OPERATIONAL RISK STRATEGY AND PERFORMANCE OF COMMERCIAL BANKS IN KENYA

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DECLARATION

This project is my original work and has not been submitted for a degree in any university.

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This research project report has been submitted for examination with my approval as the University Supervisor.

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DEDICATION

This work is dedicated to my Spouse Steve for his support and encouragement, my lovely children Gavin and Liam, and to my sister Sophie for consistent push and prayers. Your relentless support and prayers have seen me through. Thank you.

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This project's successful completion is due to the support and substantial contribution from several people. I am grateful to God for seeing me through this process. I recognize the unwavering support and encouragement from my family throughout the program.

I acknowledge my supervisor, Dr. Benedict Mkalama for the guidance, patience and mentorship he offered during the research process.

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ACRONYMS AND ABBREVIATIONS

CBK	Central Bank of Kenya
CDO	Collateralised Debt Obligations
CDS	Credit Default Swap
CLOs	Collateralised Loan Obligations
CSR	Corporate Social Responsibility
EPU	Economic Policy Uncertainty
ERM	Enterprise Risk Management
EU	European Union
ILO	International Labour Organisation
KBA	Kenya Banker's Association
MIS	Management Information System
MFIs	Microfinance Institutions
NPLs	Non-Performing Loans
OLS	Ordinary Least Squares

ABSTRACT

The running of organisations across the world is an involving endeavour given the need to outcompete rivals, the high resource requirements and the dynamic nature of the operational environments. One of the most critical aspects of the dynamism of the operational environment is the level of operational risk. In an ideal scenario, commercial banks would be able to effectively integrate operational risk strategy that ensure enhanced stability of operations during turbulent times while catering to the needs of all external and internal stakeholders, thus meeting the need for improved performance. Whilst operational risk strategy is a critical requirement for commercial banks during these uncertain times, it is made even harder when the attainment of good performance is also sought by these organisations. This is because sustainable banking practices require compromises to be made by toning down on the profit maximisation objective in order to address environmental, social and economic concerns of others outside the organisation. This study, therefore, sought to confirm how the identified operational risk strategy and performance of commercial banks interlink. The study was supported by the Financial Intermediation Theory and the Contingency Theory. The study applied descriptive research as it was seeking to explain the traits of the study participants. The target population of the study was 38 commercial banks in Kenya from which 38 senior managers were interviewed. This study then used SPSS (version 28) to conduct descriptive data analysis described using measures of central tendency, standard deviation and Inferential statistics described using Pearson Correlation coefficients analysis and regression analysis. The research findings revealed that operational risk avoidance, operational risk transfer and operational risk monitoring were all critical strategies for enhancing the performance of commercial banks. However, operational risk acceptance was found to lack a statistically inferable relationship with performance. The study recommended that banks need to benchmark with those institutions that have successfully integrated components of operational efficiency. A number of the banks do not have existing strategic risk management and recovery plans in all their units neither have they appointed risk management team so more resources should be expended in the establishment of strategic risk management and recovery plans across the breadth of all the commercial banks.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Organisational performance is key in all industries and the management endeavour to ensure that organisations they lead flourish. In order to ensure business continuity and guaranteed return on investment, organisations have adopted various operational risk strategies to ensure continued optimal performance. Bagherzadeh and Jöehrs (2015) describe how unanticipated occurrences e.g. the global financial crunch witnessed between years 2007-2008 led to collapse of many financial institutions. This led to a serious rethink of how such organisations handle operational risks. In fact, Bagherzadeh and Jöehrs (2015) continued that the crisis was brought about by the subprime lending policies that were adopted mainly in the western world where high-risk customers were offered credit using home properties as collateral.

The running of organisations across the world is an involving endeavour given the need to outcompete rivals, the high resource requirements and the dynamic nature of the operational environments. One of the most critical aspects of the dynamism of the operational environment is the level of operational risk (Rosen *et al.*, 2018). According to Šotić and Rajić (2015), risk is an overarching concept that means different things dependent on the context, however, it can be referred to as the probability of the occurrence of an undesirable outcome. Marija (2013) posited that operational risk, which is a subset of risk, refers to those risks related to operational failures that result from undesirable occurrences such as internal and external fraud, business disturbances, and processing

errors. In recognition of the importance of operational risk, the Basel Committee came up with the principles of sound management of operational risk. (Luburic, 2017).

Katende, Kibe and Kubwimana (2017) stated that risk mitigation involves the determination of whether risky events are potentially harmful enough to require further action beyond merely monitoring them so as to lower the risk vulnerability of the organisation. Yoon, Talluri, Yildiz and Ho (2018) explained that risk mitigation focuses on the establishment of an organisation's risk tolerance levels and deciding to implement risk mitigation strategies once the tolerance limits have been exceeded. According to Prakash, Singh, Soni and Rathore (2015), well instituted risk mitigation strategies enable the reduction of risk vulnerability since the occurrence of operational risks has an adverse effect on the organisation's capacity to produce goods and services, and given that there are many more partners in the supply chain, it can also disrupt the operations of other partners which is a threat to the overall sustainability of the organisation.

The theoretical review will focus on Financial Intermediation Theory and Contingency Theory. The financial intermediation theory is based on the Gurley and Shaw (1960) who posited that owing to the problem of information asymmetry as well as the associated concerns of moral hazard and adverse selection, financial intermediaries are forced to incur high costs verification and auditing before issuing credit instruments to applicants. These costs represent operational risks to the financial intermediaries. The Contingency Theory, which was advanced by Fiedler (1974), is a strategic management theory that holds that individuals should recognise various situations and their impacts before making decisions so as to make the most optimal decisions which enables them to make provisions for operational risks.

It is evident from the above that operational risk management strategies are critical towards how commercial banks can reduce the impact of increase exposure to risk. The well documented cases of collapses of financial institutions are a constant reminder of what poor operational risk management can lead to (Mačerinskienė, Ivaškevičiūtė & Railienė, 2014). According to (Forbes 2023) the back to back collapse of Silicon Valley, Signature and the First Republic Banks in the USA are most notable. In Kenya, we have witnessed collapse of Imperial Bank and Chase bank recently. It is, therefore, envisioned that findings from this study will provide a foundation for the formulation and execution of appropriate operational risk management strategies to deal with various risk exposures that banks are continually exposed to so as to enhance their performance.

1.1.1 Operational Risk Strategy

Cristea (2021) asserted that, noting the importance of banks in an economy of a country as financial intermediaries, they are susceptible to operational risks which need to be mitigated appropriately so as not to endanger the livelihoods of those depositors whose money they have custody of. Birindelli and Ferretti (2017) defined operational risk mitigation strategies as measures undertaken by organisations to reduce the exposure of an organisation to the occurrence of operational risk. Rezapour, Srinivasan, Tew, Allen and Mistree (2018) posited that effective operational risk mitigation in banking institutions requires the establishment of a framework that starts with the identification of risk, then evaluation of the risk, estimation of the impact of the risk, and then formulation of mitigation strategies.

Operational risk mitigation occurs in many industries since risk is an overarching reality in the corporate world. In fact, Egan *et al.* (2019) affirmed that operational risk mitigation in

the insurance industry entails three categories of risks including cyber extortion of individuals who have taken up life insurance products, the leakage of data pertaining to non-life insurance by employees, and hacking of motor insurance telematics devices. Accordingly, the study identified operational risk mitigation strategies such as protection and response. Chen *et al.* (2013) established that operational risk mitigation in supply chains feature the application of collaboration with other supply chain partners where each partner shares critical information regarding risk exposures thus minimising the level of uncertainty.

Radomska (2014) opined that operational risk mitigation seeks to integrate effective strategies on how to reduce the losses that result from excessive risk exposure in the long-term owing to the need for a strategic perspective of risk and the capacity to evaluate the nature of internal and external events that would threaten the attainment of the organisation's strategic objectives. Singh and Hong (2020) added that operational risk mitigation focuses on the strategic decisions whose development is based on a risk analysis of the most effective risk mitigation practices.

1.1.2 Organizational Performance

Organisational performance is a ubiquitous term with various definitions. According to Contu (2020), organisational performance refers to how effectively an organisation is able to position itself in the market the available financial, human and informational resources. Elena-Juliana and Maria (2016) defined organisational performance as a determination of how well an organisation has been able to meet its set objectives.

The first indicator of performance of commercial banks is the level of capital adequacy. Fatima (2014) defined capital adequacy as the acceptable total capital owned by a bank as prescribed by the bank regulator. Abba, Zachariah and Inyang (2013) added that capital adequacy is a determination of whether a bank has the necessary quantity of capital to maintain stable operations for the foreseeable future. The second indicator of performance of commercial banks is the amount of liquidity available. Liquidity is a determination of the effectiveness of the asset management by a bank in terms of the coverage of all its liabilities while maintaining financial stability (Dahiyat, Weshah & Aldahiyat, 2021). The third indicator is the asset quality. Sile, Olweny and Sakwa (2019) posited that asset quality is a determination by a bank's management of the value of its assets so as to enable the ascertainment of the amount of credit risk that is linked to its operations.

