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Risk Management and Financial Performance of Commercial Banks Listed at the Nairobi Securities Exchange

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Abstract

Purpose: In order to reduce any negative consequences on their performance, it is essential for financial institutions to achieve a balance between risk and return. Organizations with effective risk management practices are more likely to succeed in achieving their operational business objectives. 2013 saw a review of commercial bank laws by the Central Bank of Kenya. As a result of these reviews, certain banks began to experience difficulties with their financial performance. Chase Bank and Imperial Bank, for instance, were placed under receivership in 2015 and 2016, respectively. So the question is, was bad financial management influenced by risk management? This was the impetus behind the study's primary goal, which was to ascertain how risk management and the financial success of banks listed on the NSE interacted. The study's specific goals included figuring out how operational risk management affects financial performance, as well as how liquidity risk management affects financial performance, credit risk management's impact on financial performance, and market risk management's impact on financial performance. Risk management theory, liquidity preference theory, adverse selection theory, and extreme value theory served as the study's guiding principles.

Methodology: The correlational research approach was used in this study to evaluate these difficulties. The 12 listed commercial banks provided the study with their data. A questionnaire was utilized as the tool for gathering data in this study. To analyze the data, descriptive and inferential statistics were both used. Means and standard deviation were used for descriptive statistics.

Findings: The output of the study shows that a positive association exists between operational risk management and financial performance. The findings revealed a positive relation between

liquidity risk management and financial performance. On the same note, it came out from the output that risk management and financial performance are too positively related. Finally the results showed a positive association between market risk management and financial performance.

Unique contribution to theory, practice and policy: The study offered the following suggestions. Develop and put into practice a comprehensive operational risk management system that discovers, evaluates, monitors, and controls operational risks. Commercial banks should do the same. The framework needs to match the bank's overall business plan, risk tolerance, and regulatory requirements.

Key Words: *Operational Risk Management, Liquidity Risk Management, Credit Risk Management, Market Risk Management, and Financial Performance*

Background of the Study

The global economic and financial crisis of 2008-2009 that was contributed by excessive risks appetite of financial institutions which erode the investors' confidence and trust in the ability and capability of public firms to effectively and efficiency manage public funds as noted by (Agarwal, 2011). The recent past has also witnessed unforeseen covid 19 pandemic that affected the world in 2019 and its impact are felt up to now which has led to economic slowdown. Like economic slowdown of 2008-2009, however, (Arif & Showket, 2015) asserted that, risk may be described as unforeseen change or unpredictability especially on return or risk is an inevitable consequence of being in a business (Bansal et al 1992) and (Holton, 2004). Fali et al, (2020) argued that financial risk are likelihood of a firm's going under receivership when the company used debt when cash balance is inadequate. The collapse of big companies has pressured managers of firms to provide financial information that is not only accurate but also reliable in a faster and efficient way (Chen, Miao & Shevlin, 2015). This has generated many studies on reliable predictors of financial performance other than profitability. There has, however, been little agreement on how risk management affect financial performance. Some of these factors are attributed in one way or the other to the managers' personal attributes (Francois & Kyle, 2011).

Statement of the Problem

Commercial banks are responsible for safeguarding depositors' money, and their contribution to a nation's economy cannot be emphasized. By providing loans to the general public at legally permissible interest rates, they serve as lenders of last resort. The bank's credit policy, which is closely tied to its interest rate policy, serves as the foundation for loans. One source claims that these in turn influence the degree of risk management in a certain bank. In 2013, CBK reviewed the rules governing commercial banks.As a result of these reviews, certain banks began to experience difficulties with their financial performance. Chase Bank and Imperial Bank, for instance, were placed under receivership in 2015 and 2016, respectively. This was primarily due to declining financial performance. Even though these two banks weren't listed on the NSE, they

nonetheless demonstrated a tendency that banks in general were dealing with. This study sought to explore how risk management affects the financial performance of banks because of this. The study also aimed to determine whether or not the relationship between risk management and financial performance is improved by audit committee meetings.

There are many studies in Kenya on risk management including Oruko's (2020) work on financial risk and financial success of agricultural firms. The findings explained that financial leverage risk significantly hurt agricultural listed companies' financial performance. Again,Kerubo et al. (2020) concluded that liquidity risk negatively relate with return on equity (ROE), credit risk had a negligible beneficial impact. The papers that have been evaluated make it evident that just limited research has been done on all listed commercial banks. By looking at the risk management strategies of publicly traded commercial banks, this study adds a new dimension. The association between risk management and financial results of commercial banks mentioned at the NSE, was therefore examined in this study to address the research vacuum.

Objectives of the Study

i. To evaluate the impact of operational risk management on financial performance of commercial bank listed at NSE,

ii. To find out the effect of liquidity risk management on financial performance of commercial bank listed at NSE,

iii. To establish the effect of credit risk management on financial performance of commercial bank listed at NSE

iv. To determine the effect of market risk management on financial performance of commercial bank listed at NSE

Research Hypotheses

H_{01}: Operational risk management has no statistical effect on financial performance of commercial bank listed at NSE.

H_{02}: Liquidity risk management has no statistical effect on financial performance of commercial bank listed at NSE.

H_{03}: Credit risk management has no statistical effect on financial performance of commercial bank listed at NSE.

H_{04}: Market risk management has no statistical effect on financial performance of commercial bank listed at NSE.

Literature Review

Theoretical Review

Risk Management Theory

Wenk (2005) claims that the risk identification, evaluation, and prioritization processes are all included in the risk management paradigm. In order to control the likelihood and harm caused by unfortunate Events, this will ensure that resources are wisely allocated. Financial markets, project failures, legal obligations, credit risk, accidents, natural disasters, hostile adversarial attack, or events with a nebulous or unpredictable root cause are all potential sources of risk. In order to equip businesses to handle potential future events, many risk management approaches have been developed. According to Ranong and Phuenngam (2009), effective risk management helps businesses reduce losses and improve financial performance. Additionally, by providing a clear awareness of the risks and their anticipated consequences, it aids in decision-making. If risks are not properly managed, the organization may be forced out of business, according to the researcher. Because of this, Moore (1983) says that effective risk management raises or increases the value of the shareholders.

