to inform you that you have been authorized to undertake research in **Nairobi and Nakuru Counties** for the period ending **23rd July, 2020.**

You are advised to report to **the County Commissioners, and the County Directors of Education, Nairobi and Nakuru Counties** before embarking on the research project.

Kindly note that, as an applicant who has been licensed under the Science, Technology and Innovation Act, 2013 to conduct research in Kenya, you shall deposit **a copy** of the final research report to the Commission within **one year** of completion. The soft copy of the same should be submitted through the Online Research Information System.

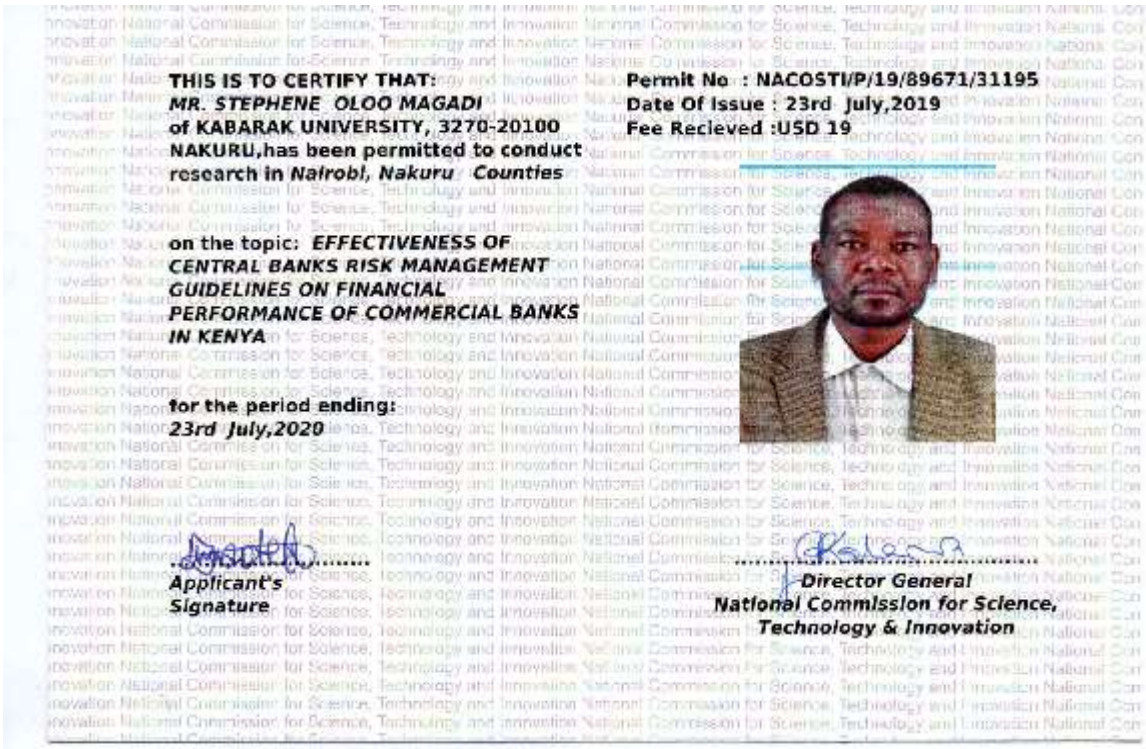
GODFREY P. KALERWA., MSc, MBA, MKIM.
FOR: DIRECTOR-GENERAL/CEO

Copy to:

The County Commissioner
Nairobi County.

The County Director of Education
Nairobi County.

Appendix VIII: Research Permit from NACOSTI



THIS IS TO CERTIFY THAT:
MR. STEPHENE OLOO MAGADI
of KABARAK UNIVERSITY, 3270-20100
NAKURU,has been permitted to conduct
research in *Nairobi, Nakuru Counties*

Permit No : NACOSTI/P/19/89671/31195
Date Of Issue : 23rd July,2019
Fee Recieved :USD 19

on the topic: *EFFECTIVENESS OF CENTRAL BANKS RISK MANAGEMENT GUIDELINES ON FINANCIAL PERFORMANCE OF COMMERCIAL BANKS IN KENYA*

for the period ending:
23rd July,2020

.....
Applicant's Signature

.....
Director General
National Commission for Science, Technology & Innovation

Appendix IX: Research Publication

International Journal of Science and Research (IJSR)
ISSN: 2319-7064
SJIF (2020): 7.803

Board and Senior Management Oversight Guideline Compliance and Its Effect on Financial Performance of Commercial Banks in Kenya

Magadi Stephene Oloo[1], Waweru, Gabriel[2], Tanui John Kipkorir[3]

[1, 3]School of Business and Economics, Kabarak University, Kenya

[2]School of Business and Economics, Meru University of Science and Technology, Kenya

