1

Effect of Risk Monitoring Practices On Financial Performance of Commercial Banks in Kenya.

Authors: ¹George Munene Macharia; ² Dr.David Ndumo, (PhD); ³Dr. Solomon Muriiki (PhD)

Crossref DOI: 10.61108/ijiir.v3i1.198

¹PhD Scholar: Presbyterian University of East Africa, Kenya ²Senior Lecturer: Presbyterian University of East Africa, Kenya ³Senior Lecturer: Presbyterian University of East Africa, Kenya

ABSTRACT

In an increasingly volatile financial environment, effective risk monitoring has become a cornerstone of sustainable banking performance. This study investigated the effect of risk monitoring practices on the financial performance of commercial banks in Kenya, focusing on how systematic observation, evaluation, and reporting of risks influence profitability, liquidity, and asset quality. Anchored on the Dynamic Capabilities Theory, the study posited that the ability of banks to continuously monitor and adapt to changing risk conditions enhances competitive advantage and financial resilience. The research adopted a positivist philosophy and employed a descriptive and explanatory research design. The target population consisted of 2,293 senior management employees from 38 commercial banks licensed by the Central Bank of Kenya (CBK). Using stratified random sampling, a sample of 266 respondents was selected. Data were collected through structured questionnaires and supplemented with secondary data from audited bank reports and CBK supervisory publications (2019–2023). The data were analyzed using descriptive statistics, Pearson correlation, and multiple regression via SPSS (Version 27). Empirical results revealed a strong and significant positive relationship between risk monitoring and financial performance (r = 0.673, p < 0.05). Regression analysis further indicated that risk monitoring accounted for 75.9% of the variance in financial performance ($R^2 = 0.759$), with a regression coefficient of $\beta = 0.411$ (p < 0.05). The study established that effective risk monitoring practices—such as regular compliance audits, timely risk reporting, and the use of digital dashboards—enhance operational efficiency, profitability, and shareholder returns. Conversely, banks with weak monitoring mechanisms faced higher non-performing loan ratios and declining return on equity. The study concluded that continuous, technologydriven risk monitoring frameworks are essential for maintaining financial stability and improving institutional performance. The study recommends that commercial banks strengthen real-time monitoring systems, integrate advanced analytics into decision-making, and enhance staff training in risk oversight. Furthermore, the CBK should enforce standardized risk monitoring frameworks to ensure consistency across institutions. The findings contribute valuable insights to risk management literature, emphasizing that proactive monitoring is not only defensive but a strategic enabler of financial sustainability in Kenya's banking sector.

Keywords: Risk Monitoring, Financial Performance, Commercial Banks, Dynamic Capabilities Theory

APA CITATION

Macharia, G. M., Ndumo, D., & Muriiki, S. (2025). Effect of Risk Monitoring Practices On Financial Performance of Commercial Banks in Kenya. *International Journal Of Innovations And Interdisciplinary Research (IJIIR) ISSN 3005-4885 (p);3005-4893(o), 3*(1), 71–85. https://doi.org/10.61108/ijiir.v3i1.197



1.0 INTRODUCTION

1.1 Background of the Study

1

In the contemporary financial landscape, risk monitoring has emerged as a vital component of effective risk management and a cornerstone for enhancing the financial performance of commercial banks. Although it represents the final stage in the risk management cycle, risk monitoring serves as a continuous process of assessing, tracking, and reporting the effectiveness of risk control strategies (Jabbour & Crawford, 2024). It ensures that identified risks remain within acceptable thresholds and that new or evolving risks are promptly detected. Through regular reviews, audits, and performance feedback loops, risk monitoring supports decision-making and safeguards profitability. According to Saunders (2020), an appropriate risk monitoring strategy ensures that product pricing aligns with the level of underlying risk, thereby promoting sustainable profitability and organizational resilience.

In developed economies such as the United States and Canada, robust risk monitoring frameworks are deeply embedded in banking operations. In the U.S., banks leverage advanced analytics and artificial intelligence to monitor real-time credit exposures, market volatility, and cyber threats. The Dodd-Frank Act and the Basel III framework require periodic stress testing and reporting to ensure sound risk management (Li et al., 2023). Similarly, in Canada, the Office of the Superintendent of Financial Institutions (OSFI) mandates ongoing monitoring of liquidity and capital adequacy to prevent systemic shocks. Canadian banks, known for their conservative financial culture, employ data dashboards and predictive algorithms that support continuous oversight of credit and operational risks (Alkhatib & Harasheh, 2023). These practices contribute to their consistent return on equity (ROE) and stable profit margins, demonstrating the direct linkage between proactive risk monitoring and financial performance.

In Germany, risk monitoring is characterized by strong regulatory oversight under the Bundesbank and BaFin. German commercial banks utilize automated compliance systems and risk control matrices to ensure timely identification of deviations from expected performance. The country's adherence to the European Banking Authority (EBA) standards fosters transparency and enhances investor confidence, which in turn boosts financial performance (Zimon et al., 2023). German banks have also integrated environmental, social, and governance (ESG) indicators into their risk monitoring frameworks, aligning profitability with sustainability goals.

In emerging economies, risk monitoring plays a pivotal role in stabilizing financial systems exposed to macroeconomic volatility. For instance, in Ghana, the Bank of Ghana has introduced robust supervisory review processes and digital platforms that require banks to conduct continuous monitoring of non-performing loans and capital ratios (Dulanjani & Priyanath, 2020). Similarly, Tanzania's commercial banks have incorporated routine internal audits and customer feedback loops into their monitoring mechanisms, leading to improved loan recovery rates and profitability (Katou, 2021). South African banks, guided by the Prudential Authority, have adopted integrated risk management dashboards that link key performance indicators (KPIs) to risk thresholds, allowing for timely interventions in cases of potential financial stress (Lee & Ha-Brookshire, 2018).

In Kenya, commercial banks are increasingly recognizing that consistent financial performance depends on effective monitoring of credit, liquidity, and operational risks. The Central Bank of Kenya (CBK) requires institutions to implement risk-based supervision and continuous performance evaluation to enhance stability. However, gaps still exist in the adoption of real-time risk monitoring technologies and data-driven models. As the sector grapples with fluctuating interest rates, digital fraud, and non-performing loans, the need for advanced monitoring systems has become more pressing (Cambridge University, 2020). By institutionalizing risk monitoring as a strategic management function, Kenyan banks can improve asset quality, maintain depositor confidence, and achieve sustainable financial growth.