Liquidity Preference Theory

This particular idea was created by Keynes in 1936. The significance of liquidity to a corporation is explained by this notion. According to Keynes (1936), ceteris paribus, investors would favor liquid investments over long-term ones that carry significant risks. Similar to this, he maintains that investors will typically favor ventures with high returns. According to Bibow (2005), a firm's ability to maintain a balance between its assets and liabilities depends on its level of liquidity. As a result, decisions involving liquidity are always given precedence by financial institutions like banks. Furthermore, he acknowledges that this is a significant issue that banks encounter each time they are presented with this choice. This specific idea is important since it instructs banks on how to balance long-term and short-term investments. In general, short-term investments can be quickly turned to cash in a short amount of time, allowing the bank to conduct daily operations. Some academics believe that having a lot of long-term investments might occasionally be harmful for a company. Once more, the fact that liquidity is one of the study's variables makes this theory applicable to it. Liquidity is, in essence, a crucial characteristic of financial institutions. In this case, banks require funds to support their primary activities, such as lending. Illiquidity caused a number of banks to fail, including Chase Bank (2014).

Adverse Selection Theory

Pagano and Jappelli (1993) were the authors of this idea.This particular approach places a focus on the sharing of information between the various departments of the bank and even between financial institutions. The bank's ability to lower default rates and thereby the risks is made possible by the credit ratings of loan applicants. Drawing a distinction between loan applicants

who are credit worthy and those who are not is difficult, claims Richard (2011). As a result, banks may end up giving loans to applicants who may not be able to pay them back in the long term. As a result, there is unfavorable selection. A lender who has additional knowledge is in a better position to make decisions than one who does not, according to Autoren (2003). Because they are in possession of more information, the lender has the potential to bargain for better conditions as well. Non-performing loans have recently ballooned as a result of inadequate information (Bester, 1994; Bofondi & Gobbi, 2003).According to studies conducted by other academics, unchecked non-performing loans impede financial performance. This theory is pertinent to the study in question because it emphasizes the need for banks to gather more data to ensure that borrowers they extend loans to are deserving, which lowers the risk of default.

Extreme value theory (EVT)

Leonard Tippett (1902–1985) was the theory's proponent.The probabilities (Risks) connected to extreme events are assessed using this theory. Investors use this notion when they anticipate risk in the investment they wish to make. The importance of accurate EVT estimation was emphasized by Cornelia (2012). If the risk level is overestimated, the firm will unnecessarily set aside extra capital to cover the risk when that capital would have been better used elsewhere. Hull, 2012, held that banks have to specify the minimum and maximum capital that should be kept to cover the market risks. Banks must use financial ratios, such as the degree of financial leverage, to control market risks in order to accomplish this goal. The aforementioned raises the issue of how market risks affect the financial success of commercial banks. This hypothesis addresses the market risk variable in the present investigation.

