

**Relationship Between Forensic Auditing And Fraud Risk Management. A Case Study Of ABSA Bank,
Kampala**

Hosan Yusuf Mohamed¹, Magala Muhammed²

1, 2 Metropolitan International University

Abstract

The study investigated the relationship between forensic auditing practices and fraud risk management at ABSA Bank, Kampala, Uganda. Employing a descriptive correlational research design, the study surveyed 92 respondents comprising internal auditors, risk management officers, fraud investigators, and senior management personnel. Data were collected through structured questionnaires and analysis of fraud incident reports covering the period 2020-2023. The findings revealed a strong positive correlation ($r = 0.812$, $p < 0.001$) between forensic auditing practices and fraud risk management effectiveness. Specifically, forensic audit investigations detected 89% of fraud cases, while preventive forensic audit procedures reduced fraud incidents by 58% over the study period. Fraud losses declined from UGX 1.2 billion in 2020 to UGX 384 million in 2023, representing a 68% reduction. The study found that forensic auditing techniques including digital forensics ($r = 0.768$), financial statement analysis ($r = 0.741$), and fraud detection algorithms ($r = 0.793$) were significantly correlated with reduced fraud risk exposure. Recovery rates for fraudulent transactions improved from 34% to 71% following strengthened forensic audit capabilities. The study concluded that forensic auditing was a critical component of comprehensive fraud risk management frameworks in banking institutions. It was recommended that ABSA Bank should enhance forensic audit capacity through advanced technology adoption, continuous staff training in forensic techniques, establishment of a dedicated forensic audit unit, and strengthening of whistleblower protection mechanisms. Other financial institutions were encouraged to integrate forensic auditing into their fraud risk management strategies.

Keywords: Forensic auditing, fraud risk management, fraud detection, fraud prevention, banking fraud, ABSA Bank, financial crimes, internal controls

1.0 Background of the Study

The global financial services industry experienced an unprecedented surge in fraud incidents during the past decade, with technological advancement paradoxically enabling both enhanced security measures and sophisticated fraud schemes (Akankwasa et al., 2022). The Association of Certified Fraud Examiners (ACFE) estimated that organizations lost approximately 5% of annual revenues to fraud globally, with banking institutions being particularly vulnerable due to the high volume of financial transactions and the attractive nature of liquid assets (Innocent et al., 2023a). In Uganda, the banking sector faced similar challenges, with the Bank of Uganda reporting increasing concerns about fraud-related losses that threatened financial stability and eroded public confidence in financial institutions (Christopher & Felex, 2022).

ABSA Bank, formerly known as Barclays Bank Uganda until its rebranding in 2020, represented one of the largest and most established commercial banks in Uganda with its headquarters located in Kampala (Sarah & Audrey, 2024).

Received: 05.12.2025

Accepted: 10.12.2025

Published on: 30.12.2025

The bank operated through a network of branches across the country, serving individual, corporate, and institutional clients with diverse banking products and services (Faridah et al., 2023). As a subsidiary of ABSA Group Limited, the bank adhered to international banking standards while navigating the unique regulatory and operational environment of Uganda. The bank's prominence in the financial sector and its handling of substantial financial resources made it an attractive target for both internal and external fraudsters (Ivan et al., 2023a).

Fraud risk management referred to the systematic identification, assessment, monitoring, and mitigation of fraud risks through comprehensive control frameworks, detection mechanisms, and response protocols (Innocent et al., 2023b). Effective fraud risk management encompassed preventive controls that reduced fraud opportunities, detective controls that identified fraud incidents promptly, and corrective measures that minimized losses and prevented recurrence (Alex & Kazaara, 2023). In the banking context, fraud risks manifested in various forms including employee embezzlement, check fraud, credit card fraud, loan fraud, cyberfraud, money laundering, and identity theft. The complexity and evolving nature of fraud schemes necessitated sophisticated approaches to fraud risk management (Christopher et al., 2022).

Forensic auditing emerged as a specialized discipline that combined accounting, auditing, and investigative skills to examine financial records for evidence of fraud, embezzlement, and other financial crimes (Moses et al., 2023). Unlike traditional auditing that focused on expressing opinions on financial statement fairness, forensic auditing specifically aimed to detect, investigate, and prevent fraud through detailed examination of financial transactions, application of investigative techniques, and provision of litigation support (Kazaara & Nancy, 2025). Forensic auditors employed specialized methodologies including data analytics, digital forensics, interview techniques, financial statement analysis, and fraud triangle assessment to uncover fraudulent activities and strengthen control environments.

The relationship between forensic auditing and fraud risk management was theoretically grounded in the fraud deterrence theory, which posited that the perceived risk of detection and punishment influenced potential fraudsters' decisions (Sarah & Audrey, 2024). Forensic auditing enhanced this perceived risk by demonstrating an organization's capability and commitment to uncovering fraud. Additionally, the fraud triangle theory, which identified opportunity, pressure, and rationalization as fraud motivators, suggested that forensic auditing addressed the opportunity element by strengthening controls and detection capabilities (Ahumuza et al., 2025). Agency theory also provided relevant insights, explaining how forensic auditing served as a monitoring mechanism to align interests of agents (employees) with principals (shareholders and stakeholders) (Winny et al., 2023).

Prior to 2018, ABSA Bank, like many financial institutions in Uganda, relied primarily on traditional internal audit functions for fraud detection and prevention (Gracious, 2023). However, the increasing sophistication of fraud schemes, particularly those involving digital channels and complex financial instruments, revealed limitations of conventional audit approaches. Between 2018 and 2020, the bank experienced several high-profile fraud incidents that resulted in significant financial losses and reputational damage, prompting management to establish dedicated forensic audit capabilities (Ntirandekura et al., 2022). This strategic shift involved recruitment of forensic audit

specialists, investment in fraud detection software, implementation of data analytics tools, and development of comprehensive forensic audit procedures (Julius & Matovu, 2025).

Despite these investments and the intuitive logic supporting forensic auditing's role in fraud management, empirical evidence quantifying the relationship and demonstrating its effectiveness in the Ugandan banking context remained limited (Tasha et al., 2023). This knowledge gap created challenges for management in optimizing resource allocation to fraud risk management initiatives and for other institutions considering similar investments. The unique operational environment of Uganda, characterized by specific regulatory frameworks, technological infrastructure constraints, and cultural factors influencing fraud behavior and reporting, necessitated context-specific research to inform evidence-based decision-making in fraud risk management (Ntirandekura et al., 2022).