Abstract: ***Bank failures coupled with declining profitability has been experienced in the Kenyan banking sector for a couple of years. This comes even after the Central Bank of Kenya has made concerted efforts to address the problem by introducing the risk management guidelines in 2005. In its report on the financial performance of the Kenyan banking sector for 2016/2017 financial year, banks profitability recorded a decline compared to the previous year. This situation raises the issue of whether these guidelines have had any effect on enhancing bank performance. The objective of this study was to determine the effect of board and senior management oversight guideline compliance on financial performance of commercial banks in Kenya. This study was guided by the Stakeholder theory and a descriptive research design was used. The study's target population comprised of all the 42 commercial banks licensed by the central bank to operate in Kenya. Sampling was not required since the study adopted a census of all the banks. Both secondary and primary data were used in the study. Primary data was obtained using structured questionnaires while the secondary data was collected from the audited financial reports of the commercial banks. Data analysis was done using both descriptive and inferential statistics with the help of Statistical Package for Social Sciences. The study established that board and senior management oversight guideline was a statistically significant predictor of the financial performance of the Commercial Banks in Kenya (t = 3.722; p = 0.000). The findings of this study can benefit to the Central Bank of Kenya in informing the review of the guidelines, management of commercial banks in making policy decisions and other scholars in the same area of study to provide literature.***

Keywords: Board and Senior Management Oversight, Commercial Banks, Financial Performance, Return on Assets

1. Introduction

Kenya has experienced banking problems since 1986 culminating in major bank failures (37 failed as at 1998) following the crisis of 1986 - 1989, 1992 - 1994 and 1998 [19]. Before the passing of the banking Act of 1989 nine bank failures were recorded, these banks were; union bank, nationwide finance, Kenya savings and Mortgages, Jimba credit corporation, estate finance, estate building society, Citizen building society, and home savings and mortgages. Since 1999, the banking institutions in Kenya have been regulated under the Basel I Capital adequacy accord which was issued in 1988. The 1988 accord was later amended in 1996 to incorporate a capital charge for the market risk which Kenya also adopted [6].

Between 1993 - 1995 a further 19 banks collapsed several of which had been wrapped up in the Goldenberg scandal. Some of the major failed banks during this period include; bullion bank, Trust bank, prudential bank, City finance bank and Reliance bank among others [19]. These persistent failures triggered the Central Bank of Kenya to carry out a risk management survey for the banking sector in 2004. According to the report, many banks reported that they heavily relied on the Central Bank of Kenya's prudential returns to monitor risks, due to the absence of internal risk management information systems [3]. In response to the bank risk management survey conducted in 2004, the central bank introduced the risk management guidelines (RMGs) in 2005 to assist institutions under its purview in formulating and implementing internal risk management policies and procedures with a view to better monitor, measure and report risks, and this was also in addition to enforcement of the Basel II principles which were issued in 2004 by the Basel Committee on Banking Supervision [4]. Among the guidelines which were introduced by the Central bank of Kenya was board and senior Management oversight. All the commercial banks under the purview of the supervision of the central banks were required to comply with these guidelines.

The guideline on board and senior management oversight stipulates that boards have the ultimate responsibility for the level of risk taken by their institutions. They should approve the overall business strategies and significant policies of their organizations. Senior management, on the other hand, is responsible for implementing strategies approved by the board in a manner that limits the risks associated with each strategy. They should be fully involved in the activities of their institutions and should possess sufficient knowledge of all business lines to ensure that appropriate policies, controls, and risk monitoring systems are in place. This guideline will ensure effective implementation and control of risk management strategies [4].

According to the Kenyan financial stability report, 2016 the banking sub - sector recorded elevated credit risk which reflected in the deterioration of their asset quality following increased non - performing loans (NPLs) and provisions [6]. The gross NPLs increased by 106 percent in the year to December 2016 compared to 30.14 percent in the year December 2015 [6]. The sector also recorded a 10.9 percent increase in profits in the year to December 2016 but 11.7 percent decline in profitability in the year to March 2017. The gross ratios of nonperforming loans (NPL, s) to gross

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Academic Paper Acceptance Letter
DOI of the journal: 10.7176/RJFA

Dear Magadi Stephene Oloo; Waweru Gabriel; Tanui John Kipkorir,

It's my pleasure to inform you that, after the peer review, your paper,

Effect of Internal Control Guideline Compliance on Financial performance of Commercial Banks in Kenya

has been ACCEPTED with content unaltered to publish with **Research Journal of Finance and Accounting,** ISSN (Paper)2222-1697 ISSN (Online)2222-2847.

In order to fit into the publishing and printing schedule, please re-submit your complete publication package by directly replying this acceptance email within 15 days so we can make your article available online/print in the next issue (usually at the end of each month) . If you failed to prepare your complete files on time, the publication of your article might be delayed.

Though the reviewers of the journal already confirmed the quality of your paper's current version, you can still add content to it, such as solidifying the literature review, adding more content in the conclusion, giving more information on your analytical process and giving acknowledgement.

To help the editor of the journal process your final paper quickly, you need to prepare your paper based on the attached "publication_package_instruction.pdf".

Again, thank you for working with IISTE. I believe that our collaboration will help to accelerate the global knowledge creation and sharing one step further. IISTE looks forward to your final publication package. Please do not hesitate to contact me if you have any further questions.

Sincerely,

Alexander Decker,

Wednesday, November 10, 2021

Editor-in-Chief
IISTE-Accelerating Global Knowledge Sharing
The International Institute for Science, Technology and Education

The indexation of the journal

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