Conceptual Framework

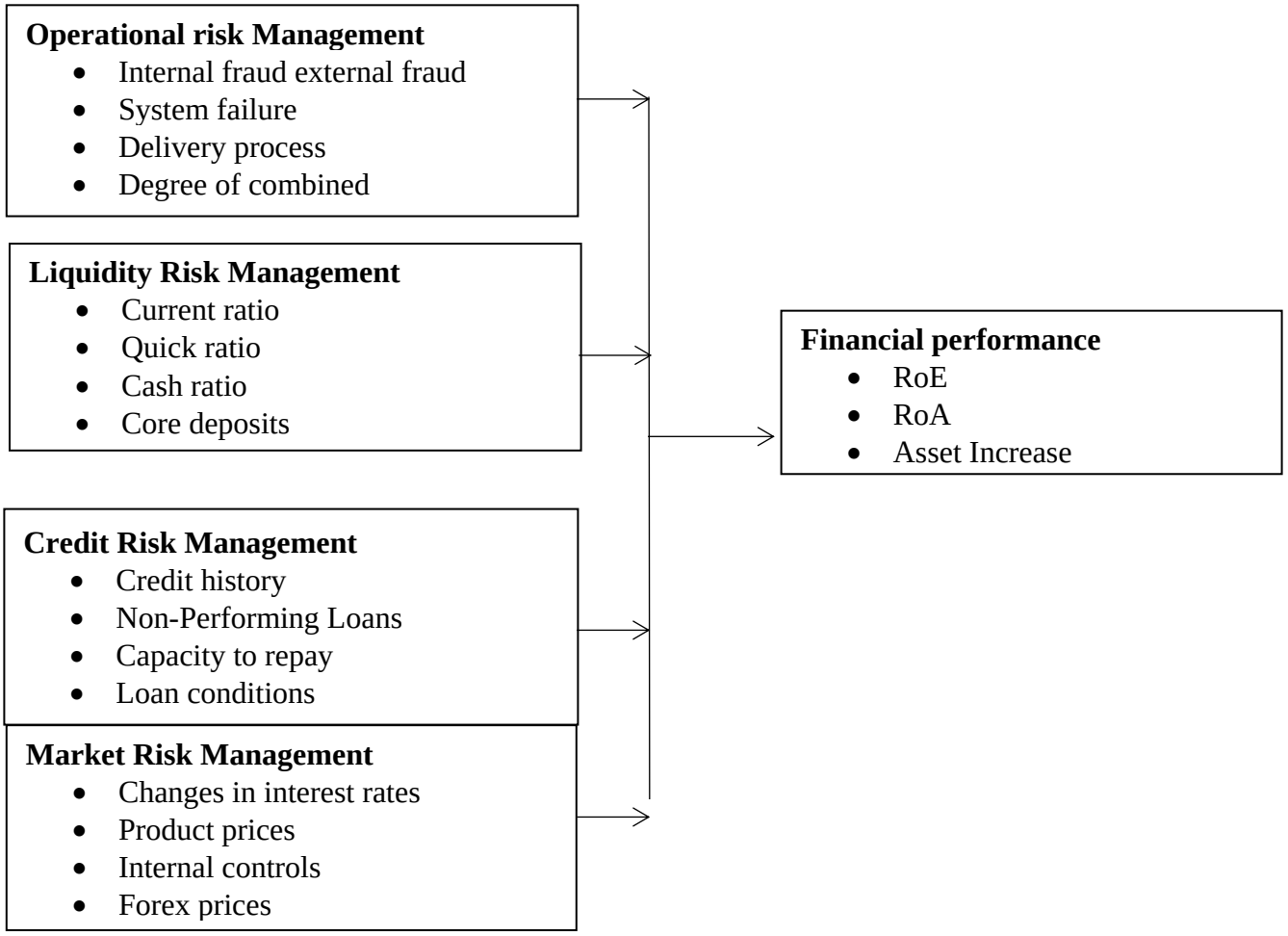

Figure 1: Conceptual Framework

Empirical Review of Literature

Operational Risk Management and Financial Performance of Commercial Banks

The work of Munyao and Githingai in 2017 on operational risk and Kenya's banks' financial output found out that there is an inverse relationship between operational risk and financial performance.

The managers of banks are expected to strictly follow the prudential policies and laws on operational risk management that have been issued by the Central Bank of Kenya. While the current study uses a correlational methodology to examine risk compliance, this study by Lyambiko (2012) examined the association between of operational risk and monetary performance of banks in Tanzania. The study concentrated on the 36 commercial banks in Tanzania that had

received operating permits as of December 31, 2013. In the study, a descriptive survey design was employed. Regression analysis was used to collect secondary data from financial reports between 2009 and 2013. The output showed that operations risk management and commercial banks' returns of Tanzania had a constructive relationship. It further demonstrated that efficiency and financial success are directly related, whereas credit risk and insolvency risk rate had a detrimental impact on those banks' financial performance. This study was carried out in a different economic climate with a population three times that of the current study, which has 12 banks. The current study, which will be carried out in Kenya, will be correlational in character, unlike the descriptive survey that the Tanzanian study was.

Liquidity Risk management and Financial Performance of Commercial Banks

A research by Mwaura (2014) examined the association between performance of Kenyan commercial banks and liquidity risk. He studied all the 43 banks between 2010 and 2013. As a result of this, it was observed that every incremental unit drops the share of liquid assets to total assets by one percent. It was thus summarized that Liquidity risk management and the financial success of commercial banks are inversely associated. Scholars Laminfoday and Dassie (2018) dealt with liquidity risk management and financial behavior of banks in Sierra Leone. 8 banks were investigated between 2013 and 2017.The output showed that Risk management and the financial success of Sierra Leon's commercial bank are inversely. Unlike the first study, which was undertaken in Sierra Leone, this one will be carried out in Kenya.

In 2019, Irungu undertook a survey on liquidity and financial results of entities listed on the NSE. A census of all 64 firms listed was undertaken. It was discovered that liquidity and financial success were positively connected. On the financial performance of agricultural firms listed on Kenya's Nairobi Securities Exchange, Otieno and Oruko looked into the effect of liquidity risk (2020).Data on the six selected agricultural firms were gathered using the census method for the study. Suitable statistical techniques were used to analyze panel data. Multiple linear regression and correlation analysis were utilized to obtain results from the study. Analyzing the mean and standard deviation produced descriptive statistics. Clear presentation models were made using tables and charts. The results showed that performance had an inverse relationship with liquidity risk. Leaders of publicly traded agricultural enterprises should refrain from maintaining an excessive amount of liquid assets, the study finds, as they offer lower returns than riskier assets.

Eleven commercial banks listed on the Nairobi Securities Exchange were the subject of research by Muinde et al. in 2016. The study's research methodology was a descriptive survey. The study included both primary and secondary data. Using a questionnaire, the main data was acquired. The output from the study showed that asset quality significantly pushes up asset return. Consequently, the observation revealed that commercial banks in NSE and inflation had a considerable adverse impact on return on assets.

Credit Risk management and Financial Performance of Commercial Banks

A scholar, Mumbis (2017), made an overview of credit risk and monetary performance of Kenyan commercial banks listed on the stock exchange. A descriptive study design was applied with a population of 11 banks. Financial reports offered supplementary information. According to descriptive data, the ROA was 3%, the standard deviation was 0.012, the REO was -10, and the highest mean was 30%.It was determined that credit risk inhibits the financial success of commercial banks listed on NSE. Descriptive research design was incorporated and the current study used a correlational research methodology. Scholar Onang'o (2003) evaluated the nexus between credit risk management and financial success of Kenyan commercial banks listed on the NSE. By December 2014, Kenya had 44 business banks. Longitudinal design and random effects model, the data were subjected to regression using Generalized Least Squares regression. It was found out that there was no meaningful association between capital adequacy ratio and bank stock performance. Alalade et al. (2015) in Nigeria, examined credit risk management and financial performance. The determines the impact of these antecedents, including return on equity (ROE), return on asset (ROA), advances and total loan, non-performing loan, and total asset. The panel data was secondary information from ten commercial banks that were listed on the Nigerian Stock Exchange (NSE) between 2006 and 2010. The conclusion noted that credit risk management affects commercial banks' financial performance to some extent and further recommended that keeping a minimum threshold of non-performing loans in comparison to provisions for loans and advances will improve financial performance due to the favorable effect on return on equity. As opposed to the present risk, which does not examine credit risk, we have debtor turn overload default collateral and exposure at default. It is important to note, however, that financial parameters are largely the same.

Market Risk Management and Financial Performance of Commercial Banks

Stock price risk, interest rate risk, and foreign exchange risk are all parts of market risk, according to research done in 2014 by Koch and MacDonald. In Kenya, commercial banks were the subject of a study in 2011 by Wachiaya. As a method of research, the study used a census. All 43 banks listed on the NSE were the targeted and a questionnaire was employed. Based on the results, scenario analysis and stress testing were significantly important. The significance of systematic risk management on returns financial firms in Sri Lanka was researched in 2012 by Nimalathasan and Pratheepkanth. Secondary data sources was used and the findings showed that the returns were closely related to systematic risk management. Gachua, 2011, looked at the impact of foreign exchange exposure on 32 selected listed companies in the NSE between 2001 and 2010 in order to determine how it affected their financial performance. The outcomes demonstrated that listed companies reflect foreign exchange disparities in their income statements and owner's equity accounts. The outcomes also demonstrated that unrealized foreign exchange gains or losses adversely affect listed companies' net income.