1.2 Statement of the Problem

The financial performance of commercial banks is significantly influenced by the effectiveness of their risk monitoring mechanisms. Risk monitoring serves as the continuous evaluation of risk indicators and control systems, ensuring that deviations from expected financial outcomes are promptly identified and addressed (Jabbour & Crawford, 2024). However, in Kenya, weak risk monitoring practices continue to expose banks



to credit losses, operational inefficiencies, and declining profitability. According to the Kenya Bankers Association (2025), inadequate risk oversight has contributed to a fragile banking sector characterized by recurrent instability, erosion of depositor confidence, and inefficient intermediation. Between 2015 and 2022, Kenya witnessed the collapse of several commercial banks, including Imperial, Chase, and Dubai Bank, attributed largely to ineffective risk monitoring and governance failures (Karanja & Simiyu, 2022). Recent statistics underscore the gravity of the problem. The gross non-performing loans (NPLs) ratio rose from 16.4% in Q4 2024 to 17.4% in Q1 2025—its highest level in over two decades and far above the internationally recommended threshold of 5% (KPMG, 2024). Similarly, the return on equity (ROE) for Kenyan commercial banks dropped sharply from 24.4% in 2016 to 13.9% in 2020 (CBK, 2020), reflecting declining profitability despite technological advancements and regulatory reforms. The situation highlights weak early-warning systems and delayed response mechanisms in detecting risk exposures. In comparison, countries like Canada and Germany employ advanced continuous monitoring systems using artificial intelligence and predictive analytics, significantly reducing credit default rates and improving financial stability (Li et al., 2023; Zimon et al., 2023). Conversely, developing economies such as Ghana and Tanzania have initiated policy reforms to enhance regulatory risk supervision and promote digital monitoring, which have improved financial sector resilience (Dulanjani & Priyanath, 2020; Katou, 2021). Empirical findings on the relationship between risk monitoring and financial performance remain inconsistent. Some studies report a positive correlation, suggesting that regular monitoring enhances financial soundness and profitability (Ocan et al., 2025; Mburu, 2020), while others indicate a negative or insignificant effect due to high compliance costs and poor data integration (Nyarangi & Ngali, 2021; Muriithi et al., 2016). Moreover, most existing studies are foreign-based, offering limited contextual evidence applicable to Kenya's banking environment (Hossain & Mohammad, 2019). This creates a contextual and empirical gap regarding the extent to which risk monitoring practices influence financial performance in developing economies. Therefore, this study sought out to examine the effect of risk monitoring practices on the financial performance of commercial banks in Kenya, addressing the existing research gap by providing localized empirical evidence and insights to strengthen the banking sector's sustainability and competitiveness.

1.3 Objective of the Study

1

The general objective of the study is to assess the effect of risk monitoring practices on financial performance of commercial banks in Kenya.

1.4 Research Hypotheses

 \mathbf{H}_{01} : There is no significant effect of risk monitoring practices on financial performance of commercial banks in Kenya.

1.5 Scope of the Study

The study concentrated on the effects of risk monitoring practices on financial performance of commercial banks in Kenya. The study was limited to performance of 38 registered commercial banks in Kenya as at 31st December 2024. The aggregation was done for all the 38 commercial banks forming the unit of analysis. The study covered the context of Kenya as a developing nation. The study was carried in 2025

2.0 LITERATURE REVIEW.

2.1 Theoretical Framework- Dynamic Capabilities Theory

The Dynamic Capabilities Theory (DCT), introduced by Teece, Pisano, and Shuen (1997), provides a robust theoretical foundation for understanding how commercial banks can enhance financial performance through effective risk monitoring practices. This theory extends the traditional Resource-Based View (RBV) by emphasizing a firm's ability to integrate, build, and reconfigure internal and external competencies in response to rapidly changing environments. In the context of banking, dynamic capabilities enable institutions to continuously identify, evaluate, and adapt to financial risks while ensuring operational stability and profitability.

According to Teece (2018), dynamic capabilities consist of three interrelated dimensions: sensing, seizing, and transforming. These capabilities are directly applicable to risk monitoring. Through sensing, banks detect emerging risks such as credit defaults, market fluctuations, and cyber threats using early-warning indicators and data analytics tools. Eisenhardt and Martin (2000) affirm that organizations with strong



sensing capabilities can anticipate risk exposures before they escalate, improving decision-making and financial outcomes. Seizing refers to a bank's ability to allocate resources and design strategies to mitigate identified risks, ensuring capital adequacy and liquidity stability. This proactive risk response strengthens profitability and financial resilience (Wang & Ahmed, 2007). Lastly, transforming reflects the institution's ability to renew and reconfigure its systems and governance structures to adapt to evolving risk landscapes—a process essential for long-term sustainability (Pavlou & El Sawy, 2011).

In developed economies such as the United States, Canada, and Germany, banks have effectively applied dynamic capabilities in risk monitoring through artificial intelligence, predictive analytics, and real-time auditing systems. These practices have minimized credit losses and strengthened capital efficiency (Li et al., 2023; Zimon et al., 2023). Similarly, in developing economies like Ghana, Tanzania, and South Africa, adoption of dynamic, technology-supported monitoring frameworks has improved financial stability and reduced non-performing loans (Dulanjani & Privanath, 2020; Mongi, 2020).

In Kenya, where the financial sector faces heightened exposure to credit and operational risks, dynamic capabilities theory explains how banks can transition from reactive to proactive risk management. By institutionalizing continuous monitoring, using automated dashboards, and integrating cross-departmental reporting, commercial banks can detect anomalies early and optimize risk-return trade-offs. This continuous adaptation enhances financial performance, measured through return on assets (ROA), return on equity (ROE), and net profit margin (Alkhatib & Harasheh, 2023).

Therefore, the Dynamic Capabilities Theory aligns strongly with the study objective as it elucidates the mechanism through which risk monitoring practices—anchored on continuous learning, technological integration, and process reconfiguration—enhance financial performance. The theory underscores that banks possessing superior dynamic capabilities in risk monitoring are more resilient, profitable, and competitive in volatile financial environments.

2.2 Conceptual Framework

1

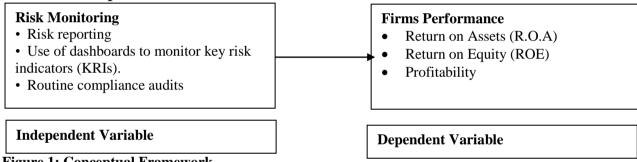


Figure 1: Conceptual Framework

2.3 Empirical Review of the Study

Risk monitoring is a continuous process of tracking, evaluating, and reporting risks within an organization to ensure that they remain within acceptable thresholds and that mitigation strategies are functioning effectively (Wenk, 2010, as cited in Suleiman & Al-Qudah, 2022). It plays a crucial role in maintaining operational efficiency, optimizing asset utilization, and protecting financial health (Choudhry, 2023; Jabbour & Crawford, 2024). Empirical studies across various contexts have examined how risk monitoring influences financial performance, yielding both consistent and context-dependent findings.