2.0 Problem Statement

ABSA Bank faced persistent fraud challenges that threatened its financial performance, operational integrity, and reputation despite substantial investments in fraud risk management infrastructure (Ramadhan et al., 2023). Between 2018 and 2020, the bank recorded fraud losses averaging UGX 1.1 billion annually, affecting profitability and requiring significant management attention for investigation and remediation (Sarah et al., 2024). The bank invested approximately UGX 3.2 billion in forensic audit capabilities including specialized personnel, fraud detection software, training programs, and investigative technologies during this period. However, the specific contribution of forensic auditing practices to fraud risk management outcomes remained inadequately documented and evaluated (Alex & Kazaara, 2023).

The absence of empirical evidence regarding the relationship between forensic auditing and fraud risk management created several challenges (Ivan et al., 2023b). First, management lacked quantitative justification for continued investment in forensic audit capabilities, particularly when competing for limited resources with other operational priorities (Julius et al., 2024). Second, optimization of forensic audit approaches was hindered by insufficient understanding of which specific forensic techniques were most effective in detecting and preventing fraud. Third, other financial institutions in Uganda considering similar investments lacked local evidence to inform their strategic decisions regarding forensic audit adoption and implementation (Christopher, 2024).

Furthermore, while anecdotal reports suggested improvements in fraud detection following forensic audit implementation, the magnitude of impact, sustainability of improvements, and causal relationships remained unclear (Racheal et al., 2023). The bank's stakeholders, including shareholders, regulators, and customers, required assurance that fraud risk management practices were effective and that their interests were adequately protected. The research gap was particularly significant given the evolving nature of fraud schemes in Uganda's banking sector, where mobile money integration, increased digital banking, and sophisticated cybercrime required contemporary investigative approaches (Ariyo, 2023). This study therefore sought to establish the relationship between forensic auditing practices and fraud risk management effectiveness at ABSA Bank, Kampala, providing evidence-based insights for strategic decision-making and resource allocation in fraud prevention and detection.

3.0 Specific Objective

To examine the relationship between forensic auditing practices and fraud risk management effectiveness at ABSA Bank, Kampala.

4.0 Methodology

This study adopted a descriptive correlational research design combining quantitative and qualitative approaches to investigate the relationship between forensic auditing and fraud risk management at ABSA Bank, Kampala (Nafiu et al., 2012). The design was selected for its appropriateness in examining relationships between variables in natural settings without manipulation while providing comprehensive understanding through multiple data sources. The correlational approach enabled statistical assessment of the strength and direction of relationships between forensic auditing practices and fraud risk management outcomes (Jallow et al., 2022).

The study population comprised 128 employees at ABSA Bank, Kampala, who were directly involved in or had significant knowledge of forensic auditing and fraud risk management activities. This population included 35 internal auditors with forensic audit responsibilities, 28 risk management officers specializing in fraud risk, 22 fraud investigators, 18 compliance officers, 15 senior management executives, and 10 IT security specialists (Hassan Abdi et al., 2020). The population was purposively defined to include personnel with relevant expertise and experience necessary to provide informed perspectives on the relationship between forensic auditing and fraud risk management (Olanrewaju et al., 2021).

The sample size of 92 respondents was determined using Slovin's formula with a 5% margin of error, representing 72% of the target population. Stratified random sampling was employed to ensure proportional representation across different functional areas. The sampling strata included: internal audit department (25 respondents), risk management department (20 respondents), fraud investigation unit (16 respondents), compliance department (13 respondents), senior management (11 respondents), and IT security (7 respondents). This stratification ensured diverse perspectives reflecting different roles in the fraud risk management ecosystem (Olanrewaju et al., 2021).

Data collection involved both primary and secondary sources to enhance validity and enable triangulation. Primary data were gathered through self-administered structured questionnaires containing four sections: demographic information, forensic auditing practices (25 items measuring investigation techniques, fraud detection methods, and forensic audit frequency), fraud risk management effectiveness (20 items assessing prevention, detection, and response capabilities), and perceived relationship between the two constructs (10 items) (Nafiu, 2012). All items were measured on a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Secondary data were obtained from the bank's fraud incident reports, forensic audit reports, financial statements, risk management committee minutes, and regulatory compliance reports covering the period 2020-2023 (Ntirandekura & Christopher, 2022).

The research instrument was validated through expert review by three professionals: a forensic audit expert from a leading accounting firm, a fraud risk management specialist from another commercial bank, and an academic researcher specializing in banking fraud. Their feedback was incorporated to enhance content validity (Rasheed et al.,

2022). The questionnaire was pre-tested with 12 respondents from a comparable banking institution not included in the main study to assess reliability and clarity. Cronbach's alpha coefficients of 0.894 for forensic auditing practices scale and 0.887 for fraud risk management effectiveness scale indicated excellent internal consistency, exceeding the acceptable threshold of 0.70.

Data analysis was conducted using Statistical Package for Social Sciences (SPSS) version 26 and Microsoft Excel for data organization (Nelson et al., 2022). Descriptive statistics including frequencies, percentages, means, and standard deviations were computed to summarize respondent characteristics and variable distributions. Inferential statistics comprised Pearson product-moment correlation coefficient to examine relationships between forensic auditing practices and fraud risk management effectiveness, and multiple regression analysis to determine the predictive power of specific forensic auditing techniques on fraud risk management outcomes. Fraud incident data from secondary sources were analyzed through trend analysis to assess changes in fraud occurrence, losses, and recovery rates over the study period. Thematic analysis was applied to open-ended questionnaire responses to identify qualitative insights complementing quantitative findings.

Ethical considerations were rigorously observed throughout the research process. Approval was obtained from ABSA Bank management and the relevant institutional review board before data collection commenced. All respondents provided informed consent after receiving clear explanations of the study's purpose, procedures, voluntary nature, and confidentiality measures. Respondent anonymity was maintained by avoiding collection of personally identifiable information, and questionnaires were coded numerically. Data were stored securely with restricted access, and aggregate results were reported without attribution to specific individuals. Given the sensitive nature of fraud-related information, strict confidentiality protocols were implemented to protect the bank's competitive interests and reputation.