Research Methodology

The study adopted a used a correlational research approach and targeted 27,350 workforce of the 12 banks listed on the NSE. Nassiuma (2000) coefficient of variation was adopted to derive a sample of 223 respondents. A stratified random sampling was used was utilized to distribute the sample.For the purposes of collecting primary data, the study adopted questionnaire. Inferential and descriptive statistics was used to analyze data. Results of the analysis were presented by use of tables and figures. The evaluation of multiple regression was used to determine the relationship between the criteria variable (performance of commercial banks) and the predictor variables (operational, credit liquidity risk). The study used the following regression model:

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

Where Y = is the dependent variable (financial performance), β0 = Constant, β1, β2, β3, β4 are regression coefficients, X1 is Operational risk, X2 is Liquidity risk, X3 is Credit risk, X4 is Market risk and ε =error term.

Results

The survey included 223 participants recruited from among the 12 banks listed on the NSE. 190 of the 223 sampled respondents in the study agreed to the data collection. This yielded an 88% response rate. Data analysis, according to Saleh and Bista (2017), needs a response rate that is not less than 85,

Descriptive findings and analysis

Descriptive statistics are used to describe the fundamental aspects of the study data. They offer succinct summaries of the measurements and sample. These concepts, coupled with basic pictorial analysis, provide the basis for practically all quantitative data analyses (Kothari, 2014). The study's findings are presented in tables in this part, along with a descriptive analysis for each variable. On a scale of 1 to 5, respondents were asked to rate how strongly they agreed or disagreed with the statement, with 1 indicating great agreement and 5 indicating extreme disagreement. The mean and standard deviation were used to calculate the data.

Operational Risk Management and Financial Performance

The survey findings revealed that 99(53%) of respondents agreed that management improves profitability through enhanced risk management methods (Mean =4.30, SD=1.196), whereas 71(38%) disagreed. According to the study, 93(49%) agreed that the existence of a risk management policy and the integration of risk management in the setting of organizational objectives are key management practices that have a direct effect on financial performance (Mean=4.31, SD=0.275, compared to 57(30%) who disagreed). Additionally, the study's findings showed that 74 respondents (39%) agreed that globalization causes bank failure because of fierce competition from foreign banks for the same products and services (Mean = 4.28, SD = 0.450), as

opposed to 90 respondents (47%) who disagreed. Additionally, the results show that 80 (42%) agreed that banks struggle to implement a sound operational risk management framework due to a lack of conceptual understanding, insufficient modeling expertise, and a subpar risk management culture, as opposed to 90 (48%) who disagreed. However, the results also showed that 71 (38%) agreed that technological advancements have assisted banks in managing operation risk by providing creative solutions. According to the results, 95 respondents (55%) agreed that system failures and business interruptions result in losses owing to interruptions in the regular course of business or due to business failures (Mean 4.211, SD=0.265), as opposed to 63 respondents (33%) who disagreed. Additionally, according to the results, 87 respondents (45%) agreed that banks that use risk-mitigation strategies to reduce their exposure to credit and market risk may also create other types of risks, such as operational risk (Mean 4.23, SD=0.350), as opposed to 80 respondents (42%) who disagreed. The data reveals that 115 (61%) agreed that bank failures are caused by internal micro and external macro causes (Mean=4.27, SD=0.268), whereas 41 (22%) disagreed. The results showed that 55 (29%) disagreed with the statement that commercial banks in Kenya suffer losses as a result of inadequate operational risk management, while 88 (46%) agreed with it. According to the results, 59 respondents, or 31%, agreed that the expansion of e-commerce entails a danger of internal and external fraud as well as poorly understood system security vulnerabilities (Mean = 4.25, SD = 0.449), as opposed to 93 respondents, or 49%, who disagreed. Therefore, the results were consistent with Wangari's (2016) research, which found that risk management practices had an impact on the success of Kenya's publicly traded commercial banks. Panel data were utilized to collect the audited report under secondary data, and inferential statistics were employed to evaluate the data. The researcher used a correlational study design using purposive sampling. Lyambiko (2012) looked into how operational risk affected the financial success of Tanzanian commercial banks.The 36 Tanzanian commercial banks with operating licenses as of December 31, 2013, were the subject of the study.The study employed a descriptive survey design.

Table 1 Operational Risk Management and Financial Performance

Statements	SA	A	U	D	SD	Mean	STD
The management influences the profitability through enhanced risk management practices.	39 %21	60 32	20 11	60 32	41 22	4.30	1.196
Existence of a risk management policy and the integration of risk management in setting of organizational objectives are key management practices that have a direct effect on financial performance	73 % 38	20 11	40 21	25 13	32 17	4.31	0.275
Globalization contributes to bank failure due to stiff competition from multinational banks in terms of products and services offered.	34 %18	40 21	30 16	50 26	40 21	4.28	0.450
Banks experience difficulties in the implementation of a sound operational risk management framework due to lack of conceptual understanding inadequate expertise in modelling techniques and poor risk management culture.	55 %29	25 13	20 10	30 16	60 32	4.34	0.273
Technological advancements have helped banks to manage operation risk by offering innovative products like e-banking	45 %24	26 14	60 32	40 21	19 10	4.29	1.185
Business disruptions and system failures indicates losses due to disruption in the normal course of business or due to business failures	32 %17	72 38	23 12	16 8	47 25	4.211	0.265
Banks that engage in risk mitigation techniques to optimize the exposure to market and credit risk may in turn produce other forms of risks like operational risk	33 %17	54 28	23 12	15 8	65 34	4.23	0.350
Banks failures are due to internal (micro) and external factors (macro)	64 %34	51 27	34 18	22 12	19 10	4.27	0.268
Commercial banks in Kenya experience losses due to poor management of operational risk.	34 %18	54 28	47 25	23 12	32 17	4.35	0.271
The growth of ecommerce brings with it a potential risk such as internal and external fraud and systems security issues that are not fully understood	26 %14	33 17	38 20	49 26	44 23	4.25	0.449