Alemayehu and Belete (2019) conducted a study on the effect of operational efficiency on performance and found that the performance of state-owned banks was superior to that of privately-owned banks in Ethiopia. Additionally, operational efficiency as measured by liquidity (liquid assets to deposits ratio), efficiency (asset utilisation = total revenue/ total assets) and profitability (ROA) was found to be a critical determinant of such financial performance.

1.1.3 Commercial Banks in Kenya

A report by the Central Bank of Kenya (2022) stated that there are currently 38 licensed commercial banks in Kenya which represents a reduction from 43 seven years ago, and a decrease in the ratio of commercial bank coverage per population of 10 million from 9 times to 7 times. According to data from the Central Bank of Kenya, these commercial banks comprised 20 locally owned, 16 foreign-owned and 2 public institutions. The

commercial banks are categorised as either large, medium or small based on customer deposits, number accounts, net assets, capital and reserves, and number of loan accounts. The banks reported a steady and robust 19.5 percent total capital adequacy ratio as of December 2021 which compared favourably with the minimum capital adequacy ratio of 14.5 percent; the liquidity was also way above the 20 percent minimum threshold at an average of 56.2 percent; there was a growth in total net assets by 11.4 percent; and increment in customer deposits by 11 percent in the same period (CBK, 2021).

There are a number of specific measures of operational risk mitigation in Kenya's banking sector including; application of restrictive covenants; the existence of independent operational risk unit within the bank; the likelihood of customers' frauds and forgeries; and the presence of the moral hazard problem (Kuria, 2016). There was improved performance in the banking industry during 2021 with a faster growth in deposits (these grew by 10.6%) relative to the 9.3% growth in net loans and advances; the banking system's total liabilities grew by 11.5% from KES. 4.6 trillion in 2020 to KES. 5.1 trillion in 2021(Kenya Bankers Association, 2021).

1.2 Research Problem

Operational risk is a concern to players in the Kenyan banking sector, with commercial banks losing an estimated Kshs. 13 billion annually to fraudsters in the form of identity theft and loan stacking according to a study conducted by TransUnion digital solution (Anyanzwa, 2021). In addition, the study posited that the country's financial services sector experienced a large spike in fraud cases in proportion to the total suspected fraud cases by 150.72% during the first quarter of 2021. Rezapour *et al.* (2018) found that operational risk strategy when properly implemented can lead to the enhancement of organisational

performance, however, they are extremely involving in terms of the level of coordination required at all organisational levels and heighten the firm's dependence on the optimal efforts of other partners including suppliers and customers.

Abuya (2016) affirmed that in an ideal scenario, commercial banks would be able to effectively integrate operational risk mitigation strategies that ensure enhanced stability of operations during turbulent times while catering to the needs of all external and internal stakeholders, thus meeting the need for improved performance. Liu and Huang (2022) added that in order to honour their sustainability commitments, some commercial banks have had to adopt sustainable financing products.

Whilst operational risk strategy is a critical requirement for commercial banks during these uncertain times, it is made even harder when the attainment of good performance is also sought by these organisations. This is because sustainable banking practices require compromises to be made by toning down on the profit maximisation objective in order to address environmental, social and economic concerns of others outside the organisation. This study, therefore, sought to establish the linkages between the identified operational risk strategy and the performance of commercial banks. The question is, therefore, how influential are operational risk strategy on the performance of commercial banks in Kenya?

1.3 Research Objectives

The objective of this study was to determine the influence of operational risk strategy on the performance of commercial banks in Kenya.

1.4 Value of the Study

The paucity of local research on the correlation between operational risk strategy and the performance banks in Kenya has made this study more critical in terms of contributing to the existing body of knowledge. Scholars will benefit from insights drawn from the study to further advance knowledge the operational risk strategy and their effect on performance.

The Government of Kenya through the CBK will gain through insights advanced from the study. The study will aid the regulator in enhancing operational risk strategy while carrying out its role as regulator for commercial banks in Kenya.

The risk management teams in the various commercial banks will gain through the appreciation of developments in operational risk strategy that will emanate from this study. Risk Management consultants will also benefit from the study in offering sound advice on operational risk strategy for performance of organisations.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter will scrutinise applicable literature associated with research objective. The key aspects of literature review will include the theoretical foundation whereby the financial intermediation theory and contingency theory will be discussed, Empirical Studies between Operational Risk Strategy and performance shall be explored, and a summary of research gaps and conceptual framework discussed.

2.2 Theoretical Foundation

Grant and Osanloo (2016) stated that a theoretical foundation is an established arrangement that guides a study based on an official theory whose development is associated with a recognised articulation of specific events and relationships. Rocco and Plakhotnik (2009) contributed by stating a theoretical foundation seeks to illustrate the significance of a study by conducting an assessment of the underlying terms, models, theories and concepts found in the empirical literature in a particular subject. The following section will cover two theories that are linked to the independent variables so as to build a case of how important the study is.

2.2.1 Financial Intermediation Theory

This theory is based on Gurley and Shaw (1960) who posited that owing to the problem of information asymmetry as well as the associated concerns of moral hazard and adverse selection, financial intermediaries are forced to incur high costs verification and auditing

before issuing credit instruments to applicants. These costs represent operational risks to the financial intermediaries. Allen and Santomero (1997) posited that financial intermediation theory is founded on the notion that resource allocation is conducted in perfect and complete markets where the only sources of friction are transaction costs and information asymmetry. Consequently, the possibility of cost sharing makes financial markets preferable to conducting transactions through individuals.

Leland and Pyle (1977) added that the financial intermediation theory enables a better understanding of how intermediaries demonstrate their superior information by investing their wealth in assets that they have superior knowledge about. Diamond (1984) argued that intermediaries are able to overcome constraints posed by information asymmetry by acting as delegated monitors who are able to borrow money from small depositors using deposits that are not monitored to provide credit for borrowers who they are able to monitor. Most notable criticism of the current state of this theory is that it does not recognize the risk management role of leaders in the banking relationship (Allen and Santomero, 1997). Intermediation theory also fails to explain the existence of financial intermediaries, what sustains them and their contribution to economic interests of individuals (Yeboah, 2020).

The theory provides a foundation for explaining the correlation between risk mitigation by financial institutions and performance since it discusses the interaction of transactional costs and informational asymmetry which necessitate risk mitigation. The study sought to explain the various aspects of operational risk strategy which stem from the exploitation of superior information by financial institutions so as to enhance their performance and in turn contribute to this theory.

2.2.2 Contingency Theory

Contingency Theory as advanced by Fiedler (1964), is a strategic management theory that holds that individuals should recognise various situations and their impacts before making decisions so as to make the most optimal decisions which enables them to make provisions for operational risks. Mikes and Kaplan (2014) expanded the contingency theory to include three major classifications of contingent variables, risk types, firm variables, and industry variables. Accordingly, the main types of risks are liquidity, operational and credit; however, whilst operational and liquidity risks are more strategic, the management of liquidity risks is dependent upon external factors, thus only operational risks can be controlled entirely by the management of the organisation. Additionally, Mikes and Kaplan (2014) affirmed that Islamic banks which are more conservative than conventional banks engage in restrictive contracts that lower their risk exposure; and the main firm-specific contingency variables that impact on the banks' risk management are inadequacy of risk management knowhow and limited use of technology.

Galbraith, 1973, as cited by Schoonhoven, (1983) explained that the contingency theory makes two main assumptions: that there is no best way of organising activities in a firm; and no single way of organising is more effective than the other under all circumstances. Galbraith (1973) also critiqued the Contingency theory by stating that: it lacked clarity owing to the ambiguity of its theoretical statements; the theoretical statements are also unable to offer any clues regarding the particular expected interaction between variables. The study sought to establish the interaction between operational risk strategy employed by commercial banks and their effect on their performance.

2.3 Empirical Studies between Operational Risk Strategy and Performance

2.3.1 Operational Risk Acceptance and Performance

Rampini *et al.* (2020) determined that the institutions that had a below-median-weighted average house price change from the year 2007 first quarter to the year 2008 fourth quarter identified higher operational credit risk on this basis and, therefore, sought to invest more in hedging than those that had above-median-weighted average house price change in the same period.

Karoney (2022), found a statistically significant relationship between risk management strategies and the performance of commercial banks in Kenya. Additionally, it was established that one of the most effective strategies employed was the communication of identified operational risks to decision makers in the organisations so as to facilitate appropriate mitigation actions. Shi and Yu (2021) found that the primary causes for poor technology efficiency in the banks' risk management between 2011 and 2019 were low pure technology efficiency and low scale efficiency. Thus, it was further determined that the banks applied pure technology efficiency and scale efficiency as criteria for accepting operational risks. Lastly, 73.6% of those participated agreed while the remaining 26.4% strongly agreed that risk acceptance has reduced the number of disputes/claims emanating from identified risks. This affirmed the findings of Wabomba (2015).

2.3.2 Operational Risk Avoidance and Performance

Njuguna, *et al.* (2017) posited that MFIs had integrated applicable rules and guidelines to ensure effective operational risk management such as the use of operational manuals. Additionally, as part of the operational risk avoidance strategies, most of the MFIs had

ensured the compliance with prudential regulations on risk management. Asyaeva *et al.* (2016) revealed that in order for effective operational risk avoidance, Russian financial institutions had employed the use of statistical rating agencies as third parties. This ensured that there was no underestimation of the level of credit risk exposure.