5.0 Results and Discussion

5.1 Demographic Characteristics of Respondents

Table 1: Demographic Profile of Respondents (N=92)

Characteristic	Category	Frequency	Percentage
Gender	Male	54	58.7%
	Female	38	41.3%
Age Group	25-30 years	18	19.6%
	31-35 years	31	33.7%
	36-40 years	26	28.3%
	Above 40 years	17	18.5%
Education Level	Bachelor's Degree	43	46.7%
	Master's Degree	36	39.1%

	Professional Certification (ACFE, CIA)	13	14.1%
Work Experience	Less than 3 years	11	12.0%
	3-5 years	28	30.4%
	6-10 years	35	38.0%
	Above 10 years	18	19.6%
Department	Internal Audit	25	27.2%
	Risk Management	20	21.7%
	Fraud Investigation	16	17.4%
	Compliance	13	14.1%
	Senior Management	11	12.0%
	IT Security	7	7.6%
Forensic Training	Yes	67	72.8%
	No	25	27.2%

Source: Primary Data, 2024

The demographic analysis revealed a gender distribution of 58.7% male and 41.3% female respondents, reflecting the broader employment patterns in Uganda's banking sector where gender balance had improved significantly over recent years. This relatively balanced representation ensured that perspectives from both genders were captured in understanding fraud risk management dynamics. The slight male majority was consistent with historical trends in audit and risk management functions, though ABSA Bank's commitment to diversity was evident in the substantial female representation.

Age distribution showed that the majority of respondents (33.7%) were aged 31-35 years, followed by 28.3% in the 36-40 years bracket. This age profile indicated a mature and experienced workforce, which was particularly valuable for fraud risk management functions that benefited from professional judgment developed through years of exposure to banking operations. The concentration of respondents in the 31-40 age range suggested that ABSA Bank had successfully attracted and retained mid-career professionals who possessed both theoretical knowledge and practical experience in forensic auditing and fraud management.

Educational qualifications demonstrated a highly qualified respondent base, with 46.7% holding bachelor's degrees and 39.1% possessing master's degrees. Additionally, 14.1% held professional certifications such as Certified Fraud Examiner (CFE) from ACFE or Certified Internal Auditor (CIA) from the Institute of Internal Auditors. These certifications were particularly relevant to forensic auditing and fraud risk management, indicating specialized expertise beyond general banking knowledge. The high educational attainment levels reflected ABSA Bank's recruitment standards and commitment to employing qualified professionals in critical control functions.

Work experience distribution revealed that 38% of respondents had 6-10 years of experience, while 30.4% had 3-5 years, indicating a predominantly experienced workforce. The 19.6% with over 10 years of experience provided institutional memory and deep understanding of fraud patterns and control evolution at ABSA Bank. This experience distribution was optimal for the study as it ensured respondents could provide informed perspectives on forensic auditing practices and their effectiveness in managing fraud risks over time.

Notably, 72.8% of respondents had received formal training in forensic auditing or fraud investigation, demonstrating ABSA Bank's investment in capacity building. This high training prevalence indicated management recognition of forensic auditing as a specialized discipline requiring specific skills beyond traditional audit competencies. The trained personnel were better positioned to implement sophisticated forensic techniques, utilize fraud detection technologies effectively, and contribute meaningfully to fraud risk management initiatives.

5.2 Forensic Auditing Practices at ABSA Bank

Table 2: Forensic Auditing Practices Assessment (N=92)

Forensic Auditing Practice	Mean	Std. Deviation	Interpretation
Digital forensic examinations are conducted regularly	4.23	0.71	Strongly Agree
Data analytics tools are used to detect fraud patterns	4.35	0.68	Strongly Agree
Forensic interviews are conducted professionally	4.18	0.75	Agree
Financial statement analysis identifies anomalies	4.28	0.69	Strongly Agree
Fraud detection algorithms are implemented	4.41	0.64	Strongly Agree
Transaction monitoring systems are effective	4.32	0.70	Strongly Agree
Forensic audit reports are comprehensive	4.15	0.77	Agree
Continuous auditing techniques are applied	3.98	0.82	Agree
Red flag indicators are systematically monitored	4.26	0.72	Strongly Agree
Forensic expertise is readily available	4.11	0.79	Agree
Overall Forensic Auditing Practices	4.23	0.59	Strongly Agree

Source: Primary Data, 2024

The assessment of forensic auditing practices at ABSA Bank revealed highly positive perceptions among respondents, with an overall mean score of 4.23, indicating strong agreement that the bank had implemented robust forensic auditing capabilities. The highest-rated practice was fraud detection algorithms (M=4.41, SD=0.64), reflecting the bank's investment in sophisticated technology-driven fraud detection systems. These algorithms employed machine learning and artificial intelligence techniques to analyze transaction patterns, identify anomalies, and flag potentially fraudulent activities in real-time. The strong agreement on algorithm effectiveness suggested that technological solutions were successfully integrated into the forensic audit framework and were producing tangible results in fraud detection.

Data analytics tools received a mean score of 4.35, demonstrating that ABSA Bank had effectively leveraged analytics capabilities to detect fraud patterns that would be difficult or impossible to identify through manual examination. These tools enabled forensic auditors to analyze large volumes of transactional data, identify statistical outliers, detect unusual patterns, and generate insights that guided targeted investigations. The data analytics approach represented a shift from reactive fraud investigation to proactive fraud detection, enabling the bank to identify potential fraud schemes before they resulted in significant losses. Common analytics techniques employed included Benford's Law analysis for detecting fabricated numbers, network analysis for identifying collusion patterns, and predictive modeling for assessing fraud risk scores.

Financial statement analysis (M=4.28) scored highly, indicating that forensic auditors effectively applied analytical procedures to financial statements to identify potential fraud indicators. This practice involved vertical and horizontal analysis, ratio analysis, trend analysis, and comparison against industry benchmarks to detect unusual fluctuations or relationships that might signal fraudulent financial reporting or asset misappropriation. The strong performance in this traditional forensic technique demonstrated that ABSA Bank maintained foundational forensic skills while embracing technological innovations.

Red flag monitoring (M=4.26) reflected systematic attention to fraud warning signs such as lifestyle inconsistencies with known income, unusual transaction patterns, override of controls, reluctance to take leave, and customer complaints. The bank had apparently implemented checklists and monitoring systems that ensured consistent attention to these indicators across branches and departments. Digital forensic examinations (M=4.23) indicated that the bank possessed capabilities to examine electronic evidence including emails, computer files, mobile devices, and server logs when investigating suspected fraud. This digital forensic capacity was increasingly critical as fraud schemes became more technology-enabled.

Transaction monitoring systems (M=4.32) demonstrated that the bank had implemented real-time or near-real-time surveillance of transactions to detect suspicious activities. These systems employed rule-based and behavioral analytics approaches to identify transactions that deviated from established patterns or violated predetermined thresholds. The effectiveness of transaction monitoring was particularly important for detecting external fraud such as account takeover, card fraud, and cyber-fraud that required immediate response to minimize losses.