Globally, Alkhyyoon (2023) investigated the effect of Enterprise Risk Management (ERM) on firm performance across Iran, Iraq, and Saudi Arabia using panel regression from 2012-2019. The results revealed that ERM, through continuous monitoring, improved return on assets and profit margins, although outcomes varied by national context. The study underscored that regional institutional frameworks and governance structures shape the effectiveness of risk monitoring. Similarly, Algremazy et al. (2023) studied the Libyan construction industry and found that frequent evaluation of risk mitigation strategies significantly enhanced project performance. The study recommended that firms institutionalize formal risk monitoring procedures to ensure sustainability and profitability.

In the African context, Kiprop and Tenai (2017) explored the role of risk monitoring in financial institutions and established a positive correlation between risk oversight mechanisms—such as key risk indicators

(KRIs), internal audit frequency, and board-level risk reporting—and financial performance. Their findings suggest that structured monitoring aligns risks with organizational objectives, thereby enhancing returns. Lagat and Yegon (2017) reinforced this link, reporting a statistically significant relationship (r = 0.206, p < 0.05) between risk checking and institutional performance in Kenyan banks, SACCOs, and microfinance institutions. They emphasized that early detection and correction of errors through monitoring reduce potential financial losses.

Similarly, Karanja et al. (2018) examined the influence of credit risk monitoring on the lending performance of commercial banks in Nairobi and found that consistent monitoring of loan portfolios and compliance reporting positively affected credit quality and profitability. Wambua (2024) extended these findings in the context of pension funds, demonstrating that risk monitoring (β = 0.918, p < 0.05) had the strongest predictive effect on financial performance compared to other risk management components such as assessment, control, and transfer. Omasete (2024), focusing on insurance companies listed on the Nairobi Securities Exchange, confirmed that while risk monitoring practices were only moderately implemented, they significantly contributed to higher returns and financial stability.

Despite widespread consensus on the positive influence of risk monitoring, gaps persist. Many Kenyan studies have focused narrowly on commercial banks or pension funds, offering limited comparative insights across financial subsectors. Moreover, most employed cross-sectional designs that capture relationships at a single point in time, restricting causal inference and understanding of dynamic risk trends. Future research should therefore adopt longitudinal or mixed-method approaches to assess how continuous risk monitoring influences financial performance over time, particularly in light of rising non-performing loans and evolving regulatory frameworks in Kenya's banking sector.

3.0 RESEARCH METHODOLOGY

This study adopted a multi-dimensional research design, combining both quantitative and qualitative approaches to capture the multifaceted nature of risk monitoring practices and their effect on financial performance (Creswell & Creswell, 2023). The approach enhanced validity, accuracy, and objectivity of findings through methodological triangulation (Cooper & Schindler, 2014; Biira et al., 2021).

Grounded on positivist philosophy, the study assumed that knowledge about the relationship between risk monitoring and bank performance can be derived objectively from measurable facts (Saunders et al., 2023). Positivism allows deduction from established theories and testing of hypotheses through empirical data (Park et al., 2020; Mugenda & Mugenda, 2019).

The target population comprised 2,293 senior management employees in the 38 commercial banks in Kenya (CBK, 2024). A stratified random sampling technique was applied, categorizing banks into three tiers based on their weighted indices to ensure proportional representation and minimize bias (Lohr, 2019; Njenga, 2022). Using Cochran's (1977, as cited in Taherdoost, 2019) formula, a sample size of 266 respondents was derived, which was deemed statistically adequate for generalization.

Primary data was collected using structured questionnaires with Likert-scale items, complemented by a few open-ended questions to capture contextual insights (Kothari et al., 2014; Thuku & Muchemi, 2021). Secondary data on financial performance indicators—such as ROA, ROE, and net income—were extracted from CBK and audited bank reports (Tessem & Asmare, 2019).

Prior to data collection, pilot testing was conducted on 27 respondents (10% of the sample) from microfinance banks to evaluate reliability and validity (Gadke et al., 2021). Instrument reliability was tested using Cronbach's Alpha, where $\alpha \ge 0.70$ indicated internal consistency (Pallant, 2020; Hair et al., 2024). Validity was assessed through expert judgment and the KMO test for construct adequacy (Yusoff, 2019).

Data analysis involved descriptive statistics (means, frequencies, standard deviation) and inferential techniques including Pearson's correlation and multiple regression to determine the strength and direction of relationships between risk identification and financial performance (Schober et al., 2018; Frankfort-Nachmias et al., 2020).

4.0 RESULTS AND ANALYSIS

4.1 Response Rate

The study targeted 38 commercial banks that were licensed and regulated by CBK as at 31st December 2024. The study sought to explore the effects of risk management practices on financial performance of commercial banks in Kenya. Secondary data was collected for various financial ratios used to measure the effects of risk management practices on financial performance of commercial banks across a period of 5 years.

The study administered 266 questionnaires to respondents who were randomly selected. Out of the total, 186 questionnaires were accurately filled and returned. The response rate was 70% of the target population. The remaining questionnaires were not returned, as the target respondents were unavailable during the research period. The response rate was considered adequate given that Beauvais, Stewart, Denisco and Beauvais (2014) argued that a response rate of between 50% and 70% is a good response rate and Runnels and Thomas (2006) argued that a response of more than 75% will give rise to best analysis. Runnels and Thomas (2006) further noted that a response rate of 30% - 40% should be considered sufficient.

Table 4.1: Response Rate

Bank Category	Number of Banks	Questionnaires Distributed	Response	Response Rate
Tier 1	10	70	47	67%
Tier 11	11	77	41	53%
Tier 111	17	119	94	79%
Total	38	266	186	70%

4.2 Descriptive Statistics

The respondents were asked to give the level to which they agreed or disagreed with statements on each variable; the study used a 5-point Likert scale, where 1 = Strongly Disagree, 2= Disagree, 3= Neutral, 4=Agree and 5= strongly agree. The results provided were analyzed and the findings interpreted using frequencies (f), means (M) and standard deviation (SD) values.

The means show where the responses are concentrated while standard deviation indicates the variation of the response from the mean score. The values of standard deviations were used to determine convergence and divergence of views expressed by respondents on the statements. Low values of standard deviations show that respondents shared common views on the statements and large standard deviations indicate that respondents' views differed.

4.2.1. Descriptive Analysis Results for Risk Monitoring Practices

The study further sought to establish the role of risk monitoring on the financial performance of banks, using eight indicators namely; formal risk reporting procedures; risk reports; communication of reports to relevant departments or decision-makers. Others indicators, included the usefulness of the dashboard; the place of risk monitoring in risk management process with regard to discovering mistake at early stage; conducting annual compliance audits; the use of compliance audits and the extent to which risk monitoring has impacted financial performance.