Gana *et al.* (2019) determined that the majority of banks have a basic knowledge of security risks posed by various banking activities including ATM card risk exposure, online banking transactions, and use of free access points. Whilst this is commendable, given the advanced form of operational risk events that have become increasingly apparent in the banking industry, more needs to be done including conducting a more thorough risk vulnerability assessment through the use of risk assessment consultants who have international experience.

2.3.3 Operational Risk Transfer and Performance

Cvjetanovic (2014) found that owing to human or moral deficiencies of loan originators, opportunistic consumer borrowers and credit rating agencies were able to advantage by accessing loans that they were not qualified for with collaterals that were grossly overvalued which led to the Dodd-Frank reform. Thanks to this reform such behaviour become heavily restricted and the rights of stakeholders, particularly bank depositors have now been adequately protected from such operational risk transfer.

Avino *et al.* (2019) conducted a study that affirmed the existence of a positive and significant connection between the changes made to CDS spreads and an increase in the probability of bank failure. The CDS spreads were found to effective operational risk transfer instruments owing to the fact they include information related to the financial

condition of a bank that is not available using equity market indicators and accounting metrics.

2.3.4 Operational Risk Monitoring and Performance

Mugwe (2018) found that audit committees had a profound impact on the performance of commercial banks in Kenya. More specifically, it was determined that independent audit committees were able to provide critical unbiased feedback on the risk management strategies employed by the management by monitoring their effectiveness. Rehman, Muhammad, Sarwar and Raz (2019) established that the most critical credit management strategies were corporate governance mechanisms, followed by diversification, hedging and capital adequacy.

Tamakloe, Boateng, Mensah and Maposa (2023) found that out of four types of risks examined, only operational risk was found to have a significant influence on banks' performance. This determination was made possible through the use of various analytical techniques including cross-sectional analysis, trend analysis, ratio analysis, and regression analysis.

2.4 Summary of Research Gaps

The empirical review revealed a number of areas of agreement. Firstly, there were a number of studies that utilised descriptive research designs including: Karoney (2022); Njuguna *et al.* (2017); Mugwe (2018); and Sile *et al.* (2019). Secondly, a number of the studies focused on operational risk mitigation as the independent variable including: Karoney (2022); Asaeva *et al.* (2016); and Rehman *et al.* (2019). Thirdly, a number of studies adopted structured questionnaires as the research instruments including: Karoney (2022); Gana *et*

al. (2019); Mugwe (2018); Rehman *et al.* (2019); and Abdi and Kavale (2016). Fourthly, several studies adopted secondary data collection using financial annual statements including: Gonzalez *et al.* (2015); Avino *et al.* (2019) and Tamakloe *et al.* (2023). The literature review also revealed a number of areas of disagreement. Firstly, few studies scrutinized the relationship between operational risk strategy and performance. For example: Karoney (2022) Saez-Fernandeza *et al.* (2021) studied firm performance; while Gana *et al*. (2019) studied management. Many of the studies on operational risk focused on operational risk management rather than operational risk strategy.

There are contextual, methodological and conceptual knowledge gaps identified in the literature review. Firstly, there were contextual knowledge gaps where a number of studies focused on different contexts than the Kenyan commercial banking sector such as Rampini *et al.* (2020); Shi and Yu (2021); Asyaeva *et al.* (2021); Gana *et al.* (2019); Cvjetanovic (2014); Avino *et al.* (2019); and Tamakloe *et al.* (2023). Secondly, there were methodological gaps regarding aspects such as the research design in various articles including: Rampini *et al.* (2020); Shi and Yu (2021); Njuguna *et al.* (2017); Asyaeva *et al.* (2016); Gana *et al.* (2019); Cvjetanovic (2014); Rehman *et al*. (2019) all of which did not apply descriptive research design. Thirdly, there were also conceptual gaps that were identified where some articles were focused on aspects of risk management that were different from risk mitigation including: Rampini *et al*. (2020); Shi and Yu (2021); Njuguna *et al.* (2017); and Mugwe (2018).

2.5 Conceptual Framework

The conceptual framework for the study is shown in Figure 1.

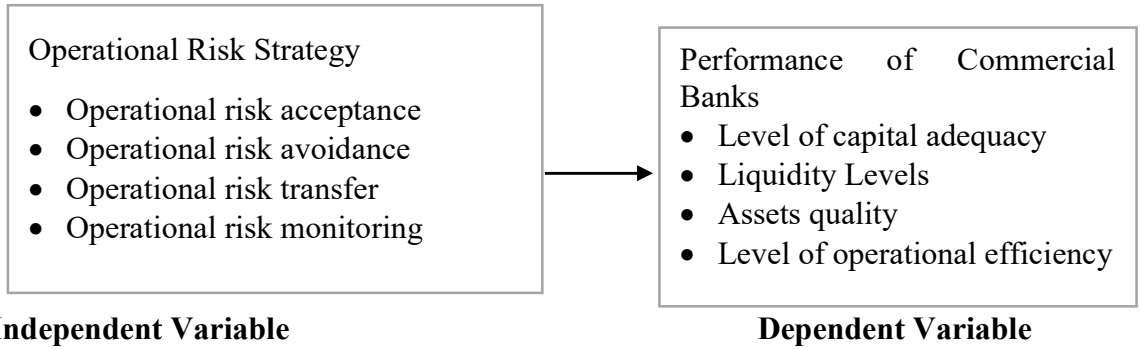

Figure 2. 1: Conceptual Model

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

The various facets of research methodology applied in this study are explained within the chapter. These include; the research design which details the framework of the research method used, target population which describes the groups of individuals that the researcher conducted research in and drew conclusions from. The chapter also look at the data collection mechanisms and techniques utilized and analysis and presentation tools.

3.2 Research Design

The study applied descriptive research as it was seeking to explain the traits of the study participants. The objective of this study was to determine the influence of operational risk strategy on the performance of commercial banks in Kenya.

A descriptive study as indicated by Cooper and Schindler (2014), may be simple or complex and could be applied in multiple contexts. The same standards would however be expected of any researcher seeking to employ this method in terms of skills, design and execution. Descriptive studies are prone to the researcher's biases. They are also time consuming as they require large amounts of data collection and analysis which can also be resource consuming. A representative sample was used hence reducing the time taken to gather data. The application of valid and reliable data collection methods shall mitigate the demerit of bias.

3.3 Target Population

A target population as described by Cooper and Schindler (2014), comprises of those individuals, proceedings or chronicles where the desired information can be obtained from and can facilitate responses to the research question. The study applied census since it was collecting data from all the commercial banks which formed the sampling frame.

The target population of the study was 38 commercial banks in Kenya from which 38 senior managers were interviewed. The selection of the participants was founded on the basis that they are involved in formulating and implementing the operational risk strategy adopted by the banks they represent. The 38 commercial banks will represent the study's unit of analysis.

Census investigations have the advantage of providing more accurate data since all the elements in a population of study are considered. This method however has the disadvantage of high costs which in this case will be mitigated by interviewing only one respondent from each of the 38 commercial banks. The use of google forms to administer the questionnaire also minimised the costs.

3.4 Data Collection Instruments and Techniques

Primary data for the study was collected using questionnaires which enabled the researcher to include more extensive enquiries. It was also convenient in gathering information from respondents who were busy and not easily accessible.

The study used a five-point Likert scale; whereby structured questions were used to collect quantitative data. The researcher employed Google Forms in administering the questionnaire which was shared with the 38 respondents via email. According to Cooper

and Schindler (2014), the Likert scale is popular for its ease to construct, provides for a larger volume of data and it is reliable as compared to other scales.

The first section of the questionnaire had questions relating to the participants, that is, gender, age, education and work experience. This enabled the determination of the participants' requisite knowledge on the subject. The section further included information on the size and ownership of commercial banks whose performance will be the focus of the study. Section two and three of the questionnaire had investigative questions relating to the influence of operational risk strategy on the performance of commercial banks. The questionnaire combined structured and un-structured target questions.

The responses were coded by establishing patterns in the responses then grouping the responses in accordance with the discernible patterns then establishing a trend in terms of frequency of responses and presenting the findings in a table accordingly. Thematic analysis was used to analyse the qualitative data collected. This was done by identifying the common topics, ideas and pattern of responses of the open-ended questions.

3.5 Data Analysis and Presentation

This study used SPSS (version 28) to conduct descriptive data analysis described using measures of central tendency, standard deviation, and Inferential statistics described via Pearson Correlation coefficients and regression analysis. A combination of graphs and tables was utilized for the result presentation.

The following regression model was used in determining the relationship of the variables;

$$Y = \beta_0 + \beta_1 X_1 + \varepsilon$$

Where; Y = Performance of Commercial Banks; X_1 = Operational Risk strategy ε= the error term; and β_0 = the constant term

It should be noted that operational risk acceptance, avoidance, transfer and monitoring as components of the independent variable, will be treated as indicators of operational risk strategy. After the regression modelling, inferences were made regarding the relationships between the variables which was interpreted in light of the study topic and objective.