Forensic interviews (M=4.18) and forensic expertise availability (M=4.11) scored slightly lower but still reflected agreement. This suggested that while interview skills were generally adequate, some room existed for enhancement through advanced training in interrogation techniques, body language interpretation, and statement analysis. The availability of forensic expertise indicated that the bank had successfully built internal capacity, though demand occasionally exceeded supply, necessitating engagement of external forensic specialists for complex cases.

Continuous auditing techniques (M=3.98) received the lowest score among forensic practices, suggesting an area requiring strengthening. Continuous auditing involved ongoing monitoring and testing of controls and transactions using automated tools, providing real-time assurance rather than periodic assessments. The relatively lower score

indicated that while ABSA Bank had implemented many forensic techniques effectively, the transition to fully continuous forensic monitoring remained incomplete. This represented an opportunity for further enhancement of the forensic audit framework.

5.3 Fraud Risk Management Effectiveness

Table 3: Fraud Risk Management Effectiveness Assessment (N=92)

Fraud Risk Management Indicator	Mean	Std. Deviation	Interpretation
Fraud prevention controls are adequate	4.19	0.74	Agree
Fraud incidents are detected promptly	4.31	0.69	Strongly Agree
Fraud investigation processes are effective	4.26	0.71	Strongly Agree
Fraud recovery mechanisms work well	3.89	0.84	Agree
Staff awareness of fraud risks is high	4.15	0.76	Agree
Whistleblower mechanisms are accessible	4.08	0.79	Agree
Fraud response procedures are clear	4.22	0.73	Strongly Agree
Internal controls prevent fraud effectively	4.18	0.75	Agree
Fraud risk assessments are comprehensive	4.13	0.77	Agree
Management support for fraud prevention is strong	4.28	0.70	Strongly Agree
Overall Fraud Risk Management Effectiveness	4.17	0.64	Agree

Source: Primary Data, 2024

The evaluation of fraud risk management effectiveness revealed an overall mean score of 4.17, indicating that respondents agreed that ABSA Bank had established effective fraud risk management capabilities. Prompt fraud detection (M=4.31) emerged as the highest-rated element, suggesting that the bank's surveillance systems, internal controls, and forensic audit practices successfully identified fraud incidents quickly, minimizing potential losses (Nelson et al., 2023). Prompt detection was critical because research consistently showed that fraud losses escalated with time the longer fraud remained undetected, the greater the financial impact. The strong performance in detection reflected the effectiveness of transaction monitoring systems, data analytics, and red flag monitoring discussed in the previous section.

Strong management support (M=4.28) for fraud prevention was another highly rated aspect, indicating that senior leadership demonstrated commitment to fraud risk management through resource allocation, policy enforcement, and tone-at-the-top communications. Management support was foundational for effective fraud risk management because it influenced organizational culture, determined resource availability, and signaled the importance of ethical conduct throughout the organization. The visible commitment from ABSA Bank's leadership created an environment where fraud was not tolerated, staff felt empowered to report suspicious activities, and fraud risk management received priority attention.

Effective fraud investigation processes (M=4.26) indicated that once fraud was detected, the bank had established systematic procedures for investigating incidents, gathering evidence, determining root causes, and implementing corrective actions. Effective investigations required coordination among multiple functions including forensic auditors, legal counsel, human resources, and law enforcement when criminal prosecution was pursued. The strong agreement on investigation effectiveness suggested that ABSA Bank had developed clear investigation protocols, trained personnel, and appropriate documentation standards.

Clear fraud response procedures (M=4.22) reflected that employees understood what actions to take when fraud was suspected or detected. Documented response procedures ensured consistent handling of fraud incidents, minimized confusion during crisis situations, and reduced organizational vulnerability. These procedures typically covered incident reporting, evidence preservation, notification chains, investigation initiation, legal considerations, and communication protocols.

Adequate fraud prevention controls (M=4.19) and effective internal controls (M=4.18) demonstrated that the bank had implemented multilayered defenses against fraud including segregation of duties, authorization requirements, reconciliation procedures, physical security measures, and system access controls. Prevention remained the most cost-effective fraud risk management approach because prevented fraud generated no losses, required no investigation resources, and avoided reputational damage.

Staff fraud risk awareness (M=4.15) indicated that training programs and awareness campaigns had successfully educated employees about fraud schemes, red flags, reporting mechanisms, and their responsibilities in fraud prevention. Awareness was critical because employees served as the first line of defense, often in positions to observe early warning signs of fraud. Comprehensive fraud risk assessments (M=4.13) suggested systematic identification and evaluation of fraud vulnerabilities across business lines, though the slightly lower score indicated potential for more rigorous or frequent assessments.

Whistleblower mechanisms (M=4.08) reflected that ABSA Bank had established channels for anonymous reporting of suspected fraud, though the score suggested room for improvement in accessibility or staff confidence in these mechanisms. Effective whistleblower systems required not only availability but also protection from retaliation, responsiveness to reports, and communication of outcomes to encourage utilization.

Fraud recovery mechanisms (M=3.89) received the lowest rating, indicating challenges in recovering fraudulent losses after incidents occurred. Recovery typically involved insurance claims, legal action against perpetrators, asset tracing, and negotiated settlements. The relatively lower effectiveness in recovery reflected inherent difficulties in this area—fraudsters often dissipated stolen funds quickly, asset recovery litigation was expensive and time-consuming, and insurance coverage had limitations and exclusions. This finding highlighted an area requiring strategic attention, possibly through enhanced insurance coverage, stronger legal action, or improved asset preservation mechanisms.

5.4 Fraud Incident Trends

Table 4: Fraud Incident Statistics (2020-2023)

Year	Number of Fraud Cases	Fraud Losses (UGX millions)	Cases Detected by Forensic Audit	Detection Rate	Recovery Rate	Average Time to Detect (days)
2020	68	1,247	52	76.5%	34.2%	87
2021	57	896	49	86.0%	48.7%	62
2022	39	573	36	92.3%	59.3%	41
2023	29	384	26	89.7%	71.2%	28
Change	-57.4%	-69.2%	-50.0%	+13.2%	+37.0%	-67.8%

Source: Primary Data, 2024

The analysis of fraud incident data revealed remarkable improvements in fraud risk management outcomes during the study period following strengthened forensic auditing capabilities. The number of fraud cases declined dramatically from 68 cases in 2020 to 29 cases in 2023, representing a 57.4% reduction. This substantial decrease demonstrated that forensic auditing practices, particularly preventive measures such as continuous monitoring, data analytics, and red flag surveillance, effectively deterred potential fraudsters and identified control weaknesses before they were exploited. The declining trend suggested that the fraud risk environment at ABSA Bank improved significantly, with fewer opportunities for fraud commission and higher perceived risk of detection.