Transparent communication of risks to investors, depositors, and other stakeholders enhances trust in the bank's risk management capabilities. This can improve funding opportunities, attract investment, and positively influence financial performance (Alkhyyoon, 2023). The respondents were asked whether formal risk reporting procedures are in place and they regularly communicate risk exposures to the relevant stakeholders; majority of respondents agree that formal risk reporting procedures are in place and they regularly communicate risk exposures to the relevant stakeholders. The statement's (mean = 3.667, standard deviation = 0.710). The mean score of 3.67 suggests that, on average, respondents leaned toward agreement that their banks have formal reporting procedures and communicate risks effectively. The relatively low standard deviation indicates that responses were consistent, with most respondents clustering around the "moderate extent" to "great extent" categories. The distribution of responses: very great extent 4.8%, great extent 63.8%, moderate extent 23.1%, less extent 5.9%, not at all 1.1%. In tandem with these findings, Kiprop and Tenai (2017) in a study on financial institutions used "management reporting on risk exposure" as a proxy for risk monitoring and found a positive link to financial performance. The high level of agreement by the respondents confirms that this practice is widespread among the surveyed banks.

Regular, accurate, and timely reporting of risk evaluations and regulatory compliance significantly enhances the financial performance of pension funds (Wambua, 2024). The respondents were asked whether accurate risk reports are provided on a timely basis. The statement's (mean = 3.371, standard deviation = 0.718) shows, on average, respondents placed their agreement between "moderate" and "great extent". The standard deviation is relatively small, indicating that most responses were consistent and clustered around the middle categories. Majority of respondents agreed that risk reports were accurate and were provided on a timely basis. The distribution of responses: very great extent 7%, great extent 29.0%, moderate extent 59.1%, less extent 3.8%, not at all 1.1%. In tandem with these findings, Lagat and Yegon (2017) avers that accurate and timely risk reports are the output of effective risk monitoring. They enable management to align risks with their goals, make informed decisions, and "discover mistakes early.

Communicating risk reports to relevant departments ensures that all units are aware of current exposures. This cross-functional awareness promotes a coordinated approach to risk mitigation, reducing gaps and overlaps in controls (Kiprop & Tenai, 2017). The respondents were asked whether risk reports were communicated to relevant departments or decision-makers. A mean score of 3.526 suggests that, on average, respondents leaned toward agreement (between moderate and great extent) that risk reports were being effectively communicated. A standard deviation of 0.852 shows moderate variation in responses, meaning that while most agreed, there were some differing views about how consistently reports reach the right stakeholders. The responses were distributed as follows: very great extent 9.7%, great extent, 45.2%, moderate extent 35.5%, less extent 7.5%, not at all 2.2%. In tandem with these findings, Kiemo and Mugo, (2021) opined that in the mid-1980s and 1990s, Kenya saw the failure of 37 banks. Noting that during this time, "political banks" were able to circumvent regulations on risk governance. Implying that critical risk information, such as high non-performing portfolios and low liquidity levels, was either not effectively reported or was deliberately ignored by decision-makers and regulators (Kiemo & Mugo, 2021). Fadun and Oye (2020) assert that the 2008 Global financial crisis was a direct result of a "failure to manage all inherent risks." This failure points to a systemic breakdown in the entire risk management process, including the communication of accurate and timely risk reports to decision-makers.

Actionable and timely risk reports strengthen decision-making, improving overall financial performance (Karanja et al., 2018). The respondents were asked whether risk reporting improved their bank's financial decision-making; The statement's (mean = 3. 194, standard deviation = 1.165) indicates that while risk reporting is generally perceived as beneficial for financial decision-making, its effectiveness varies significantly across institutions as evidenced by the standard deviation. Majority of respondents agreed that risk reporting helps improve a bank's financial decision-making; Very great extent 15.1%, great extent, 25.8%, moderate extent 30.6%, less extent 20.4%, not at all 8.1%. In agreement with these findings, AI Shakrchy, (2017) observed that risk reports are the primary tool that translates a bank's risk profile into actionable intelligence. When these reports are used to inform decisions, banks are better able to achieve stability, enhance profitability and safeguard the organization from losses. By using risk reports, decisionmakers are able to act on the information needed to prevent the kind of failures and poor financial health that plagued the sector (CBK, 2022). However, a mean score of 3.19 indicates that, on average, respondents agree to a moderate extent that risk reporting helps improve their bank's financial decision-making. In tandem with these findings, a standard deviation of 1.165 suggests a more varied opinion on this statement, meaning that while most respondents agree, a notable minority holds a different view. Suggesting that while risk-reporting procedures might exist (as indicated by the respondents), they may not be fully effective in all banks. This could be due to issues of the quality, clarity, or analysis of the reports themselves, or a failure of decision-makers to properly use the information provided. The dissenting opinions in the survey could therefore be a reflection of these "limited and/or inadequate operationalisation" issues noted in a study by Munyambonera & Lwanga (2017).

By highlighting areas of highest risk, dashboards help banks allocate resources more effectively to control or mitigate critical exposures (Karanja et al., 2018). The respondents were asked whether the dashboard was useful in monitoring and managing risk. A mean of 3.07 indicated to a moderate extent. A standard deviation of 0.69 shows a moderate variation, meaning most respondents rated around moderate, with fewer choosing extremes. This shows majority of respondents agreed that the dashboard is useful in monitoring and managing risk though to a moderate extent: The responses were distributed as follows: very great extent



3.2%, great extent 14.5%, moderate extent 72.0%, less extent 6.5% not at all 3.8%. These results suggest that while the majority acknowledge the usefulness of dashboards, the effectiveness is largely perceived as moderate rather than substantial. In agreement with these findings, reviewed literature highlights the necessity of an "efficient risk management system" for a bank to thrive in a "dynamic and volatile environment" (Deloitte, 2022). A dashboard is a central component of such a system, providing a visual and consolidated view of Key Risk Indicators (KRIs) and other metrics. This is a practical application of the recommendation by Kiprop and Tenai (2017) to use KRIs as a proxy for risk monitoring.

Risk Management Theory stipulates that continuous monitoring of risk exposures allows organizations to identify deviations from expected outcomes and implement timely corrective actions (Wenk, 2010, as cited in Suleiman & Al-Qudah, 2022). The respondents were asked whether risk monitoring was useful in ensuring that risk management practices were in line and also helps bank management to discover mistake at early stage. The mean score was 3.30, suggesting that, overall, respondents perceived the usefulness of risk monitoring to be of a moderate-to-great extent. The standard deviation was 0.92, indicating moderate variation in responses, with most respondents expressing agreement while a few rated the usefulness at the extremes (very high or not at all). The responses were distributed as follows: very great extent 3.8%, great extent, 45.7%, moderate extent 328%, less extent 12.4%, not at all 5.4%. In agreement with these findings, Langat and Yegon (2017) researched on the impact of risk checking on execution of monetary foundations in Kenya. Their study concluded that a "legitimate risk checking practices should be utilized to guarantee that risks are in accordance with monetary establishment's administration objectives in order to reveal botches at beginning phases." Malik et al. (2022) underscore the importance of this practice by stating that financial institutions cannot thrive without effective risk management that safeguards them from collapsing. Monitoring is the mechanism that provides this safeguard, the study concludes. Al-Tamimi (2019) classifies a bank's internal risk factors as a key determinant of financial performance. Risk monitoring is singled out as a fundamental internal practice used to manage these factors, ensuring they remain "in line" and do not negatively affect the bank. However, Algremazy et al. (2023) established that risk monitoring had a negative and substantial impact on project performance in the Libyan construction industry. Suggesting that the relationship between risk monitoring and performance is not universal and can be highly industryspecific.