CHAPTER FOUR

PRESENTATION AND DISCUSSION OF FINDINGS

4.1 Introduction

This chapter will cover the presentation and discussion of the research findings. This will include the profile of the respondents, descriptive statistics and inferential statistics. The demographic information will feature the breakdown of the respondents in terms of the gender, length of stay abroad, value of cash respondents, age, and purpose of remittance. The descriptive statistics will focus on the frequency tables of the responses to the questions posed through the questionnaires. The inferential statistics will capture information pertaining to the Pearson Correlation analysis and multiple regression analysis. The chapter will then wind off with the discussion of the findings.

4.2 Profile of Respondents

4.2.1 Gender of the Respondents

The first classification of the respondents was in terms of their gender. The findings of this classification, which are captured in Figure 4,1, indicate that: out of 38 respondents, 20 were male and 18 were female, representing 53% and 47%, respectively. This is a reflection of the fact that there is a fairly good gender diversity in the commercial banks in Kenya which contradicted Akinyi (2014) who found that owing to institutional barriers, women's carrier progression has been hampered in the banking sector in Kenya.

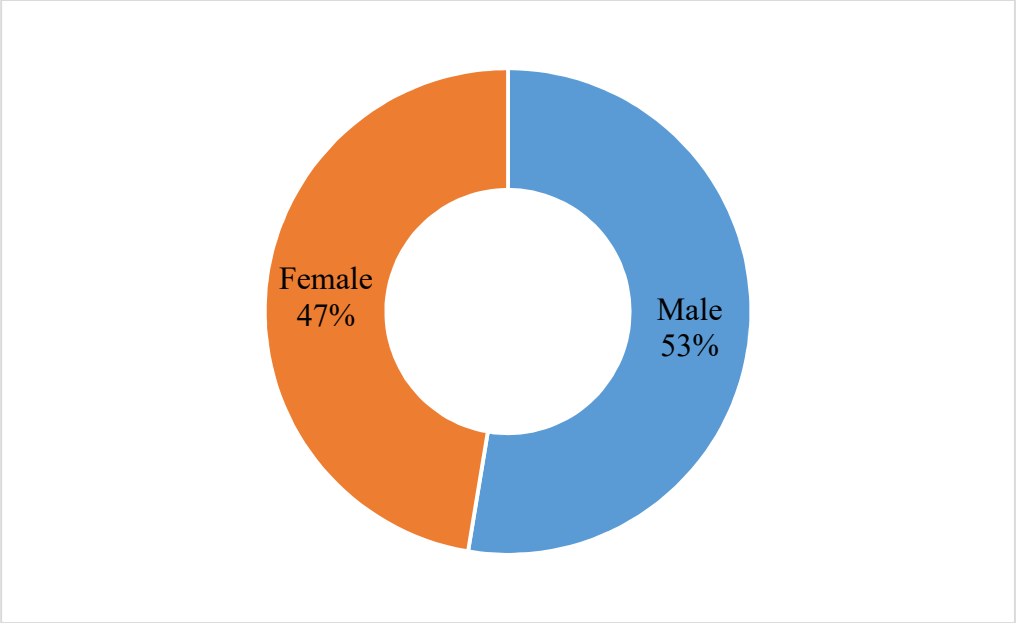

Figure 4. 1: Gender of the Respondents

4.2.2 Cadre of Employment

The second classification of the respondents was in accordance with their cadre of employment. The findings, which are presented in Table 4.1, show that all the participants were part of management cadre of employees at the commercial banks. This demonstrated that the banks had ensured the career development of the staff to senior management positions which affirmed the findings of Kirubi (2014).

Table 4. 1: Cadre of Employment

Kindly indicate your cadre of employment					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Management	38	100.0	100.0	100.0

4.2.3 Age of Respondents

The third classification of the respondents was in terms of their age. The results shown in Figure 4.2, indicated 37 of the 38 respondents were between 31 and 40 years, while one was between 41 and 50 years, representing 97.4% and 2.6%, respectively. This demonstrated that all the managers in commercial banks were relatively mature in age. This was consistent with Sang (2016) who determined that thanks for effective diversity management practices, many commercial banks in Kenya had ensured the right balance of diversity in terms of age, gender, and experience.

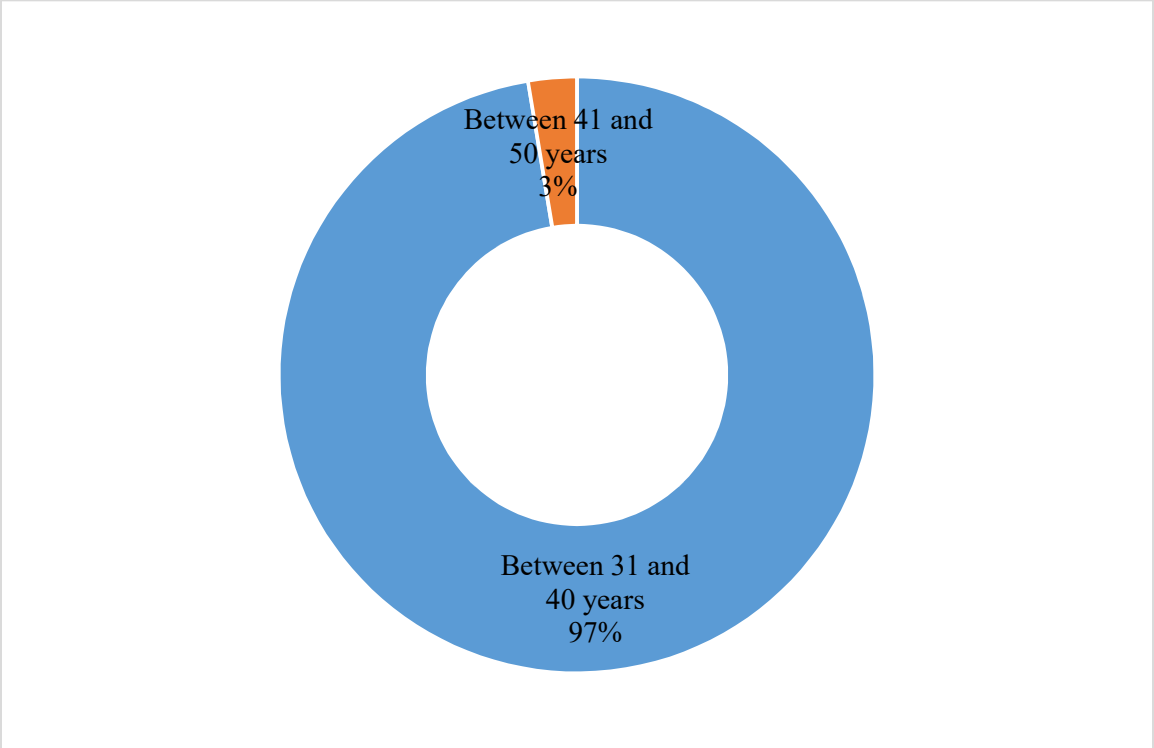

Figure 4. 2: Age of Respondents

4.2.4 Highest Level of Education

Figure 4.3 illustrates the findings of the classification of the respondents in terms of their highest level of education. According to the results, 31 had attained undergraduate degrees

while 7 had attained postgraduate degree representing, 81.6% and 18.4%. this is an indicator that all the respondents were highly qualified which affirmed Muthee and Genga (2019) who found that commercial banks in Kenya had conducted training programmes, training policies, orientation and mentorship and encouraged their employees to engage in staff development initiatives such as attending university courses to boost their competencies.

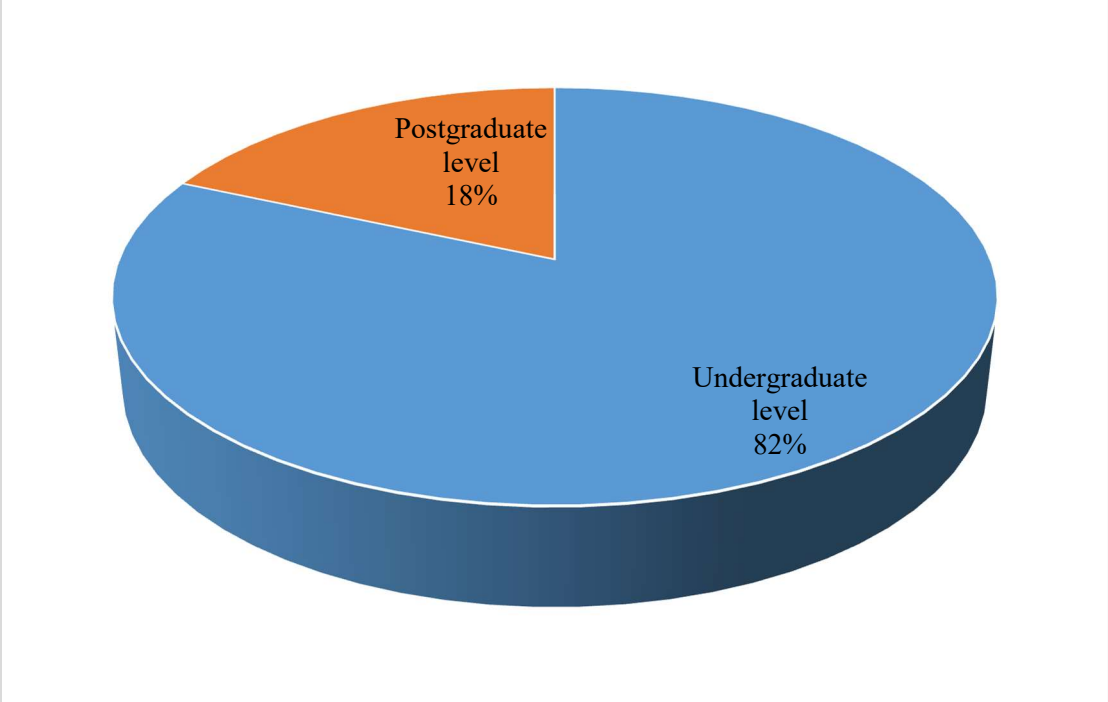

Figure 4. 3: Highest Level of Education of the Respondents

4.2.5 Ownership of the Commercial Bank

Finally, participants were distributed in terms of the ownership of the commercial banks that they worked for. The results, which are shown in Figure 4.4, indicate that out of 38 commercial banks, 19 were local private banks, 2 were local public banks, and 17 were foreign owned institutions, representing, 50%, 5% and 45%, respectively.