Liquidity Risk Management and Financial Performance

The results show that 106 (56%) of the respondents agreed that liquidity serves to support other banking operations by maintaining enough reserves to cover unforeseen withdrawals and a supply of near-cash funds to meet potential credit demands (Mean 4.00, SD=1.187), compared to 54 (28%) who disagreed. The poll also found that 50(26%) agreed that a bank may face liquidity risk if it does not sell its assets at a fair price (Mean =3.55, SD=0.969), compared to 90(48%) who disagreed. It was shown that 76(40%) of respondents agreed that good liquidity risk management preserves a bank's ability to meet its cash flow obligations (Mean=3.45, SD=0.764), contrasted to 99(52%) who disagreed. Furthermore, the study findings revealed that 127(67%) of respondents agreed that banks

should continuously monitor their anticipated cash flows (Mean =3.16, SD=0.606) rather than focusing solely on the contractual periods during which cash may flow in or out (Mean =3.16, SD=0.606), compared to 39(20%) who disagreed. According to the study, 90(47%) of respondents agreed on The "going-concern" scenario offers a baseline for cash flows tied to the balance sheet during regular business operations (Mean 4.30, SD=1.196), while 71(38%) disagreed. Furthermore, the findings show that 101(53%) of respondents agreed on Liquidity risk arises from a bank's ability to meet its obligations when they come due without incurring unacceptable losses (Mean=4.31, SD=0.275), while 63(33%) disagreed. The study also showed that 91 respondents (48%) agreed with the statement that the bank's management should ensure that there are sufficient funds available to satisfy future supplier and borrower demands at reasonable pricing (Mean = 4.28, SD = 0.450), as opposed to 66 respondents (35%) who disagreed. The results showed that 73 respondents (38%) agreed with the statement that planning for liquidity and risk management both require making predictions about likely future events (Mean 4.34, SD=0.273), as opposed to 78 respondents (45%), who disagreed. The results showed that 98 (52%) respondents, as opposed to 64 (34%) agreed that the financial sector has strong capitalization, is very profitable, and is seeing significant asset expansionist was found that the issue of prudential restrictions on liquidity that can be used in policy creation depends largely on constant funding, with 92 (49%) agreeing and 60 (32%) disagreeing (Mean 4.26, SD=0.251). The results were in line with a study by Laminfoday and Dassie (2018) that looked at the engagement between liquidity risk management and business banks' financial undertakings in Sierra Leone. In the era of 2013 and 2017, a survey was done secondary sources specifically on 8 banks. It was found that an inverse link between risk management and the commercial bank's financial performance existed.

Table 2 Liquidity Risk Management and Financial Performance

Statements	SA	A	U	D	SD	Mean	Std
By keeping sufficient reserves to cover unexpected withdrawals and a supply of near-cash funds to meet possible credit demands, liquidity serves to support other banking operations.	60 % 32	46 24	30 16	21 11	33 17	4.00	1.187
A bank may experience liquidity risk if it does not sell its assets for a fair price.	10 %5	40 21	50 26	30 16	60 32	3.55	0.969
An effective management of liquidity risk protects a bank's capacity to fulfill its cash flow obligations.	43 % 23	33 17	15 8	65 34	34 18	3.45	0.764
Instead of concentrating exclusively on the contractual periods during which cash may flow in or out, banks should continuously monitor their anticipated cash flows.	69 % 36	58 31	24 13	21 11	18 9	3.16	0.606
The "going-concern" scenario establishes a benchmark for cash flows connected to the balance sheet during regular business operations.	34 %18	56 29	29 15	30 16	41 22	4.30	1.196
Liquidity risk arises from a bank’s ability to meet its obligations when they come due without incurring unacceptable losses.	48 %25	53 28	26 14	29 15	34 18	4.31	0.275
The bank's management should guarantee that there are enough funds available to meet future provider and borrower requests at fair prices.	55 %29	36 19	33 17	28 15	38 20	4.28	0.450
Planning for liquidity and risk management both depend on making predictions about potential future events.	46 % 24	27 14	39 21	46 24	32 17	4.34	0.273
The financial industry has good capitalization, is very profitable, and is seeing rapid asset growth.	43 %23	55 29	28 15	43 23	21 11	4.33	0.261
The issue of prudential guidelines on liquidity that can be employed in policy formation depends significantly on consistent funding.	49 %26	43 23	32 17	35 18	31 16	4.26	0.251
The bank's management should guarantee that there are enough funds available to meet future provider and borrower requests at fair prices.	43 %23	24 13	63 33	28 15	32 17		

Credit Risk Management and financial performance

According to the research results, 103(54%) agreed that in terms of a potential borrower's economic and other position, the Risk Adjusted Return on Capital (RAROC) methods aid banks in assessing and grouping them into risk classes (Mean=4.2505, SD=0.8749) as opposed to 16(8%). The study also found that 76(40%) of respondents agreed on the likelihood of a loan's credit rating system altering during the loan's term (Mean =4.4174, SD=0.7867), compared to