Enterprise Risk Management (ERM) Theory postulates that audits are critical for identifying gaps or deviations in risk management practices, allowing timely corrective action. The respondents were asked whether their bank conducts annual compliance audits to ensure compliance with regulatory framework. The statement's (mean = 2.53, standard deviation = 1.21). A mean score of 2.53 indicated that, on average, respondents slightly disagreed or were neutral on the statement. The standard deviation of 1.21, reflects a high variation in responses, which suggests that respondents' opinions were widely dispersed, with some agreeing and others disagreeing. The findings were distributed as follows: very great extent 7.0%, great extent 17.7%, moderate extent 18.8%, less extent 34.4%, not at all 22.0%. In agreement with these findings, Ozili (2018) avers that lack of robust compliance audits poses a risk to the stability of the banking sector. Concluding that "poor risk management practices" adopted by majority of banks in Sub-Saharan Africa have a significant influence on the "fragility of banks."

Contingency Theory suggests that risk monitoring strategies should adapt based on audit findings to reflect changes in the internal and external environment (Wambua, 2024). The respondents were asked whether compliance audit outcomes influence risk monitoring strategies and performance evaluation. The statement's (mean = 2.914, standard deviation = 1.004) shows that majority of respondents indicated that compliance audit outcomes influence risk monitoring strategies and performance evaluation but to a "moderate extent." The standard deviation of 1.004 indicates a high variation in responses, meaning that opinions were quite spread out across the scale. The findings were distributed as follows: very great extent 5.4%, great extent 19.9%, moderate extent 45.7%, less extent, 18.8%, not at all 10.2%. In tandem with these findings, Jokhadze & Schmidt, (2020) hypothesizes that risk management can lead to a "deterioration of financial performance if not well operationalized." Wambua (2024), found a positive link between risk monitoring and performance. Adding that, an effective risk monitoring system must incorporate the findings from audits to remain relevant.

When asked to what extent has risk monitoring improved your bank's financial performance; Majority of respondents indicated that risk monitoring had improved their bank's financial performance. The statement's (mean = 3.581, standard deviation = 0.783) indicates that, on average, respondents perceive a significant improvement in their bank's financial performance due to risk monitoring. A standard deviation of 0.783 shows moderate variation in responses, meaning most respondents had similar views, but a few responses differed from the majority. The responses were distributed as depicted: very great extent 7.5%, great extent 52.2%, moderate extent 32.8%, less extent 5.9%, not at all 1.6%. In tandem with these findings, Karanja et al. (2018) concludes that credit risk monitoring activities "influenced bank lending performance positively." This was after exploring the influence of credit risk monitoring on lending performance of commercial banks in Nairobi County, Kenya.

In summary, the results show that risk-monitoring practices are widely embedded in Kenyan commercial banks and are perceived to improve financial performance. However, certain aspects particularly compliance audits and the effective use of dashboards are less consistent.

Table 4.2: Descriptive Statistics Results on Risk Monitoring Practice

Statement	NAT	LE	ME	GE	VGE	Mean	Std. Dev
Formal risk reporting procedures are in	1.1%	5.9%	23.1%	65.1%	4.8%	3.6667	0.71028
place and they regularly communicate risk							
exposures to the relevant stakeholders	1 10/	2.90/	50.10/	20.00/	7.00/	3.3710	0.71812
Risk reports are accurate and provided on a timely basis	1.1%	3.8%	59.1%	29.0%	7.0%	3.3/10	0.71812
Risk reports are communicated to relevant	2.2%	7.5%	35.5%	45.2%	9.7%	3.5269	0.85223
departments or decision-makers	2.270	7.670	33.370	10.270	J. 7, 70	3.3207	0.0222
Risk reporting helps improve the bank's	8.1%	20.4%	30.6%	25.8%	15.1%	3.1935	1.16487
financial decision-making							
The dashboard is useful in monitoring and	3.8%	6.5%	72.0%	14.5%	3.2%	3.0699	0.69784
managing risk	5 40/	10 10/	22 004	45.50	2 00/	2 2011	0.007.40
Risk monitoring is used to make sure that	5.4%	12.4%	32.8%	45.7%	3.8%	3.3011	0.92748
risk management practices are in line and also helps bank management to discover							
mistake at early stage							
Your bank conducts annual compliance	22.0%	34.4%	18.8%	17.7%	7.0%	2.5323	1.21323
audits to ensure compliance with regulatory							
framework							
compliance audit outcomes influence risk	10.2%	18.8%	45.7%	19.9%	5.4%	2.9140	1.00438
mitigation strategies and performance							
evaluation	1 (0/	5 00/	22.00/	52.20 /	7.50/	2.5006	0.70255
To what extent has risk monitoring improved your bank's financial	1.6%	5.9%	32.8%	52.2%	7.5%	3.5806	0.78255
improved your bank's financial performance							
Average						3.220	0.8787

4.2.2 Descriptive Statistics Results on Performance of Commercial Banks

Financial performance was considered by the researcher as the dependent variable which the study sought to find out the level of its influence from internal bank factors. Financial performance was measured based on; return on assets (ROA) and return on equity (ROE) and profitability.

4.2.2.1 Return on assets

The descriptive statistics results on return on assets, which was used as the first measure of financial performance of the banks, are as shown in Table 4.3. Commercial banks in Kenya seemed to have lower returns on assets compared to the returns on equity. The mean returns on assets ranged between -0.12845 (minimum) and 0.171675 (maximum). The variability of the returns on assets were also high with all the standard deviations ranging between 0.012261 and 0.064969. The standard deviation statistical rule of 68%,



95% and 99.7% seems to be upheld by the data as more than 68% of the mean observations seem to lie within one standard deviation.

Table 4.3: Return on Assets

Year	Obs	Mean	Std.	Max	Min
2019	38	0.017584	0.029383	0.04831	-0.12845
2020	38	0.01661	0.012261	0.044684	0.000487
2021	38	0.013796	0.024279	0.070264	-0.04636
2022	38	0.011683	0.028799	0.171675	-0.02
2023	38	0.022802	0.064969	0.04	-0.029

4.2.2.2 Return on equity

The descriptive statistics results on return on equity, which was used as the second measure of financial performance of the banks are as shown in Table 4.14 below. The mean returns on equity ranged between 0.010999 (minimum) and 0.396 (maximum). The variability of the returns on equity were also high with all the standard deviations ranging between 0.081701and 0.157121. The standard deviation statistical rule of 68%, 95% and 99.7% seems to be upheld by the data as more than 68% of the mean observations seem to lie within one standard deviation. The negative minimum returns reported over the over the years confirms the fact that there are banks in Kenya that continue to report losses year in year out.