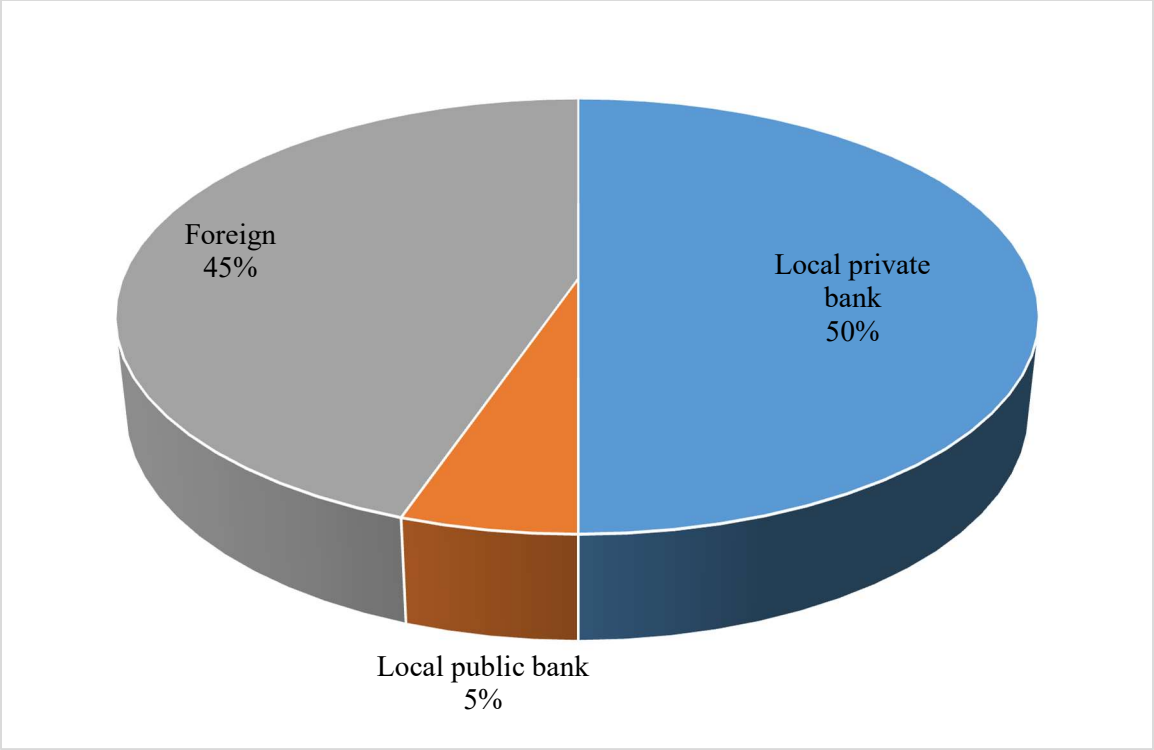

Figure 4. 4: Ownership of the Commercial Bank

4.3 Findings on Operational Risk Acceptance

The findings on operational risk acceptance are captured in Table 4.2. According to the findings, 63.2% of those who participated agreed while 36.8% strongly agreed that financial constraints are a critical barrier to effective risk management and it influences the distribution of risk exposures. This indicated that all of those who participated affirmed the statement which corroborated Rampini *et al.* (2020). Additionally, 89.5% of those who participated agreed, while 10.5% strongly agreed the bank had employed communication of identified operational risks to decision makers in the organization so as to facilitate appropriate mitigation actions. The strong endorsement confirmed the findings of Karoney (2022).

Further, the findings showed that 31.6% of those who participated were neutral, 39.5% agreed and 28.9% strongly agreed that the bank has applied pure technology efficiency and scale efficiency as criteria for accepting operational risks. This reflected that the majority were in agreement with it which was aligned with Shi and Yu (2021). The findings also showed that 52.6% of those who participated agreed while 47.4% strongly agreed the bank has incorporated risk acceptance in all agreements/contracts with customers. This affirmed the results of

Table 4. 2: Findings on Operational Risk Acceptance

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Financial constraints are a critical barrier to effective risk management and it influences the distribution of risk exposures.	0.0%	0.0%	0.0%	63.2%	36.8%
The bank has employed communication of identified operational risks to decision makers in the organizations so as to facilitate appropriate mitigation actions.	0.0%	0.0%	0.0%	89.5%	10.5%
The bank has applied pure technology efficiency and scale efficiency as criteria for accepting operational risks.	0.0%	0.0%	31.6%	39.5%	28.9%
The bank has incorporated risk acceptance in all agreements/contracts with customers	0.0%	0.0%	0.0%	52.6%	47.4%
Risk acceptance has reduced the number of disputes/claims emanating from identified risks	0.0%	0.0%	0.0%	73.6%	26.7%

4.4 Findings on Operational Risk Avoidance

The findings on operational risk avoidance are captured in Table 4.3. The outcomes indicated 50% of those who participated agreed, while the remaining 50% strongly agreed that the bank had ensured effective internal control systems for enhancing the detection of fraud and other critical operational risks. This established that all the participants were in agreement and the statement which was consistent with Njuguna, *et al.* (2017). Additionally, 21.1% of those who participated were neutral, 26.3% agreed while 52.6% strongly agreed that the bank has employed the use of statistical rating agencies as third parties which has ensured that there was no underestimation of the level of credit risk exposure. Thus, most of those that participated were in agreement with the statement which confirmed the findings of Asyaeva *et al.* (2016).

Further, all the participants strongly agreed that the bank conducts thorough risk vulnerability assessment. This was aligned with the findings of Gana *et al.* (2019). The findings also showed that 44.7% of those who participated agreed while the remaining 55.3% strongly agreed that the bank has ensured compliance on prudential regulation on risk management and has active insurance on its assets and liabilities. This is consistent with the findings of Behn *et al.* (2016). Lastly, 21.1% of those that participated were neutral, 52.6% agreed, and 26.3% strongly agreed that the bank has prevailing strategic risk management and recovery plans in all its units and has appointed risk management team. This corroborated Masenene (2015).

Table 4. 3: Findings on Operational Risk Avoidance

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
The bank has ensured effective internal control systems for enhancing the detection of fraud and other critical operational risks.	0.0%	0.0%	0.0%	50.0%	50.0%
The bank has employed the use of statistical rating agencies as third parties which has ensured that there was no underestimation of the level of credit risk exposure.	0.0%	0.0%	21.1%	26.3%	52.6%
The bank conducts thorough risk vulnerability assessment.	0.0%	0.0%	0.0%	0.0%	100.0%
The bank has ensured compliance on prudential regulation on risk management and has active insurance on its assets and liabilities	0.0%	0.0%	0.0%	44.7%	55.3%
The bank has prevailing strategic risk management and recovery plans in all its units and has appointed risk management team	0.0%	0.0%	21.1%	52.6%	26.3%

4.5 Findings on Operational Risk Transfer

The findings on operational risk transfer as presented in Table 4.4 indicate that 31.6% were neutral, 52.6% agreed and 15.8% strongly agreed that opportunistic risk transfer behaviours by unscrupulous individuals have been restricted by reforms in bank policy. This affirmed the findings of Cvjetanovic (2014). Additionally, 68.4% of those who participated agreed while 31.6% strongly agreed that the bank has been benchmarking against industrial leaders in other countries to learn how to effective integrate financial derivatives as tools of risk management. This affirmed the findings of Avino *et al.* (2019).

The findings also showed that 84.2% agreed while 15.8% strongly agreed that CDS spreads are effective operational risk transfer instruments. This was aligned with the findings of Bavoso (2020). Further 21.1% of those who participated were neutral, 2.6% agreed while 76.3% strongly agreed that the bank ensures all its contracts have indemnification clause to avoid damages. This corroborated Akun (2016). Finally, 28.9% were neutral, 39.5% agreed while 31.6% strongly agreed that the bank has outsourced some of its services to third parties as a way of operational risk transfer. This is consistent with Augustin *et al.* (2016).