85(45%) who disagreed According to the findings, 69(36%) of respondents agreed on The probable credit risks may be shifted by banks using the securitization technique to the institution's or insurance company's investors (Mean 4.3320, SD=0.8120), while 79(42%) disagreed. According to the data, 94(49%) of respondents agreed that banks should employ human resource policies to develop a separate credit unit with qualified personnel for credit/loan officers and filed officers (Mean =4.4735, SD=0.7675), while 73(39%) disagreed. According to the results, 69(36%) of respondents agreed that market conditions have a substantial impact on the loans that the bank offers to the borrower (M=4.1682,SD=0.7724), whereas 69(37%) disagreed. The results showed that 89 (47%) of staff noted that the banks' ability to absorb potential and unforeseen financial losses more easily as a result of their capital adequacy ratio (Mean = 4.3894, SD=0.7034), as opposed to 73 (38%) who did not agree. The results show that 50 (27%) of the respondents were in agreement that banks are unable to engage in new lucrative endeavors (Mean =4.2784, SD=0.7132), as opposed to 95 (50%) who disagreed. According to the findings, 53(28%) of respondents agreed that banks use a variety of financial products and services to diversify their product offerings, reduce competition from other commercial financial institutions, and increase portfolio performance and client appeal (Mean =4.1542, SD=0.7322), while 89(46%) disagreed. It was discovered that in order to properly manage credit risk, the most eligible borrowers must be selected (Mean 4.1552, SD=0.7221), as opposed to 68(36%) who disagreed. Furthermore, the study findings revealed that 77(41%) respondents agreed that stricter CBK regulations requiring larger cash deposits as reserves in banks can improve bank performance by increasing profits (Mean =4.4231, SD=0.7233), while 61(32%) disagreed. The findings contradicted the conclusions of Mumbis (2017), who evaluated the influence of credit risk on the financial performance of Kenyan bourse-listed commercial banks. With a population of 11 banks. Financial statements were adopted. ROA was 3% with a standard deviation of 0.012, a REO of -10, and a maximum average of 30%.It was also discovered that credit risk impacts the financial results of banks listed on the NSE. While this study used a descriptive design, the current study depended on correlational design. Onang'o (2003) did a survey on credit risk management and the financial results of NSE listed Kenyan commercial banks. As of December 2014, the population of the research comprised of Kenya's forty-four licensed commercial banks.

Table 3 Credit Risk Management and financial performance

Statements	SA	A	U	D	SD	Mean	STD
In regard to a potential borrower's economic and other situation, the Risk Adjusted Return on Capital (RAROC) procedures assist banks in evaluating and categorizing them into risk classes.	42 %22	61 32	71 37	10 5	6 3	4.2505	**0.8749**
The likelihood of a loan's credit rating system changing during the loan's term exists.	35 %18	41 22	19 10	60 32	25 13	4.4174	**0.7867**
The possible credit risks might be transferred by banks utilizing the securitization strategy to the institution's or insurance company's investors.	44 %23	25 13	42 22	59 31	20 11	4.33202	**0.8120**
Banks should use human resource policies to create a separate credit unit with qualified personnel for credit/loan officers and filed officers.	52 %27	42 22	23 12	22 12	51 27	4.4735	**0.7675**
Market conditions have a significant impact on the loans that the bank offers to the borrower.	40 % 21	29 15	52 27	41 22	28 15	4.1682	0.7724
The banks can handle possible and unexpected financial losses more readily thanks to the capital adequacy ratio.	43 %23	46 24	28 15	38 20	35 18	4.3894	0.7034
Banks are unable to engage in further lucrative endeavors.	39 % 21	11 6	45 24	39 21	56 29	4.2784	0.7132
Banks rely on a variety of financial products and services to diversify their product offerings, reduce competition from other commercial financial institutions, and increase portfolio performance and client appeal.	24 %13	29 15	48 25	56 29	33 17	4.1542	0.7322
To effectively manage credit risk, the most qualified borrowers must be chosen.	47 %25	43 23	32 17	25 13	43 23	4.1552	0.7221
Strict CBK regulations requiring bigger capital deposits of cash as reserves in the banks can improve bank performance by increasing profits.	43 %23	34 18	32 17	43 23	18 9	4.4231	0.7233

Market Risk Management and Financial Performance

According to the data, 93 (49%) of respondents agreed that banks must decide how much capital, if any, should be set aside to hedge against market risk (Mean =3.8816, SD=0.9971), while 82 (43%) disagreed.It was discovered that 88(46%) of respondents believed that financial ratios, such as the amount of financial leverage, may assist banks manage market risks and achieve their objectives (Mean=4.3291, SD=0.8599), while 61(32%) disagreed. It was discovered that 98(50%) of respondents agreed that because market risk is determined by factors that affect the entire sector, banks have little influence over it (Mean =4.0529, SD=1.0339), compared to 63(33%) who disagreed. Furthermore, the study findings revealed that 53(28%) of respondents agreed that interest rate futures can be introduced

to improve interest rate management by reducing their exposure (Mean =4.3302, SD=0.8812), compared to 77(40%) who disagreed. According to the findings, 117(61%) of the respondents believed that continuously speculative, foreign exchange risk can be stated as a gain or loss based on the strength of the foreign currency (Mean =4.1562, SD=0.6221), while 86(45%) disagreed. According to the findings, 114 (60%) of the respondents agreed on a measure for evaluating market risk, which displays the highest probable value of losses projected for a time period (Mean=4.3261, SD=0.4332), compared to 45 (25%) who disagreed. It was discovered that the majority of organizations utilize a variety of financial engineering strategies to help control market risk and other hazards (Mean =4.2121, SD=0.3216) as opposed to 67(36%) respondents who disagreed. It was discovered that 92(46%) of respondents believed that commercial banks play a critical role in financial intermediation and financial growth (Mean=4.0234, SD=0.3122), while 65(34%) disagreed. Furthermore, 116 (61%) of respondents accepted that market risk can be measured by the level of financial leverage, exposure to foreign currency rates, and interest rate risk (Mean=4.0238, SD=0.3423), while 33 (17%) disagreed. Nimalathasan and Pratheepkanth (2012) conducted a study that examined the influence of systematic risk management on the profitability of selected financial enterprises in Sri Lanka. The study made use of secondary data. They discovered that systematic risk management directly relates with upward results. Gachua (2011) surveyed foreign exchange exposure and financial performance of NSE listed firms between 2001 and 2010. It was found that listed enterprises depict foreign exchange differences using the financial statements. The findings also revealed that unrealized foreign exchange gains/losses had a negative impact on the Net Income of publicly traded companies.