Table 4.4: Returns on Equity

Year	Obs	Mean	Std.	Max	Min
2019	38	0.109327	0.082599	0.277337	0.010999
2020	38	0.064685	0.157121	0.273163	-0.47707
2021	38	0.060056	0.081701	0.29	-0.03904
2022	38	0.092339	0.137457	0.4	-0.416
2023	38	0.104998	0.117022	0.396	-0.02

4.3 Inferential Statistics

4.3.1 Correlation between Risk Monitoring Practices and Performance

The relationship between risk monitoring practices and financial performance of commercial banks in Kenya was investigated using Pearson correlation analysis. Risk monitoring practices and financial performance had a strong, positive, and significant correlation, according to the Pearson Correlation value of r=0.792 (p=0.000). The results showed that commercial banks that embraced risk mitigation practices have experienced enhanced performance. The study's findings are consistent with findings by Wambua (2024), who examined the influence of risk assessment, risk control, risk transfer and risk monitoring on financial performance of pension funds. The research found that risk assessment ($\beta=0.867$), risk control ($\beta=0.844$), risk transfer ($\beta=0.717$), risk monitoring ($\beta=0.918$) lead to significant changes in financial performance of pension funds in Kenya. The study concluded that risk assessment, risk control, risk transfer and risk monitoring significantly influenced financial performance of pension funds in Nairobi, Kenya.

Table 4.5: Correlation between Risk Monitoring Practices and Performance

Variable		Risk Monitoring	Financial Performance of
		Practices	Commercial Banks
Risk Monitoring	Pearson Correlation	1	.792**
Practices	Sig. (2-tailed)		.000
	N	186	186
Financial	Pearson Correlation	.792**	1
Performance of	Sig. (2-tailed)	.0 00	
Commercial Banks	N	186	186

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

4.3.2 ANOVA Test Results

The results of the Analysis of Variance (ANOVA) indicated in Table 4.28 shows that the relationship between the variables is significant (F = 448.23, sig <.05). This implies that risk reporting; use of dashboards to monitor KRIs, routine compliance audits significantly affects the financial performance of



Research Bridge Publisher, International Journal of Innovations and Interdisciplinary Research, Vol. 3, Issue 1, pp: (59-70), Month: January-December 2025, Available at: https://researchbridgepublisher.com/ commercial banks in Kenya. The variables are therefore statistically acceptable as useful in predicting the

Table 4.6: ANOVA Results for Risk Monitoring and Financial Performance

financial performance of commercial banks in Kenya.

Model		Sum of Squares	Df	Mean Square	F	Sig.
,	Regression	108.005	3	36.002	448.230	.000b
1	Residual	14.618	182	.080		
	Total	122.624	185			

a. Dependent Variable: Financial performance of commercial banks in Kenya

b. Predictors: (Constant Risk reporting, Use of dashboards to monitor KRIs, Routine compliance audits.

4.3.3 Regression Coefficients for Risk Monitoring Practices and Performance

Table 4.35 coefficients findings indicate that the constant term is 0.361, implying that holding the variables under consideration to zero, could result to 0.361 units of the financial performance of commercial banks in Kenya. This could be due to other factors not considered in this study.

The regression coefficient for Risk reporting is (B= 0.024, p<.05). This implies that holding other independent variables to zero, an increase in Risk reporting by 1unit results to an increase of 0.024 units in the level of financial performance of commercial banks in Kenya. This suggests that Risk reporting positively and significantly affect the level of financial performance of commercial banks in Kenya The coefficient for review of relevant documentation was (B= 0.034, p<.05). This implies that holding other independent variables to zero, an increase in Use of dashboards to monitor KRIs by 1unit results to increase of 0.034 units in the level of financial performance of commercial banks. The results suggest that Use of dashboards to monitor KRIs positively and significantly affect the financial performance of commercial banks. The coefficient for Routine compliance audits as (B= 0.821, p<.05). This indicates that holding other independent variables to zero, an increase in the Routine compliance audits by 1unit results to increase of 0.821 units in financial performance of commercial banks in Kenya. It implies that Routine compliance audits positively and significantly affects financial performance of commercial banks in Kenya.

The study findings showed that having risk monitoring practices in place enhanced financial performance of banks. The study's findings corroborated those of Karanja et al. (2018) who explored the influence of credit risk monitoring on lending performance of commercial banks in Nairobi County, Kenya. The results of the study revealed that the combined effect of credit risks monitoring activities influenced bank-lending performance positively.

Table 4.7: Regression Coefficients for Risk Monitoring Practices and Performance

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		В	Std. Error	Beta		
1	(Constant)	.361	.123		2.934	.004
	Risk reporting	.024	.062	.023	.388	.039
	Use of dashboards to monitor KRIs	.034	.058	.042	.599	.020
	Routine compliance audits.	.821	.051	.882	15.974	.000

a. Dependent Variable: Financial performance of commercial banks in Kenya

5.0 CONCLUSION AND RECOMMENDATIONS

5.1 Conclusion of the Study

The study set out to examine the effect of risk monitoring practices on the financial performance of commercial banks in Kenya. The results revealed that risk monitoring significantly and positively influences financial performance indicators, including Return on Assets (ROA), Return on Equity (ROE), and profitability. Descriptive statistics showed that most banks had formal risk reporting frameworks, timely reports, and communication systems in place (Mean = 3.22; SD = 0.87). Regression findings further established a statistically significant relationship between risk monitoring and financial performance (β = 0.411, p < 0.05), implying that a unit improvement in risk monitoring practices enhances bank financial



performance by 41.1%. The analysis confirmed that banks adopting structured dashboards, regular compliance audits, and transparent risk reporting enjoy improved profitability and decision-making efficiency. However, weak audit mechanisms and inconsistent use of dashboards were noted as persistent gaps. These results affirm that effective monitoring mechanisms, when integrated into daily operations, strengthen asset quality, reduce credit losses, and enhance shareholder returns, thereby boosting the resilience of Kenya's banking sector against systemic shocks.

5.2 Recommendations of the Study

Based on the findings, the study recommends that commercial banks strengthen their risk monitoring infrastructure by embracing real-time digital dashboards that track key risk indicators (KRIs) and promptly flag anomalies. The Central Bank of Kenya (CBK) should mandate periodic compliance audits and stress testing to reinforce prudential regulation. Management teams should ensure that accurate and timely risk reports are consistently communicated across all decision-making levels to facilitate proactive responses. Investment in staff training on data analytics and predictive monitoring should be prioritized to improve the quality of risk intelligence. Moreover, banks should foster transparency in risk communication to enhance investor confidence and market reputation. Empirical evidence from this study—where risk monitoring accounted for significant improvement in financial outcomes ($R^2 = 0.759$)—demonstrates that institutionalizing strong monitoring mechanisms can directly elevate profitability, capital adequacy, and liquidity stability in the sector.