Table 4. 4: Findings on Operational Risk Transfer

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Opportunistic risk transfer behaviours by unscrupulous individuals have been restricted by reforms in bank policy.	0.0%	0.0%	31.6%	52.6%	15.8%
The bank has been benchmarking against industrial leaders in other countries to learn how to effective integrate financial derivatives as tools of risk management.	0.0%	0.0%	0.0%	68.4%	31.6%
CDS spreads are effective operational risk transfer instruments.	0.0%	0.0%	0.0%	84.2%	15.8%
The bank ensures all its contracts have indemnification clause to avoid damages	0.0%	0.0%	21.1%	2.6%	76.3%
The bank has outsourced some of its services to third parties as a way of operational risk transfer	0.0%	0.0%	28.9%	39.5%	31.6%

4.6 Findings on Operational Risk Monitoring

The findings on operational risk monitoring are presented in Table 4.5. According to the findings 71.1% of those who participated agreed, while 28.9% strongly agreed bank carries out frequent audit committee meetings. This was aligned with Mugwe (2018). Additionally, 89.5% of those that participated agreed while the remaining 10.5% strongly agreed that design validation is used in verification of risk controls within the corporate governance mechanisms. This was consistent with Masli (2018).

The findings also showed that 28.9% of those that participated disagreed, 42.1% were neutral, 2.6% agreed while 26.3% strongly agreed that the trend analysis is carried out on a monthly basis in order to establish the current operational risk levels when compared to previous periods. This contradicted the findings of Rehman *et al.* (2019). Further, 28.9% were neutral, 50% agreed while 21.1% strongly agreed that the banks embrace strategic risk communication plans in all its business units and has put in place effective report management systems. This affirmed the findings of Chi and Li (2017). Lastly, 32.8% of those who participated agreed while the remaining 67.2% strongly agreed that employee conduct and employee error analysis are closely monitored. This provided a strong affirmation of Murianyi (2018).

Table 4. 5: Findings on Operational Risk Monitoring

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
The bank carries out frequent audit committee meetings	0.0%	0.0%	0.0%	71.1%	28.9%
The bank uses design validation as a means of verification of risk controls within the corporate governance mechanisms.	0.0%	0.0%	0.0%	89.5%	10.5%
The trend analysis is carried out on a monthly basis in order to establish the current operational risk levels when compared to previous periods.	0.0%	28.9%	42.1%	2.6%	26.3%
The banks embrace strategic risk communication plans in all its business units and has put in place effective report management systems	0.0%	0.0%	28.9%	50.0%	21.1%
Employee conduct and employee error analysis are closely monitored	0.0%	0.0%	0.0%	32.8%	67.2%

4.7 Findings on Performance

The findings on performance are shown in Table 4.6. According to the findings, 97.4% of those who participated agreed while 2.6% strongly agreed that the bank is able to maintain acceptable capital adequacy levels. This was consistent with the findings of Abba *et al.* (2013). Additionally, 68.4% of those who participated agreed while 31.6% strongly agreed that the bank's liquidity levels are acceptable. This affirmed the findings of Dahiyat *et al.* (2021).

Further, 47.4% of those who participated agreed while the remaining 52.6% strongly agreed that assets quality was acceptable. This was aligned with the findings of Sile *et al.*

(2019). The findings also showed that 89.5% agreed while the remaining 10.5% strongly agreed that there is growth in the bank's aggregate balance sheet. This echoed the findings of Alemayehu and Belete (2019).

The findings further showed that 21.1% were neutral, 31.6% agreed while the remaining 47.4% strongly agreed that operational efficiency levels were acceptable. This was consistent with the findings of Kang'ethe (2018). Finally, 68.4% of those who participated agreed while the remaining 31.6% strongly agreed that the bank's profitability and return on equity are above average. This affirmed the findings of Ndungu (2019).

Table 4. 6: Findings on Performance

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
The bank is able to maintain acceptable capital adequacy levels.	0.0%	0.0%	0.0%	97.4%	2.6%
The bank's liquidity levels are acceptable	0.0%	0.0%	0.0%	68.4%	31.6%
Assets quality as measured by the ratio of non-performing loans to gross loans is acceptable	0.0%	0.0%	0.0%	47.4%	52.6%
There is growth in the bank's aggregate balance sheet	0.0%	0.0%	0.0%	89.5%	10.5%
Operational efficiency levels are acceptable	0.0%	0.0%	21.1%	31.6%	47.4%
The bank's profitability and return on equity are above average	0.0%	0.0%	0.0%	68.4%	31.6%

4.8 Findings on the Inferential Statistics

4.8.1 Findings on Pearson Correlation Coefficient Analysis

Pearson correlation, which is denoted by *r*, refers to a determination the existence of linear relationship, through the use of a p-value, between two variables (Schober, Boer & Schwarte, 2018). Accordingly, a linear relationship is deemed to exist if the value of *r* is found to be between 0 and 1, and values between 0 and 0.5 are perceived as weak positive correlations while those above 0.6 are perceived to be strong positive correlations. Negative correlations exist when the value of *r* is between -1 and 0. Further, the strength of the correlations is measured by the probability levels, p-values, which varies in accordance with the confidence levels such that 95% confidence levels require p-values of 0.05 or less to demonstrate statistical significance (Obilor & Amadi, 2018). The Pearson correlation coefficients pertaining to the study are presented in Table 4.7.

Table 4. 7: Pearson Correlation Coefficients

Correlations

		ORAC	ORAV	ORT	ORM	Perf
ORAC	Pearson Correlation	1				
	Sig. (2-tailed)					
ORAV	Pearson Correlation	.725**	1			
	Sig. (2-tailed)	.000				
ORT	Pearson Correlation	.725**	.860**	1		
	Sig. (2-tailed)	.000	0.000			
ORM	Pearson Correlation	.133	.581**	.581**	1	
	Sig. (2-tailed)	.427	.000	.000		
Perf	Pearson Correlation	-.149	.574**	.574**	.676**	1
	Sig. (2-tailed)	.374	.000	.000	.000	

**. Correlation is significant at the 0.01 level (2-tailed).

Key: ORAC – Operational Risk Acceptance; ORAV – Operational Risk Avoidance; ORT – Operational Risk Transfer; ORM – Operational Risk Monitoring; Perf - Performance

Accordingly, the predictor variables of Operational Risk Avoidance, Operational Risk Transfer, and Operational Risk Monitoring all had positive correlations with the response variable of r = 0.574, r = 0.574, and r = 0.676, respectively. However, Operational Risk Acceptance had a negative correlation of r = -0.149 with the response variable. Further, the p-values for three of the predictor variables, Operational Risk Avoidance, Operational Risk Transfer, and Operational Risk Monitoring were less than 0.05 indicating that there is a relationship that is statistically significant with the response variable. However, the p-value for Operational Risk Acceptance exceeded 0.05 indicating that there was no statistically significant relationship with the response variable.

4.8.2 Findings on Multiple Regression Analysis

Moore *et al.* (2006) posit that multiple regression refers to a statistical technique applied in conducting an analysis of the prevailing relationship between a number of independent variables and one dependent variable so as to facilitate the prediction of the value of the dependent variable. Nugus (2009) added that multiple regression analysis utilises historical data and assumes that past relationships between variables will continue to exist in the present and future. The multiple regression model is summarised as shown in Table 4.8. As per the results, the value of R^2 is 0.425 indicating that the model can be used for predicting the variation in the value of the dependent variable 42.5% of the time by comparing with variations in the values of the independent variables when considered as a combined unit (Filho, Silva & Rocha, 2011).

Table 4. 8: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.652[a]	.425	.355	.24979

a. Predictors: (Constant), Operational Risk Monitoring, Operational Risk Avoidance, Operational Risk Acceptance, Operational Risk Transfer

The second component of the multiple regression analysis was the Analysis of Variance (ANOVA). Norton and Strube (1986) explained that the ANOVA is the determination of the existence of a significant difference between the group means for a particular dependent variable in the aftermath of the exposure to specific combinations of single levels from two or more independent variables. The results of the ANOVA F-test score for the study are presented in Table 4.9. The findings showed that the calculated value F_{cal} at 5% level of significance is 6.090, which is above the F critical value (F_{crit}) of 2.45 reflecting that the relationship between all the predictor variables and the response variable was significant. The level of significance was 0.001 which is below 0.05 indicating the evidence of a statistical relationship between the predictors and the response variable.