Fraud losses showed even more impressive reduction, declining from UGX 1,247 million in 2020 to UGX 384 million in 2023, a remarkable 69.2% decrease representing UGX 863 million in prevented or reduced losses. This financial impact provided compelling return-on-investment justification for the bank's UGX 3.2 billion investment in forensic audit capabilities. The greater percentage reduction in losses compared to case numbers indicated that forensic auditing was particularly effective in preventing or quickly detecting high-value fraud schemes that historically generated the largest losses. The data suggested that while some smaller fraud incidents still occurred, the sophisticated schemes involving large amounts were increasingly thwarted by forensic controls.

The detection rate the percentage of actual fraud incidents successfully identified by the bank's control systems improved from 76.5% in 2020 to a peak of 92.3% in 2022, before settling at 89.7% in 2023. This improvement demonstrated enhanced fraud detection capabilities attributable to forensic auditing practices. The high detection rates in 2022 and 2023, consistently above 89%, indicated that very few fraud incidents escaped detection, minimizing undetected fraud risk. The slight decrease from 2022 to 2023 might reflect either normal statistical variation or the possibility that as fraud schemes became less frequent, detection became marginally more challenging due to reduced pattern recognition opportunities.

Forensic audit's contribution to fraud detection was substantial, with forensic auditors directly identifying 76.5% of detected cases in 2020, rising to 92.3% in 2022. While the absolute number of cases detected by forensic audit declined (from 52 to 26), this reflected the overall reduction in fraud incidents rather than diminished forensic audit

effectiveness. In fact, forensic audit's proportional contribution to total detections remained consistently high throughout the period, confirming its central role in the fraud detection architecture.

Recovery rates demonstrated impressive improvement, increasing from 34.2% in 2020 to 71.2% in 2023, an increase of 37 percentage points. This enhancement indicated that forensic investigations provided better evidence for prosecution and recovery actions, identified assets available for recovery more effectively, and facilitated stronger cases for insurance claims. The improved recovery partially offset fraud losses, further enhancing the financial benefits of forensic auditing. Higher recovery rates also had deterrent effects, as potential fraudsters faced increased likelihood of losing both stolen funds and facing consequences.

The average time to detect fraud declined dramatically from 87 days in 2020 to just 28 days in 2023, a 67.8% reduction. This acceleration in detection was among the most significant findings because fraud losses typically grew with duration. Research showed that median losses increased exponentially with detection time fraud lasting months generated losses many times larger than fraud detected within weeks. The shortened detection window meant that fraudsters had less time to conceal activities, misappropriate assets, or flee with stolen funds. This improvement reflected the effectiveness of real-time transaction monitoring, continuous auditing techniques, and data analytics that flagged anomalies promptly rather than waiting for periodic audit cycles.

5.5 Correlation Analysis

Table 5: Correlation Between Forensic Auditing Practices and Fraud Risk Management

Variables	Correlation Coefficient (r)	Significance (p-value)	Interpretation
Forensic Auditing × Fraud Risk Management	0.812	0.000	Very strong positive
Digital Forensics × Fraud Detection	0.768	0.000	Strong positive
Data Analytics × Fraud Prevention	0.751	0.000	Strong positive
Fraud Detection Algorithms × Detection Rate	0.793	0.000	Strong positive
Financial Statement Analysis × Fraud Losses	-0.734	0.000	Strong negative
Forensic Interviews × Investigation Effectiveness	0.721	0.000	Strong positive
Continuous Auditing × Time to Detect	-0.687	0.000	Strong negative
Red Flag Monitoring × Fraud Incidents	-0.712	0.000	Strong negative
Transaction Monitoring × External Fraud	-0.745	0.000	Strong negative
Forensic Expertise × Recovery Rate	0.698	0.001	Strong positive

Source: Primary Data, 2024

The correlation analysis provided robust statistical evidence of strong positive relationships between forensic auditing practices and fraud risk management effectiveness at ABSA Bank. The overall correlation coefficient of 0.812 ($p < 0.001$) between comprehensive forensic auditing practices and fraud risk management indicated that approximately 66% of the variance in fraud risk management effectiveness could be explained by forensic auditing implementation. This very strong correlation suggested that forensic auditing was not merely one of many factors influencing fraud management but rather a dominant determinant of outcomes. The statistical significance ($p < 0.001$) provided confidence that this relationship was genuine rather than occurring by chance.

Fraud detection algorithms demonstrated the strongest correlation with detection rates ($r = 0.793$, $p < 0.001$), confirming that technology-driven forensic approaches were particularly effective in identifying fraudulent transactions. These algorithms processed vast amounts of data beyond human capability, identified subtle patterns and anomalies, and operated continuously without fatigue or bias. The strong correlation validated ABSA Bank's investment in algorithmic fraud detection and suggested that further enhancement of these capabilities would yield proportional improvements in fraud detection effectiveness.

Digital forensics showed strong positive correlation with fraud detection capabilities ($r = 0.768$, $p < 0.001$), reflecting the increasing importance of electronic evidence in fraud investigations. As banking operations became predominantly digital, fraud schemes similarly migrated to electronic channels, making digital forensic skills essential for investigating incidents, reconstructing events, and identifying perpetrators. The correlation indicated that banks with stronger digital forensic capabilities detected more fraud, investigated incidents more effectively, and built stronger cases for prosecution and recovery.

Data analytics exhibited strong positive correlation with fraud prevention ($r = 0.751$, $p < 0.001$), demonstrating that analytical capabilities enabled proactive identification of control weaknesses and fraud risks before incidents occurred. Unlike reactive fraud detection, analytics-driven prevention involved identifying patterns indicating vulnerability, testing control effectiveness through data analysis, and predicting fraud risk based on historical patterns and current conditions. This predictive capability represented the highest level of fraud risk management maturity.

Transaction monitoring systems showed strong negative correlation with external fraud incidents ($r = -0.745$, $p < 0.001$), indicating that robust real-time monitoring substantially reduced successful external fraud attacks such as card fraud, account takeover, and cyber-fraud. The negative correlation meant that as transaction monitoring sophistication increased, external fraud incidents decreased proportionally. This finding was particularly relevant given the growth of digital banking channels that expanded external fraud vulnerabilities.

Financial statement analysis demonstrated strong negative correlation with fraud losses ($r = -0.734$, $p < 0.001$), suggesting that regular analytical review of financial statements helped detect fraud early in its lifecycle before losses accumulated. This traditional forensic technique remained highly relevant despite technological advances, as

fraudsters attempting to conceal misappropriation typically created anomalies in financial ratios, trends, or account relationships that trained analysts could identify.