5.3 Areas for Further Studies

Although this study established a significant positive relationship between risk monitoring and financial performance, it explained only 75.9% of the variance, leaving 24.1% attributable to other unexplored factors. Future studies should therefore investigate complementary determinants such as risk culture, technological innovation, and regulatory frameworks that may mediate or moderate this relationship. A longitudinal study covering multiple economic cycles could provide deeper insights into the dynamic effects of monitoring practices over time. Moreover, comparative studies involving other sectors such as microfinance institutions, insurance companies, and SACCOs would help generalize these findings across Kenya's financial ecosystem. Extending the scope to regional comparisons across East African economies could also uncover contextual differences in how risk monitoring influences financial stability and performance in diverse regulatory environments.

REFERENCES

- [1]. Acharya, V. V., & Richardson, M. (Eds.). (2009). Restoring Financial Stability: How to Repair a Failed System. Wiley Finance.
- [2]. Advanced Security. (2023). What are the 5 stages of the risk management cycle? https://advancedsecurity.com/risk-management-framework-rmf/what-are-the-5-stages-of-the-risk-management-cycle
- [3]. Alkhatib, K., & Harasheh, M. (2023). The impact of digital transformation on the financial performance of banks in the MENA region. Journal of Financial Services Research, 65(3), 215–233. https://doi.org/10.1007/s10693-023-00389-x
- [4]. Al-Nimer, M., Al-Jarrah, G., Al-Mugableh, M., & Al-Qudah, A. (2020). The relationship between business model innovation and risk management techniques and financial performance: Evidence from Jordanian banks. Journal of Risk and Financial Management, 13(8), 183. https://doi.org/10.3390/jrfm13080183
- [5]. American Psychological Association. (2020). Publication manual of the American Psychological Association (7th ed.). American Psychological Association.
- [6]. Biira, J. K., Tukei, J. M. O., Tukei, L., & Mboma, F. (2021). Risk Avoidance Strategies and Performance of Total Uganda Limited. International Journal of Technology and Management, 6(1), 1-8.
- [7]. Cambridge University (2020). Meaning of Performance in English, Cambridge University Press. Retrieved from https://dictionary.cambridge.org/dictionary/ english/performance
- [8]. Central Bank of Barbados (2018). Liquidity Risk Management Guideline, Bank Supervision Department, Central Bank of Barbados, Bridgetown.
- [9]. Central Bank of Kenya, (2017). Bank supervision annual report 2017. Nairobi: Government Printer.



- [10]. Choudhry, M. (2023). The Principles of Banking (2nd ed.). John Wiley & Sons
- [11]. Cooper, D. & Schindler, P. (2014). Business Research Methods. Columbus, OH: McGraw-Hill Irwin.
- [12]. Creswell, J. W., & Creswell, J. D. (2023). Research design: Qualitative, quantitative, and mixed methods approaches (6th ed.). SAGE Publications
- [13]. Deloitte. (2020). Global Risk Management Survey, 12th Edition: Navigating the COVID-19-Driven Volatility. Deloitte Touche Tohmatsu Limited. Retrieved from https://www.deloitte.com/global/en/services/consulting-risk/blogs/deloitte releases-global-risk-management-survey.html
- [14]. Do, T. T., & Mai, N. K. (2020). High-performance organization: a literature review. Journal of Strategy and Management. 15(1), 104-467.
- [15]. Dulanjani, P.A. & Priyanath, H.M.S. (2020). "Intellectual capital and business performance of self-employers in Sri Lanka: an empirical investigation", International Journal of Research and Innovation in Social Science (IJRISS), 4(1), 280-287.
- [16]. Ene, A. N. (2022). Risk Governance and Bank Performance: Do Risk Committee Activism and Finance Experts on the Risk Committee Matter? In Handbook of Research on New Challenges and Global Outlooks in Financial Risk Management (pp. 99-115). IGI Global
- [17]. FDIC. (2024). the Deposit Business at Large vs. Small Banks. Federal Deposit Insurance Corporation. Retrieved from https://www.fdic.gov/system/files/2024-09/wallace-paper-091224.pdf
- [18]. Financial Service Authority. (2019). A regulatory response to the global banking underperformamnce. DP, 09/2.
- [19]. Frankfort-Nachmias, C., Leon-Guerrero, A., & Davis, J. (2020). Social Statistics for a Diverse Society (9th ed.). Sage Publications.
- [20]. Gadke, D. L., Kratochwill, T. R., & Gettinger, M. (2021). Incorporating feasibility protocols in intervention research. Journal of School Psychology, 84, 1-18.
- [21]. Greene, M. R., Trieschmann, J. S., Hoyt, R. E., & Sommer, D. W. (2020). Risk management and insurance (14th ed.). Pearson.
- [22]. Hair, J. F., Jr., Black, W. C., Babin, B. J., & Anderson, R. E. (2024). Multivariate data analysis (8th ed.). Pearson.
- [23]. Field, A. (2020). Discovering statistics using IBM SPSS statistics (5th ed.). SAGE Publications.
- [24]. Hossain, Md. S., & Mohammad Saif, A. N. (2019). Impact of Firm Size on Financial
- [25]. Hoyt, R. E., & Liebenberg, A. P. (2011). The value of enterprise risk management. Journal of risk and insurance, 78(4), 795-822.
- [26]. International Labor Organization (2018). Insurance and economic development: Growth, stabilization and distribution. Available at http://www.ilo.org/impactinsurance. Retrieved 25 May 2019.
- [27]. Investopedia. (2025, May 31). Economies of Scale: What Are They and How Are They Used?. https://www.investopedia.com/terms/e/economiesofscale.asp
- [28]. Jabbour, M., & Crawford, J. (2024). Enterprise Risk Management: Technical, Cognitive, and Social Perspectives. Routledge.
- [29]. Jegan, A., Jayaraman, K., & Mohamad, S. (2024). Influence of risk management culture and process on competitive advantage. Journal of Business and Socio-economic Development, 4(2), 260-279. https://doi.org/10.1108/JBSED-05-2023-0097
- [30]. Jokhadze, V., & Schmidt, W. M. (2020). Measuring model risk in financial risk management and pricing. International Journal of Theoretical and Applied Finance (IJTAF), 23(02), 1-37
- [31]. Juma, A. M., & Atheru, G. (2018). Financial Risks Analysis and Performance of Commercial Banks in Kenya. Journal of Finance and Accounting, 2(2), 76-95
- [32]. Kenya Bankers Association. (2025, April). POLICY BRIEF: Breaking the Doom Loop Strengthening Financial Stability in Kenya's Banking Sector.
- [33]. Kiawa, E. M. (2019). Effect of credit risk management procedures on financial performance among microfinance institutions (MFIS) in Kenya: A case of MFIS in Nairobi County (Doctoral dissertation, Egerton University).
- [34]. Kothari C. & Garg Z., (2023). Research Methodology: Methods and Techniques, (3 Ed.). New Delhi: New age international Publishers.