Table 4. 9: Analysis of Variance

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.520	4	.380	6.090	.001[b]
	Residual	2.059	33	.062		
	Total	3.579	37			

a. Dependent Variable: Performance

b. Predictors: (Constant), Operational Risk Monitoring, Operational Risk Avoidance, Operational Risk Acceptance, Operational Risk Transfer

The final component during multiple regression analysis was the beta coefficients. Peterson and Brown (2005) cite that beta coefficients refer to determinants of the degree of change in a response variable as a result of a change by one unit in a predicator variable. Thus, the higher the value of the coefficient, the stronger the degree of change in the response variable that results from a unit change in the predictor variable. The study's beta coefficients are illustrated in Table 4.10. Accordingly, three of the predictor variables, Operational Risk Avoidance, Operational Risk Transfer, and Operational Risk Monitoring had positive beta coefficients of 0.035, 0.087, and 0.317, respectively. However, Operational Risk Acceptance had a negative beta coefficient of -0.016. This information can be substituted into the analytical model below:

"$Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \varepsilon$"

$= 2.697 - 0.016X_1 + 0.035X_2 + 0.087X_3 + 0.317X_4 + 0.518$

The corresponding p-values for three of the predictor variables, Operational Risk Avoidance, Operational Risk Transfer, and Operational Risk Monitoring were all below 0.05 indicating evidence of a statistically substantial link with the response variable. However, the p-value for Operational Risk Acceptance was above 0.05 meaning that it didn't have a statistically substantial link with the response variable. By removing

Operational Risk Acceptance from the equation owing to the lack of statistical significance, we now have the following model:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon = 2.697 + 0.035X_1 + 0.087X_2 + 0.317X_3 + 0.518$$

Table 4. 10: Beta Coefficients

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	2.697	.518		5.203	.000
	Operational Risk Acceptance	-.016	.070	-.031	-.233	.817
	Operational Risk Avoidance	.035	.041	.133	.851	.001
	Operational Risk Transfer	.087	.102	.139	.855	.003
	Operational Risk Monitoring	.312	.076	.590	4.136	.000

a. Dependent Variable: Performance

4.9 Discussion of the Findings

The findings on demographic information of respondents led to a number of observations. Firstly, there was a fairly good gender distribution and an indicator that gender diversity of employees in Kenyan commercial banks was generally good. Secondly, all the respondents were of the management cadre. Thirdly, the respondents were all above the age of 30 indicating that they were fairly mature and experienced. Fourthly, that they were all university graduates. Lastly, the majority of the banks were local and private in terms of their ownership.

Several observations can be derived from analysing the statistics of the findings on Operational Risk Acceptance. Firstly, financial constraints are a critical barrier to effective risk management and it influences the distribution of risk exposures. Secondly, banks have employed communication of identified operational risks to decision makers in the organizations so as to facilitate appropriate mitigation actions. Thirdly, banks have applied pure technology efficiency and scale efficiency as criteria for accepting operational risks. Fourthly, banks have incorporated risk acceptance in all agreements/contracts with customers. Lastly, risk acceptance has reduced the number of disputes/claims emanating from identified risks. The only aspect of the variable that did not received complete agreement amongst the respondents was the assertion the bank has applied pure technology efficiency and scale efficiency as criteria for accepting operational risks where approximately one third of the respondent were neutral towards the statement.

A number of observations can be made regarding the findings on operational risk avoidance. Firstly, banks have ensured effective internal control systems for enhancing the detection of fraud and other critical operational risks. Secondly, banks have employed the use of statistical rating agencies as third parties which has ensured that there was no underestimation of the level of credit risk exposure. Thirdly, banks conduct thorough risk vulnerability assessment. Fourthly, banks have ensured compliance on prudential regulation on risk management and have active insurance on its assets and liabilities. Lastly, banks have existing strategic risk management and recovery plans in all their units and have appointed risk management teams.

As far as the findings relating to Operational Risk Transfer the following observations can be made. Opportunistic risk transfer behaviours by unscrupulous individuals have been

restricted by reforms in bank policy. The banks have been benchmarking against industrial leaders in other countries to learn how to effective integrate financial derivatives as tools of risk management. CDS spreads are effective operational risk transfer instruments. The banks ensure all their contracts have indemnification clauses to avoid damages. Lastly, the banks have outsourced some of their services to third parties as a way of operational risk transfer.

The findings relating to Operational Risk Monitoring have led to a number of observations. Firstly, banks carry out frequent audit committee meetings. Secondly, banks use design validation as a means of verification of risk controls within the corporate governance mechanisms. Thirdly, the banks include strategic risk communication plans in all their business units and have put in place effective report management systems. Fourthly, employee conduct and employee error analysis are closely monitored by commercial banks in Kenya. However, trend analysis is not carried out on a monthly basis in order to establish the current operational risk levels when compared to previous periods by all the banks.

An assessment of the findings on Performance has led to a number of observations. The banks have been able to maintain acceptable capital adequacy levels. The banks' liquidity levels as well as asset quality are acceptable. There is growth in the banks' aggregate balance sheet. Operational efficiency levels are acceptable. Lastly, the banks' profitability and return on equity are above average.

The findings on the Pearson correlation analysis indicated that Operational Risk Avoidance, Operational Risk Transfer, and Operational Risk Monitoring all had positive correlations with the dependent variables; however, Operational Risk Acceptance did not. Additionally, Operational Risk Avoidance, Operational Risk Transfer, and Operational

Risk Monitoring all had statistically significant relationships with the dependent variable while Operational Risk Acceptance did not.

The findings on multiple regression analysis of the study indicated that the regression model can be used for predicting the variation in the value of the dependent variable 42.5% of the time by comparing with variations in the values of the independent variables when considered as a combined unit. Further, there is both a significant relationship as well as a statistically evident relationship between all the predictor and response variable of Performance as far as the ANOVA is concerned. Lastly, the beta coefficient analysis indicated that Operational Risk Avoidance, Operational Risk Transfer, and Operational Risk Monitoring had positive beta coefficients; while Operational Risk Acceptance had a negative beta coefficient. This is an indicator that Operational Risk Avoidance, Operational Risk Transfer and Operational Risk Monitoring are the only strategies that lead to improved performance.

CHAPTER FIVE

SUMMARY, RECOMMENDATIONS AND CONCLUSION

5.1 Introduction

In this chapter we will delve into the exploration of the study's summary, conclusions and recommendations. The summary will encompass the overview of the linkages between the research objectives and findings. Conclusions will then be made on the basis of the summarised findings. Recommendations will be made as a consequence of the conclusions. The chapter will finish off with a description of the limitations of the study and areas for further research.

5.2 Summary of Findings

The objective of the study was to determine the influence of operational risk strategy on the performance of commercial banks in Kenya. Questionnaires and interview schedules were used to collect primary data from the target population. Both descriptive and inferential statistical analyses were conducted. The latter featured correlation and multiple regression analyses. The correlation analysis indicated that Operational Risk Avoidance, Operational Risk Transfer, and Operational Risk Monitoring all had positive correlations with the dependent variables; however, Operational Risk Acceptance did not. Further, only Operational Risk Acceptance lacked a statistically discernible relationship with Performance.

The study also revealed changes in 42.5% of Performance can be explained by changes in Operational Risk Acceptance, Operational Risk Avoidance, Operational Risk Transfer and Operational Risk Monitoring. The outcomes of the ANOVA showed there is a statistically

significant connection between Operational Risk Avoidance, Operational Risk Transfer, and Operational Risk Monitoring and Performance, however Operational Risk Acceptance did not have a statistically significant relationship with Performance. Lastly, Operational Risk Avoidance, Operational Risk Transfer, and Operational Risk Monitoring had positive beta coefficients while Operational Risk Acceptance had a negative beta coefficient.

5.2.1 Summary of Findings of Operational Risk Acceptance

Financial constraints are a critical barrier to effective risk management and it influences the distribution of risk exposures. Banks have employed communication of identified operational risks to decision makers in the organizations so as to facilitate appropriate mitigation actions. Banks have applied pure technology efficiency and scale efficiency as criteria for accepting operational risks. Banks have incorporated risk acceptance in all agreements/contracts with customers. Risk acceptance has reduced the number of disputes/claims emanating from identified risks. The only aspect of the variable that did not received complete agreement amongst the respondents was the assertion the bank has applied pure technology efficiency and scale efficiency as criteria for accepting operational risks where approximately one third of the respondent were neutral towards the statement.

5.2.2 Summary of Findings of Operational Risk Avoidance

Banks have ensured effective internal control systems for enhancing the detection of fraud and other critical operational risks. Commercial banks in Kenya have employed the use of statistical rating agencies as third parties which has ensured that there was no underestimation of the level of credit risk exposure. Banks conduct thorough risk vulnerability assessment. Banks have ensured compliance on prudential regulation on risk

management and have active insurance on its assets and liabilities. Lastly, banks have existing strategic risk management and recovery plans in all their units and have appointed risk management teams.

5.2.3 Summary of Findings of Operational Risk Transfer

Opportunistic risk transfer behaviours by unscrupulous individuals have been restricted by reforms in bank policy. The banks have been benchmarking against industrial leaders in other countries to learn how to effective integrate financial derivatives as tools of risk management. CDS spreads are effective operational risk transfer instruments. The banks ensure all their contracts have indemnification clauses to avoid damages. Lastly, the banks have outsourced some of their services to third parties as a way of operational risk transfer.

5.2.4 Summary of Findings of Operational Risk Monitoring

Banks carry out frequent audit committee meetings. Banks use design validation as a means of verification of risk controls within the corporate governance mechanisms. The banks include strategic risk communication plans in all their business units and have put in place effective report management systems. Employee conduct and employee error analysis are closely monitored by commercial banks in Kenya. However, trend analysis is not carried out on a monthly basis in order to establish the current operational risk levels when compared to previous periods by all the banks.

5.2.5 Summary of Findings of Performance

The banks have maintained acceptable capital adequacy levels. The liquidity levels as well as the assets quality of the banks are acceptable. There is growth in the banks' aggregate

balance sheet. Operational efficiency levels are acceptable. Lastly, the banks' profitability and return on equity are above average.