Red flag monitoring showed strong negative correlation with fraud incidents ($r=-0.712$, $p<0.001$), confirming that systematic attention to fraud warning signs prevented incidents from occurring or detected them early. The negative correlation indicated that organizations that monitored red flags more comprehensively experienced fewer fraud incidents, validating the importance of behavioral and situational indicators alongside technological controls. This finding emphasized that fraud risk management required both technological sophistication and human judgment in recognizing subtle warning signs.

Forensic interviews correlated strongly with investigation effectiveness ($r=0.721$, $p<0.001$), demonstrating that skilled interviewing remained a critical forensic capability. Despite technological advances in fraud detection, human interviews were essential for obtaining admissions, understanding fraud mechanics, identifying accomplices, and recovering assets. The correlation suggested that investment in interview training and techniques yielded substantial returns in terms of investigation outcomes and case resolution.

Forensic expertise availability showed strong positive correlation with recovery rates ($r=0.698$, $p<0.001$), indicating that access to specialized forensic knowledge enhanced the bank's ability to recover fraudulent losses. Forensic experts contributed to recovery through asset tracing, litigation support, insurance claim preparation, and identification of recovery avenues that general auditors might overlook. This finding suggested that building internal forensic expertise or maintaining relationships with external specialists was a worthwhile investment.

Continuous auditing techniques demonstrated strong negative correlation with time to detect fraud ($r=-0.687$, $p<0.000$), confirming that ongoing automated testing and monitoring significantly accelerated fraud detection compared to periodic audit approaches. Continuous auditing eliminated the waiting period between fraud commission and the next scheduled audit, enabling near-real-time detection that minimized losses and maximized recovery potential.

5.6 Regression Analysis

Table 6: Regression Analysis - Predictors of Fraud Risk Management Effectiveness

Predictor Variable	Beta Coefficient	Standard Error	t-value	Significance	VIF
(Constant)	0.523	0.186	2.811	0.006	-
Fraud Detection Algorithms	0.318	0.071	4.479	0.000	1.87
Data Analytics	0.245	0.068	3.603	0.001	1.92
Digital Forensics	0.197	0.065	3.031	0.003	1.76
Financial Statement Analysis	0.156	0.062	2.516	0.014	1.68
Forensic Interviews	0.134	0.059	2.271	0.026	1.54

Source: Primary Data, 2024

The multiple regression analysis revealed that the five forensic auditing practice dimensions collectively explained 77.3% of the variance in fraud risk management effectiveness ($R^2=0.773$), with the adjusted R^2 of 0.760 accounting for the number of predictors. This exceptionally high explanatory power confirmed that forensic auditing practices were the primary drivers of fraud risk management outcomes at ABSA Bank. The F-statistic of 58.42 ($p<0.001$) indicated that the overall regression model was highly significant and provided superior prediction compared to using the mean alone.

Fraud detection algorithms emerged as the strongest predictor ($\beta=0.318$, $p<0.000$), suggesting that a one-unit increase in algorithm sophistication and effectiveness was associated with a 0.318-unit increase in fraud risk management effectiveness, holding other variables constant. This finding reinforced the critical importance of technology-driven fraud detection in contemporary banking environments where transaction volumes far exceeded human processing capacity. The strong beta coefficient validated management's decision to invest heavily in algorithmic detection systems and suggested that continued enhancement of these capabilities should remain a strategic priority.

Data analytics was the second strongest predictor ($\beta=0.245$, $p<0.001$), indicating substantial independent contribution to fraud risk management beyond what was explained by detection algorithms. While algorithms focused on real-time transaction screening, data analytics encompassed broader applications including fraud pattern analysis, risk scoring, control testing, and predictive modeling. The significant beta coefficient suggested that comprehensive data analytics capabilities beyond algorithmic transaction monitoring were essential components of effective fraud risk management. Digital forensics contributed significantly ($\beta=0.197$, $p<0.003$) to fraud risk management effectiveness, confirming that investigative capabilities for electronic evidence enhanced overall fraud management. This contribution operated through multiple mechanisms: thorough investigations deterred potential fraudsters, recovered assets, identified systemic weaknesses, and generated intelligence for strengthening preventive controls. The positive beta coefficient indicated that investment in digital forensic capacity yielded proportional improvements in fraud risk management outcomes.

Financial statement analysis ($\beta=0.156$, $p<0.014$) and forensic interviews ($\beta=0.134$, $p<0.026$) also made statistically significant contributions, though with smaller beta coefficients. These traditional forensic techniques retained relevance in the technology-driven environment, suggesting that optimal fraud risk management required integration of both technological sophistication and traditional investigative skills. The continued significance of these methods validated a balanced approach rather than exclusive reliance on technology.

The variance inflation factors (VIF) for all predictors ranged from 1.54 to 1.92, well below the concerning threshold of 5.0, indicating absence of problematic multicollinearity. This meant that while the predictor variables were related (as expected for components of a comprehensive forensic audit framework), each contributed unique explanatory power without excessive overlap. The low VIFs enhanced confidence in the individual beta coefficients and their interpretability.

6.0 Conclusions

This study established a very strong positive relationship between forensic auditing practices and fraud risk management effectiveness at ABSA Bank, Kampala, providing compelling empirical evidence that forensic auditing was a critical determinant of fraud management outcomes in banking institutions. The correlation coefficient of 0.812 between comprehensive forensic auditing and fraud risk management effectiveness represented one of the strongest relationships documented in organizational research, indicating that forensic auditing was not merely a supporting function but rather a core capability essential for effective fraud risk management.

The study concluded that forensic auditing contributed to fraud risk management through multiple complementary mechanisms operating at prevention, detection, investigation, and recovery stages of the fraud risk management lifecycle. Prevention was enhanced through continuous monitoring, red flag surveillance, and data analytics that identified control weaknesses and fraud opportunities before exploitation. Detection was strengthened by fraud detection algorithms, transaction monitoring systems, and financial statement analysis that identified fraudulent activities promptly. Investigation effectiveness was improved through digital forensics and skilled forensic interviews that gathered comprehensive evidence and determined root causes. Recovery was enhanced through forensic expertise that traced assets, supported legal action, and facilitated insurance claims.

The quantifiable improvements in fraud-related metrics during the study period provided concrete validation of forensic auditing's impact. The 57.4% reduction in fraud cases, 69.2% decrease in fraud losses, 13.2% improvement in detection rates, 37% increase in recovery rates, and 67.8% reduction in time-to-detect collectively demonstrated transformational change in the fraud risk environment at ABSA Bank. These improvements translated into substantial financial benefits, with prevented and reduced losses of UGX 863 million over the study period far exceeding the UGX 3.2 billion investment in forensic audit capabilities when considering avoided costs, protected reputation, and sustained competitive advantage.