- [35]. Lohr, S. L. (2019). Sampling: Design and analysis (3rd ed.). CRC Press.
- [36]. Mburu, I. M. (2020). Credit Management Practices and Loan Performance: Empirical Evidence from Commercial Banks in Kenya. International Journal of Current Aspects in Finance, Banking and Accounting, 2(1), 51-63.
- [37]. McAdam, R., Miller, K., & McSorley, C. (2019). Towards a contingency theory perspective of quality management in enabling strategic alignment. International Journal of Production Economics, 207, 195-209.
- [38]. Mongi, B. (2020). Impact of risk management on financial performance of commercial banks in Tanzania. African Journal of Business Management, 14(6), 193–201. https://doi.org/10.5897/AJBM2020.8993
- [39]. Mugenda, O. M., & Mugenda, A. G. (2019). Research Methods: Quantitative and Qualitative Approaches (3rd ed.). Nairobi: Centre for Innovative Leadership & Governance
- [40]. Muriithi, J. G., Waweru, K. M & Muturi, W. M. (2016). Effect of Credit Risk on Financial Performance of Commercial Banks Kenya. IOSR Journal of Economics and Finance (IOSR-JEF). Volume 7, Issue 4. Ver. I, PP 72-83
- [41]. Mwangi, B. W. & Muturi, W. (2016). Effects of credit risk management on loan repayment performance of commercial banks in Kenya. International Academic Journal of Economics and Finance, 2 (2), 1-24
- [42]. Ng'ang'a, D. M., & Gichuki, M. K. (2023). An assessment of the relationship between bank size, operational efficiency, and profitability in the Nigerian banking sector. Journal of African Business, 21(4), 112–128.
- [43]. Ngugi, W., Njuguna, A., & Wambalaba, F. (2018). The influence of pension scheme maturity on investment strategies of pension funds in Kenya. International Journal of Business and Management, 13(10).
- [44]. Njenga, J. N. (2022). Knowledge management strategies and performance of commercial banks in Kenya (Doctoral dissertation, Jomo Kenyatta University of Agriculture and Technology).
- [45]. Nyarangi, J. M., & Ngali, R. (2021). Risk Management Practices and Financial Performance of Insurance Companies Listed in Nairobi Securities Exchange, Kenya. International Academic Journal of Economics and Finance, 3(7), 176-197.
- [46]. Obwogo, C. A., Muturi, W., & Atambo, W. (2017). Effects of enterprise risk management measures on performance of commercial banks in Kenya: A case study of commercial banks in Kisii Town (Master's thesis, Jomo Kenyatta University of Agriculture and Technology).
- [47]. Ocan, Johnson & Akena, Francis. (2025). Risk Management Policies and the Financial Performance of Commercial Banks in Mbale City. International Journal of Finance and Accounting. 4. 9-23. 10.37284/ijfa.4.1.2758.
- [48]. Otaalo, G., Muchelule, Y. & Asinza, K. (2019). Effect of Risk Identification and Risk Analysis on Performance of Road Construction Projects in Kenya: A Case Study of Kakamega County. International Journal of Social Science and Humanities Research, 7(2): 407-411.
- [49]. Pallant, J. (2020). SPSS survival manual: A step by step guide to data analysis using IBM SPSS (7th ed.). Routledge.
- [50]. Park, Y. S., Konge, L., & Artino, A. R., Jr. (2020). The positivism paradigm of research. Academic Medicine, 95(5), 690–694.
- [51]. Pei, J., Zhu, F., & Li, Q. (2023). Diagnostic checks in time series models based on a new correlation coefficient of residuals. Journal of Applied Statistics, 51(12), 2402–2419.
- [52]. Peykani, P., Sargolzaei, M., Botshekan, M. H., Oprean-Stan, C., & Takaloo, A. (2023). Optimization of Asset and Liability Management of Banks with Minimum Possible Changes. Mathematics, 11(12), 2761. https://doi.org/10.3390/math11122761
- [53]. PricewaterhouseCoopers (2019). Annual Report Actuarial turning risk into value, document and /effective capital management.dot.
- [54]. Project Management Institute. (2019). The standard for risk management in portfolios, programs, and projects. Project Management Institute.
- [55]. PwC. (2020). AI in banking and risk management. PwC. https://www.pwc.com
- [56]. Qamruzzaman, M. & Jianguo W. (2013). Risk Management Practice: A case study of the financial sector



- **Research Bridge Publisher,** International Journal of Innovations and Interdisciplinary Research, Vol. 3, Issue 1, pp. (59-70), Month: January-December 2025, Available at: https://researchbridgepublisher.com/ in Bangladesh
- [57]. ResearchGate.https://www.researchgate.net/publication/390353437_project_risk_management
- [58]. Sang, N. M. (2024). Evolution and future directions of banking risk management research: A bibliometric analysis. Business Perspectives. Retrieved from https://quizlet.com/252568171/cis211-final-chapter-9_1-flash-cards/
- [59]. Saunders, A. (2020). Credit risk in two institutional regimes. Journal of Financial Services Research, 57(3), 237-257. https://doi.org/10.1007/s10693-020-00323-1
- [60]. Saunders, M.N., Saunders, M, Lewis, P, & Thornhill, A. (2023). Research methods for business students. 9th edition, Pearson education, New Delhi.
- [61]. Schindler, P. S. (2018). Business research methods (14th ed.), McGraw-Hill Education.
- [62]. Schober, P., Boer, C., & Schwarte, L. A. (2018). Correlation coefficients: Appropriate use and interpretation. Anesthesia & Analgesia, 126(5), 1763–1768. https://doi.org/10.1213/ANE.0000000000002864
- [63]. Taherdoost, H. (2019). What is the best response scale for survey and questionnaire design; Review of different lengths of rating scale/attitude scale/Likert scale. International Journal of Academic Research in Management, 8(1), 1–10
- [64]. The National Treasury and Economic Planning. (2023). Fourth Medium Term Plan 2023-2027: "Bottom-Up Economic Transformation Agenda for Inclusive Growth". Government Printer.
- [65]. Thuku, C. W., & Muchemi, A. (2021). Risk transfer strategy and the performance of insurance companies in Nyeri County, Kenya. International Journal of Innovative Research and Advanced Studies (IJIRAS), 8(2), 28-33.
- [66]. Yusoff, M. S. B. (2019). ABC of content validation and content validity index calculation. Education in Medicine Journal, 11(2), 49-54.
- [67]. Zimon, D., Madzík, P., & Tkáč, M. (2023). Financial performance in sustainable supply chains: The role of working capital and green practices. Journal of Cleaner Production, 408, 137225. https://doi.org/10.1016/j.jclepro.2023.137225