5.3 Conclusions of the Study

5.3.1 Conclusions on Operational Risk Acceptance

All the examined aspects of Operational Risk Acceptance were endorsed by the respondents. However, the three most critical ones were: risk acceptance has reduced the number of disputes/claims emanating from identified risks; the banks have applied pure technology efficiency and scale efficiency as criteria for accepting operational risks; and financial constraints are a critical barrier to effective risk management and it influences the distribution of risk exposures.

5.3.2 Conclusions on Operational Risk Avoidance

The three most critical aspects of operational risk avoidance as a strategy were: the banks conduct thorough risk vulnerability assessment; the banks have ensured compliance on prudential regulation on risk management and have active insurance on its assets and liabilities; and the banks have employed the use of statistical rating agencies as third parties which has ensured that there was no underestimation of the level of credit risk exposure, respectively. However, a number of the banks do not have existing strategic risk management and recovery plans in all their units neither have they appointed risk management teams.

5.3.3 Conclusions on Operational Risk Transfer

All the examined aspects of operational risk transfer were well supported by the respondents. This notwithstanding, the three most important aspects of operational risk transfer as a strategy were: the banks have outsourced some of their services to third parties as a way of operational risk transfer; CDS spreads are effective operational risk transfer instruments; and the banks ensure all their contracts have indemnification clause to avoid damages, respectively.

5.3.4 Conclusions on Operational Risk Monitoring

The study participants agreed with the investigated aspects of operational risk monitoring. However, the three most important features of operational risk monitoring were: the banks carry out frequent audit committee meetings; employee conduct and employee error analysis are closely monitored; and the banks use design validation as a means of verification of risk controls within the corporate governance mechanisms, respectively.

5.3.5 Conclusions on Performance

All the examined aspects of performance were strongly endorsed by the respondents. However, the most critical aspects of performance were: assets quality is acceptable; the banks' profitability and return on equity are above average; and the bank's liquidity levels are acceptable, respectively.

5.4 Recommendations of the Study

5.4.1 Recommendations for Practitioners

There are a number of banks which have not implemented the application of technology efficiency and scale efficiency as criteria for reducing operational risks, thus this needs to be addressed by benchmarking with those institutions that have successfully integrated these components of operational efficiency. A number of the banks do not have existing strategic risk management and recovery plans in all their units neither have they appointed risk management team so more resources should be expended in the establishment of strategic risk management and recovery plans across the breadth of all the commercial banks.

5.4.2 Recommendations for Scholars/ Academia

There are a number of areas that require more attention in future research. Firstly, few studies examined the relationship between operational risk strategy and performance. This correlation needs to be examine in greater depth by considering other operational risk strategies and how they relate with performance. Many of the studies on operational risk focused on operational risk management rather than operational risk strategy. More focused research needs to be conducted by other scholars on operational risk strategies in particular rather than operational risk management in general.

5.4.3 Recommendations for Policy Makers

The CBK in tandem with the KBA should consider to coming up with means through which the smaller banks can be supported to put in place effective operational risk acceptance strategies since financial constraints have been a major hurdle for them.

5.5 Limitations of the Study

Firstly, the study was limited to only one respondent per bank. To mitigate against this, the researcher endeavoured to be as thorough as possible in examining the experiences of the participants and comparing with other studies that have been carried out elsewhere. Secondly, the study was cross-sectional thus may have lacked the depth of coverage as well as causal inferences that would have been facilitated by a longitudinal study. To mitigate against this, the researcher sought to make the questionnaire as exhaustive as possible in terms of the coverage. Additionally, the study recommends that more longitudinal studies be carried out on the topic of study.

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November 7, 2023

TO WHOM IT MAY CONCERN

INTRODUCTION LETTER: MARION THUKU

The above named is a registered Master of Business Administration Student at the Faculty of Business and Management Sciences, University of Nairobi. The student is conducting research on **"Operational Risk Strategy and Performance of Commercial Banks in Kenya."**

The purpose of this letter is to kindly request you to assist and facilitate the student with necessary data which forms an integral part of the Project.

The information and data required is needed for academic purposes only and will be treated in **Strict-Confidence**.

Your co-operation will be highly appreciated.

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JW/di

Appendix 2 – Questionnaire Design

SECTION A: BACKGROUND

1. What is your gender? ☐ Male ☐ Female

2. Kindly indicate your cadre of employment.

☐ Management

☐ Subordinate

3. Indicate your age

☐ Below 20 years

☐ Between 21 and 30 years

☐ Between 31 and 40 years

☐ Between 41 and 50 years

☐ Between 51 and 60 years

☐ More than 60 years

4. **Indicate the highest level of education you have attained.**

☐ High School Level or lower

☐ Tertiary College Level

☐ Undergraduate Level

☐ Postgraduate Level

5. Kindly indicate the ownership of the commercial bank you work for

☐ Local Private bank ☐ Local Public bank ☐ Foreign institution

SECTION B: Operational risk mitigation strategies adopted by Commercial Banks.

i) Operational Risk Acceptance

Provide a check mark (√) for the most suitable response. Strongly Disagree (SD), Disagree (D), Neutral (N), Agree (A), Strongly Agree (SA).

	Statement	**SD**	**D**	**N**	**A**	**SA**
1.	Financial constraints are a critical barrier to effective risk management and it influences the distribution of risk exposures.					
2.	The bank has employed communication of identified operational risks to decision makers in the organizations so as to facilitate appropriate mitigation actions.					
3.	The bank has applied pure technology efficiency and scale efficiency as criteria for accepting operational risks.					
4	The bank has incorporated risk acceptance in all agreements/contracts with customers					
5	Risk acceptance has reduced the number of disputes/claims emanating from identified risks					

4. Briefly describe how operational risk acceptance has improved the performance of the bank.

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5. Briefly explain two challenges that the bank has encountered in ensuring operational risk acceptance.

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ii) Operational Risk Avoidance

Provide a check mark (√) for the most suitable response. Strongly Disagree (SD), Disagree (D), Neutral (N), Agree (A), Strongly Agree (SA).

	Statement	**SD**	**D**	**N**	**A**	**SA**
1.	The bank has ensured effective internal control systems for enhancing the detection of fraud and other critical operational risks.					
2.	The bank has employed the use of statistical rating agencies as third parties which has ensured that there was no underestimation of the level of credit risk exposure.					
3.	The bank conducts thorough risk vulnerability assessment.					
4.	The bank has ensured compliance on prudential regulation on risk management and has active insurance on its assets and liabilities					
5.	The bank has existing strategic risk management and recovery plans in all its units and has appointed risk management team					

6. Briefly describe how operational risk avoidance has improved the performance of the bank.

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7. Briefly explain two challenges that the bank has encountered in ensuring improved operational risk avoidance.

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iii) Operational Risk Transfer

Provide a check mark (√) for the most suitable response. Strongly Disagree (SD), Disagree (D), Neutral (N), Agree (A), Strongly Agree (SA).

	Statement	**SD**	**D**	**N**	**A**	**SA**
1.	Opportunistic risk transfer behaviors by unscrupulous individuals have been restricted by reforms in bank policy.					
2.	The bank has been benchmarking against industrial leaders in other countries to learn how to effective integrate financial derivatives as tools of risk management.					
3.	CDS spreads are effective operational risk transfer instruments.					
4.	The bank ensures all its contracts have indemnification clause to avoid damages					
5.	The bank has outsourced some of its services to third parties as a way of operational risk transfer					

6. Briefly describe how operational risk transfer has improved the performance of the bank.

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7. Briefly explain two challenges that the bank has encountered in integrating operational risk transfer.

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iv) Operational Risk Monitoring

Provide a check mark (√) for the most suitable response. Strongly Disagree (SD), Disagree (D), Neutral (N), Agree (A), Strongly Agree (SA).

	Statement	**SD**	**D**	**N**	**A**	**SA**
1.	The bank carries out frequent audit committee meetings					
2.	The bank uses design validation as a means of verification of risk controls within the corporate governance mechanisms.					
3.	The trend analysis is carried out on a monthly basis in order to establish the current operational risk levels when compared to previous periods.					
4.	The banks include strategic risk communication plans in all its business units and has put in place effective report management systems					
5.	Employee conduct and employee error analysis are closely monitored					

6. Briefly describe how operational risk monitoring has improved the performance of bank

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7. Briefly explain two challenges that the bank has encountered in integrating operational risk monitoring.

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SECTION C: Performance of commercial banks in Kenya.

Please indicate the levels to which risk strategy in section B above have influenced Performance as measured by the indicators below (in the last 3 years)

Provide a check mark (√) for the most suitable response. Strongly Disagree (SD), Disagree (D), Neutral (N), Agree (A), Strongly Agree (SA).

	Statement	**SD**	**D**	**N**	**A**	**SA**
1.	The bank is able to maintain adequacy capital levels.					
2.	The bank's liquidity levels are acceptable					
3.	Assets quality as measured by the ratio of non-performing loans to gross loans is acceptable					
4.	There is growth in the bank's aggregate balance sheet					
5.	Operational efficiency levels are acceptable					
6.	The bank's profitability and return on equity are above average					