Table 4 Market Risk Management and Financial Performance

Statements	SA	A	U	D	SD	Mean	STD
Banks must decide how much capital, if any, should be kept aside to protect against market risk.	65 %34	28 15	15 8	32 17	50 26	3.8816	0.9971
Financial ratios, such as the level of financial leverage, can help banks manage market risks so they can accomplish their objectives.	56 %29	32 17	41 22	33 17	28 15	4.3291	0.8599
Since market risk is determined by factors that have an impact on the entire sector, banks have no influence over it.	44 %23	51 27	32 17	42 22	21 11	4.0529	1.0339
By reducing their exposure, interest rate futures can be introduced to improve management of interest rates.	26 %14	27 14	60 32	33 17	44 23	4.3302	0.8812
By reducing their exposure, interest rate futures can be introduced to improve management of interest rates.	52 %27	65 34	32 17	21 11	20 11	4.1682	0.7724
Continually speculative, foreign exchange risk can be expressed as a gain or a loss depending on the strength of the foreign currency.	20 %11	33 17	21 11	53 28	33 17	4.1562	0.6221
VaR, a frequently used metric for measuring market risk, shows the maximum possible value of losses anticipated during a time.	71 %37	43 23	31 16	11 6	34 19	4.3261	0.4332
To help manage market risk and other risks, the majority of firms use a range of financial engineering techniques.	25 %13	43 23	25 13	26 14	41 22	4.2121	0.3216
Commercial banks do serve a vitally important role in financial intermediation and financial growth.	44 %23	48 23	33 17	21 11	44 23	4.0234	0.3122
Market risk can be measured using the level of financial leverage, exposure to foreign currency rates, and interest rate risk.	43 %23	73 38	41 22	21 11	12 6	4.0238	0.3423

Financial performance

The study findings found that 94(50%) of respondents believed that banks that seriously adhere to CBK criteria are more likely than their competitors to make more profits (Mean =4.2505, SD=0.8749), compared to 53(28%) who disagreed. The study also found that 101 (54%) of respondents stated that investors may judge a company's efficiency in converting its investments into net income by looking at its return on assets (ROA) number (Mean =4.4174, SD= 0.7867), compared to 61 (32%) who disagreed. Furthermore, it was revealed that 80(42%) of respondents agreed that even with high-quality assets, solid revenues, and adequate capital, a bank may fail if it cannot maintain sufficient liquidity (Mean =4.3302, SD=0.8120), compared to 66(35%) who disagreed. According to the findings, 73(39%) of respondents believed that banks that carefully adhere to CBK criteria are more likely than their counterparts to make higher profits (Mean=4.4735, SD=0.7675), while 62(32%) disagreed. Return on equity is a tool used by investors to assess if they are getting a good return on what they

invested and to gauge how effectively a company can use its equity (Mean=4.1682,SD=0.7724), as opposed to 72(38%) of the respondents who disagreed. It was discovered that 98(51%) of respondents agreed on the degree of profitability, which reflects the amount of money a company produces from its production, labor, management, and capital inputs (Mean=4.3894, SD=0.7724), as opposed to 63(33%) of respondents disagreed. It was discovered that 85(45%) of respondents accepted on cost-cutting techniques to increase sales and profitability (Mean=4.2213, SD=0.7214), while 61(67%) disagreed. Furthermore, the study results showed that 103 (54%) of respondents agreed the fact that banking institutions that strictly adhere to CBK standards are more likely than their competitors to generate more profits (Mean=4.3213, SD=0.7216), compared to 59 (31%).The findings corresponded to with the conclusions of a study conducted by Ngaari (2016) to examine the association between several financial statistics and company financial success. The impact of liquidity, profitability, and efficiency ratios on a company's financial performance is investigated in these studies. Another often used approach for evaluating financial performance is financial statement analysis. Financial statements have been studied for their utility in predicting financial trouble, insolvency, and other financial performance criteria.

Table 5 Showing the Financial performance

Statements	SA	A	U	D	SD	Mean	STD
Investors can gauge a company's efficiency in turning its investments into net income by looking at its return on assets (ROA) statistic.	62 %33	32 17	43 23	25 13	28 15	4.2505	**0.8749**
Return on equity is a tool used by investors to determine if they are receiving a good return on their investment and to gauge how effectively a company can use its equity.	43 %23	58 31	28 15	38 20	23 12	4.4174	**0.7867**
Even with high-quality assets, solid revenues, and adequate capital, a bank may nevertheless fail if it cannot maintain sufficient liquidity.	43 %23	37 19	44 23	28 15	38 20	4.3302	**0.8120**
The level of profitability indicates how much money a company makes from its production, labor, management, and capital inputs.	49 %26	24 13	55 29	35 18	27 14	4.4735	**0.7675**
Analysis of profitability focuses on how revenues and costs are related to one another as well as on how much profit is made in relation to the amount of capital invested in the company.	29 %15	63 33	26 14	43 23	29 15	4.1682	0.7724
The main risk management techniques with a direct impact on financial performance are seen to be the existence of a risk management policy and the integration of risk management in determining organization objectives.	54 %28	44 23	29 15	49 26	14 7	4.3894	0.7724
Cost-control strategies boost sales and profitability.	63	22	44	17	44	4.2213	0.7214

	%33	12	23	9	23		
Banks that strictly adhere to CBK standards are more	44	59	28	29	30	4.3213	0.7216
likely than their competitors to generate more profits.	%23	31	15	15	16		

Multiple Regression Model Analysis

The study performed multiple regression model analysis to estimate the relationships between the study variables. The study results were as tabulated in Table 6 According to the model, the simple correlation was 0.802, showing there was was a level of association. (The study model's modified R2 is 0.845, with the R2 equal to 0.879; R Square = 0.879; Standard Error = 0.068.) Risk management was responsible for 87.9% of the variance in financial performance. As a result, linear regression accounts for 80.2% of the data variance. This demonstrates that the data from multiple linear regression did not show an initial-order linear auto-correlation. This means that outside factors account for 12.1% of the variance in financial performance, whereas risk management within the study accounts for 87.9% of the variation.