The regression analysis conclusively demonstrated that specific forensic auditing practices—particularly fraud detection algorithms, data analytics, digital forensics, financial statement analysis, and forensic interviews—were significant independent predictors of fraud risk management effectiveness, collectively explaining 77.3% of outcome variance. This high explanatory power indicated that organizations seeking to enhance fraud risk management should prioritize these forensic capabilities as primary levers for improvement rather than marginal considerations.

The study also concluded that effective fraud risk management required integration of technological sophistication with traditional investigative skills. While technology-driven approaches such as algorithms and analytics were the strongest predictors, traditional techniques including financial statement analysis and forensic interviews retained significant independent contributions. This finding suggested that optimal fraud risk management balanced technological investment with human expertise development, recognizing that certain fraud schemes required human judgment, contextual understanding, and investigative creativity that algorithms could not replicate.

The high levels of training in forensic techniques (72.8% of respondents) and strong management support for fraud risk management indicated that ABSA Bank had successfully created an organizational environment conducive to

effective fraud risk management. This cultural dimension characterized by leadership commitment, resource allocation, zero-tolerance messaging, and competency development was as important as technical capabilities in achieving fraud risk management excellence.

Finally, the study concluded that while ABSA Bank had achieved impressive results, continuous improvement remained necessary. The evolving nature of fraud schemes, particularly those exploiting emerging technologies and digital channels, required ongoing enhancement of forensic capabilities. Areas identified for further strengthening included continuous auditing implementation, fraud recovery mechanisms, and whistleblower system accessibility. The fraud risk management journey was not a destination but rather an ongoing process of adaptation and enhancement in response to emerging threats.

7.0 Recommendations

ABSA Bank should formalize forensic audit capabilities by establishing a dedicated forensic audit unit with specialized personnel, clear mandate, and adequate resources. This unit should be independent from operational management, reporting directly to the Audit Committee of the Board to ensure objectivity and authority. The recommended structure should include forensic audit specialists with diverse expertise in digital forensics, data analytics, fraud investigation, and financial analysis. The unit should have defined roles and responsibilities including proactive fraud risk assessments, investigation of suspected fraud, forensic data analytics, training and awareness programs, and advisory services to management on fraud prevention strategies. The establishment of a formal unit would signal management commitment, enhance professional development pathways for forensic specialists, and ensure sustained focus on fraud risk management.

Building on the study's finding that fraud detection algorithms were the strongest predictor of fraud risk management effectiveness, ABSA Bank should continuously upgrade and expand technological capabilities. Specific investments should include next-generation artificial intelligence and machine learning platforms capable of identifying novel fraud patterns without predefined rules, behavioral analytics that establish customer baseline behaviors and detect deviations, network analysis tools that identify collusion and organized fraud rings, and predictive modeling capabilities that assess fraud risk scores for transactions and accounts. Integration with external fraud databases and intelligence sharing platforms would enhance detection by leveraging industry-wide fraud pattern information. Cloud-based solutions should be evaluated for scalability and cost-efficiency. The bank should allocate at least 20% of annual IT security budget specifically for fraud detection technology enhancements.

Given the strong correlation between digital forensics and fraud detection, ABSA Bank should expand digital forensic capacity through recruitment of additional certified digital forensic examiners, investment in forensic software tools for email analysis, mobile device examination, and database forensics, establishment of a digital evidence laboratory with proper chain-of-custody controls, and development of partnerships with external digital forensic specialists for

complex cases. Staff should obtain professional certifications such as Certified Computer Examiner (CCE), Certified Forensic Computer Examiner (CFCE), or GIAC Certified Forensic Analyst (GCFA). As fraud increasingly involved electronic communication and digital asset manipulation, strong digital forensic capabilities were essential for successful investigations, prosecutions, and recoveries.

The study revealed that continuous auditing techniques, while effective, were the lowest-rated forensic practice (M=3.98), indicating significant opportunity for improvement. ABSA Bank should transition from periodic audit cycles to continuous monitoring and testing of key controls and transactions through automated scripts and embedded audit modules. Continuous auditing should cover critical risk areas including maker-checker overrides, dormant account reactivations, large value transactions, cross-border transfers, employee accounts, and related party transactions. Real-time alerts should be generated when exceptions or anomalies occurred, enabling immediate investigation and response. The shift to continuous auditing would reduce time-to-detect, prevent losses from accumulating, and provide ongoing assurance rather than point-in-time assessments.

Fraud recovery received the lowest effectiveness rating (M=3.89) among fraud risk management components, representing a critical improvement area. ABSA Bank should strengthen recovery capabilities by establishing relationships with asset recovery specialists and legal experts, implementing immediate freeze mechanisms for accounts involved in suspected fraud, enhancing insurance coverage for fraud losses with reduced deductibles and broader coverage, pursuing civil recovery actions more aggressively against perpetrators, implementing restitution agreements as conditions of employment or account opening, and participating in collaborative recovery efforts with law enforcement and other financial institutions. A dedicated recovery officer should be appointed to pursue fraud recovery as a core responsibility rather than an ad-hoc activity. Given that the bank achieved 71.2% recovery rate in 2023, setting a target of 80% for the next three years was ambitious but achievable with dedicated focus.

References

- Ahumuza, A., Kobusingye, P., & Musiimenta, N. (2025). *Effect of Tax Policy on the Growth of Small and Medium Enterprises in Uganda: A Case Study of Kampala Capital City Authority (KCCA)*. 4(2), 137–146.
- Akankwasa, A., Akakikunda, T., Ntirandekura, M., Murezi, C. M., & Christopher, F. (2022). *Effect of Capital Budgeting on Development of Organizations Empirical Studies of Kashinge Child Development Centre Kisoro District*. 6(9), 5–10.
- Alex, I., & Kazaara, A. G. (2023). *Internal Controls and Financial Performance of Saccos in Wakiso District*. 7(3), 47–56.
- Ariyo, G. K. (2023). Corporate Social Responsibility and Competitive Edge. Lesson from MTN Uganda. *Texila International Journal of Management*, 9(2), 14–25. <https://doi.org/10.21522/tijmg.2015.09.02.art002>
- Christopher, F. (2024). *Public Financial management and service delivery in Kisoro Local Government*, Kisoro

District. 8(April), 10–16.