Table 6 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	F	Sig.
1	.802[a]	0.845	0.879	0.0879	112.668	0.000[b]

Assessing the Fit of the Multiple Regression Model

Analysis of variance was used to determine if the multiple regression model was fit for the data. The results were shown in Table 7. The F-test for the null hypothesis of linear regression indicates (F=112.668, p=0.000b) that the regression model fails to clarify any variation in financial performance. Given that the F-test is highly significant, the model is believed to have successfully described the variation in financial performance. This suggests that the data were appropriate for the multiple regression model and that operational risk management, liquidity risk management, credit risk management, and market risk management all have an impact on the financial performance of commercial banks listed on the Nairobi Securities Exchange. The study's findings also revealed that the model's executive summary significantly and correctly projected the financial outcomes of commercial banks listed on the Nairobi Securities Exchange (p 0.05). The generality with which the regression model accurately predicted the financial performance of commercial banks listed on the Nairobi Securities Exchange (i.e., it was a good fit for the data) thus proved the statistical significance of the regression model that was run

Table 7 ANOVA Model

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Residual	102.882	40	19.015	112.668	0.000[b]
	Regression	9.232	150	0.16893		
	Total	**112.114**	**190**			

Regression Coefficients

Using the T-test to determine the statistical significance of each regression result, the beta, which measures the magnitude of each independent variable's impact on the dependent variable, was determined. The study's conclusions are shown in Table 8.

Table 8 Regression Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients		
	B	**Std Error**	**Beta**	**t**	**Sig.**
(Constant)	0.323	0.224		1.648	0.105
Operational Risk Management	0.182	0.026	0.319	7.000	0.000
Liquidity Risk Management	0.272	0.024	0.534	11.333	0.000
Credit Risk Management	0.229	0.034	0.476	6.735	0.000
Market Risk Management	0.2821	0.028	0.421	10.075	0.000

The study's findings led to the development of the subsequent regression equation.

In the equation Y (Financial performance) = 0.323 (Constant) + (Operational risk Management) 0.182+ (Liquidity Risk Management) + 0.272 (Credit Risk Management) + 0.229 (Market Risk Management 0.028) + 0.224 (Standard Error), operational risk management is denoted. The results showed that operational of 1% increase in risk management leads to 18.2% increase on financial performance. Similarly, a 1% increase in liquidity risk raises financial results by 27.2%. 1%

advancement in credit risk translates to 22.9% change in financial performance. Finally a 1% increase in market risk makes financial performance go up by 28.2%.

4.7.3 Regression Model

The following is the regression model analysis.

$Y = 0.323 + 0.182X_1 + 0.272X_2 + 0.229X_3 + 0.282X_4$ ……..Equation 4.1

The above model explain the changes in the dependent variables as a result of behavior of the repressors.

Hypotheses Testing

H_{01}: It held that operational risk management had no influence on the financial success of business banks listed. On the contrary, the results depict a constructive association as shown by β=0.182, (p=0.000). The null hypothesis was done away with and was concluded that the relationship was significant.

H_{02}: It stated that financial performance of commercial banks listed on the NSE is not statistically impacted by liquidity risk management. The findings showed that β=0.272, (p=0.0). This meant that the null hypothesis was not accepted and was concluded that the relationship is positive and important.

H_{03}. The hypothesis was that credit risk does not impact financial performance. As shown by the results, β=0.229, p=0.00 meaning that the relationship is positive and significant.

H_{04} This hypothesis held that Market risk management had no statistically significant impact on the financial outcomes of commercial banks listed on the NSE. The results β=0.282,p=0.00 meant that the null hypothesis was rejected and concluded that the association is positive and significant.

Conclusion of the Study

Firstly, it was found that there was a positive connection between operational risk management and financial performance. It is therefore true that operational risk management favors financial performance. Secondly, it was found that Liquidity risk management pushes up the financial performance of commercial banks. This was attested by the findings which held that liquidity is positively related with financial results. Thirdly, the credit risk management and financial performance were positively correlated. Therefore as credit risk increases, financial performance also increases. Finally, there was a significant positive relationship between market risk management and financial performance. It is a conclusion of this study that market risk management improves the financial performance of NSE-listed commercial banks.

Recommendations for the Study

Develop and implement a comprehensive operational risk management system that detects, assesses, monitors, and controls operational risks. The framework should be in line with the bank's overall business plan, risk tolerance, and regulatory obligations.Banks should keep enough amounts of liquid assets on hand, such as cash and cash equivalents, to cover funding demands during times of stress or crisis. Liquidity buffer size and composition should be determined by the bank's liquidity risk profile and stress testing scenarios.Develop and implement an effective credit risk management framework: Commercial banks should have a comprehensive credit risk management framework that identifies, measures, monitors, and controls credit risk. The framework should be aligned with the bank's overall business strategy, risk appetite, and regulatory requirements.Effective market risk management can improve the financial performance of commercial banks listed on the NSE. Banks can improve their financial performance by successfully managing market risk. This allows them to avoid losses and boost revenues. Furthermore, effective market risk management can help to boost investor confidence, resulting in higher stock prices and easier access to capital markets.

Recommendations for Policy and Practice

Create and Implement Robust Risk Management Policies: Banks should have strong policies and processes in place for detecting, assessing, and managing various types of risks, such as credit risk, market risk, liquidity risk, and operational risk. These policies should be reviewed and modified on a regular basis to ensure that they remain current and effective in risk mitigation. Foster a Risk Management Culture: Risk management should be established in the bank's culture, and all personnel should be informed on the importance of risk management and their roles in putting the bank's risk management policies into action. This culture should promote transparency and effective risk communication at all levels of the company.

Recommendations for Theory

In terms of theoretical recommendations for risk management and financial performance of commercial banks listed at the Nairobi Securities Exchange, the following suggestions can be made: Establish a Comprehensive Theoretical Framework: A comprehensive theoretical framework that captures the relationship between risk management and financial performance of commercial banks listed on the NSE is required. To provide a comprehensive understanding of the relationship between risk management and financial performance, this framework should incorporate multiple theoretical viewpoints from finance, economics, and management.

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