Christopher, F., & Felex, N. (2022). Eco-Tourism and Economic Development of People Surrounding Bwindi Impenetrable National Park in Kanungu District. In *International Journal of Academic Pedagogical Research* (Vol. 6). www.ijeais.org/ijapr

Christopher, F., Komunda, T. R., & Milton, N. (2022). *The Impact of Supervision on the Quality-Of-Service Delivery at Kirima Community Secondary School in Kanungu District , South Western Uganda*. 6(5), 157–162.

Faridah, N., Kazaara, A. G., & Kazaara, A. I. (2023). *An Evaluation of the Effects of Advertising on Consumer Brand Awareness in an Organization , a Case Study of Mukwano Group of Companies*. 7(3), 206–212.

Gracious, A. (2023). *The Effects Of Electronic Banking On Customer Service Delivery , A Case Study Of Cairo Bank Uganda , Nakasero*. 7(2), 80–87.

Hassan Abdi, M., Lukman Abiodun, N., & Stanley Kinyata, G. (2020). Statistical Analysis of Informal Settlements and Environmental Management in Mbale Municipality, Uganda. *International Journal of Research in Engineering, IT and Social Sciences*, 10(04), 1–9. <http://indusedu.org>

Innocent, A., Kazaara, A. G., Nelson, K., Catherine, M., Micheal, T., & Deus, T. (2023a). *Internal Auditing and Fraud Prevention in Organizations a Case Study of Nssf Kampala Area*. 7(2), 150–157.

Innocent, A., Kazaara, A. G., Nelson, K., Catherine, M., Micheal, T., & Deus, T. (2023b). *Internal Auditing and Fraud Prevention in Organizations a Case Study of Nssf Kampala Area*. 7(2), 150–157.

Ivan, M., Alex, I., & Deus, T. (2023a). Internal Auditing and Financial Performance Commercial Banks in Uganda: a Case Study of Centenary Bank Nansana Branch. *Metropolitan Journal of Business & Economics (Mjbe)*, 2(6), 34–49.

Ivan, M., Alex, I., & Deus, T. (2023b). INTERNAL AUDITING AND FINANCIAL PERFORMANCE COMMERCIAL BANKS IN UGANDA: A CASE STUDY OF CENTENARY BANK NANSANA BRANCH. In *METROPOLITAN JOURNAL OF BUSINESS & ECONOMICS (MJBE)* (Vol. 2, Issue 6).

Jallow, M. A., Abiodun, N. L., & Weke, P. (2022). *Stochastic Forecasting of Stock Prices of Capital Assets Using Semi-Markov Model*.

Julius, A., & Matovu, K. (2025). *Effect of E-commerce Adoption on Business Performance: A Case Study of Small and Medium Enterprises in Mbarara City*. 4(2), 93–102. <https://www.journals.miu.ac.ug>

Julius, A., Nancy, M., & Audrey, A. (2024). *Forensic Audit On Public Funds Management In Uganda . An Empirical Evidence Of Kampala Capital City Authority*. 8(8), 8–13.

Kazaara, A. I., & Nancy, M. (2025). *Research Framework : Betting Among Ugandan University Students*. 9(10), 123–128.

Moses, K., Kazaara, A. G., Kazaara, A. I., & Ismail, L. (2023). *External Auditing and the Financial Performance of Marianum Press Limited , Kisubi*. 7(3), 258–266.

Nafiu, L. A. (2012). On an Alternative Estimator in One-Stage Cluster Sampling Using Finite Population. *American*

- International Journal of Contemporary Research*, 2(7), 102–107. www.aijcrnet.com
- Nafiu, L. A., Oshungade, I. O., & Adewara, A. A. (2012). *Generalization of Multistage Cluster Sampling Using Finite Population*. 3(1), 17–20. www.eaas-journal.org
- Nelson, K., Christopher, F., & Milton, N. (2022). *Teach Yourself Spss and Stata*. 6(7), 84–122.
- Nelson, K., Kazaara, A. G., & Kazaara, A. I. (2023). *Teach Yourself E-Views*. 7(3), 124–145.
- Ntirandekura, M., Ainebyoona, A., Registrar, D., District, B., & Commission, E. (2022). *Humanresourcemanagementstrategiesandstaffretentioninlocalgovernmentsinuganda_2*. 6(7), 89–103.
- Ntirandekura, M., & Christopher, F. (2022). Human Resource Recruitment and Labour Turnover in Local Human Resource Recruitment and Labour Turnover in Local Government : A Case Study of Kabale Municipality. *International Journal of Academic Management Science Research (IJAMSR)*, 6(7), 154–159.
- Olanrewaju, R. O., Waititu, A. G., & Abiodun, N. L. (2021). *On the Estimation of k-Regimes Switching of Mixture Autoregressive Model via Weibull Distributional Random Noise*. 10(1), 1–8. <https://doi.org/10.5923/j.ijps.20211001.01>
- Racheal, N., Kazaara, A. G., & Kazaara, A. I. (2023). *Impact Of Quality Financial Reporting On An Organization Resource Management : A Case Study Of Humuza Holding Limited Kampala Uganda*. 7(3), 335–343.
- Ramadhan, B., Alex, I., Ariyo, D., Kazaara, G., Nelson, K., Deus, T., & Pascal, T. (2023). Taxation and the Development of Small Businesses in Uganda, a Case Study of Iganga District. In *International Journal of Academic Multidisciplinary Research* (Vol. 7). www.ijeais.org/ijamr
- Rasheed, Z., Khan, M., Abiodun, N. L., Anwar, S. M., Khalaf, G., & Abbasi, S. A. (2022). Improved Nonparametric Control Chart Based on Ranked Set Sampling with Application of Chemical Data Modelling. *Mathematical Problems in Engineering*, 2022. <https://doi.org/10.1155/2022/7350204>
- Sarah, A., & Audrey, A. (2024). *Corporate Social Responsibility and its Influence on Firm Reputation and Financial Performance . A Case Study of Equity*. 8(8), 202–207.
- Sarah, A., Nafiu, P., & Abiodun, L. (2024). *Sustainability in the Fashion Industry : Strategies for Reducing Environmental Impact and Enhancing Profitability*. 8(8), 178–182.
- Tasha, N. A., Kazaara, A. G., Deus, T., Ismail, L., & Micheal, T. (2023). *The Impact Of Taxation On Small Scale Businesses On Performance Of Small Scale Businesses In Namungoona Parish , Kampala Uganda*. 7(3), 17–26.
- Winnie, N. D., Ariyo, D., Kazaara, G., Kazaara, A. I., & Deus, T. (2023). Effect Of Motivation On Employee Performance In Non-Government Organizations (NGOS): A Case Of Mbale City. In *International Journal of Academic Multidisciplinary Research* (Vol. 7). www.ijeais.org/ijamr