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Effect of Risk Assessment on the Financial Performance of Deposit-Taking Saccos in Kenya

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ABSTRACT

Purpose: To determine the effect of risk assessment on the financial performance of deposit-taking SACCOs in Kenya.

Design/Methodology/Approach: The study used the positivist research philosophy but employed descriptive and causal research designs. Twelve hundred and twenty (122) DTSACCOs were randomly sampled from the 176 SACCOs in the DTSACCO. Both primary and secondary data were collected from the SACCOs using questionnaires and financial statements. The data were analyzed using descriptive and inferential statistical methods in SPSS.

Findings: There was a strong positive relationship between the risk assessment and the cost of operation performance ($r = 0.690$, $p < 0.01$).

Implications/Originality/Value: The study provides critical insight into the role of risk assessment in enhancing the financial performance of DTSACCOs. The findings of the study reveal the critical role of risk assessment in enhancing the financial performance of DTSACCOs, as they can evaluate the risks and exposures they have to their operations and allocate their resources accordingly. The significance of risk assessment in determining the operational costs of DTSACCOs indicates that decision-making within these organizations has a significant bearing on their financial performance.



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Introduction

Risk assessment relates to the evaluation of both the identified risks and their likely impact upon financial performance. Such approaches include risk scoring tools, use of matrices, consideration of internal risk, and use of a heat map. Each of these global institutions advocates proactive and adaptive approaches to FRM, including early-warning systems, risk-based supervision, and management information systems (MIS) (IMF, 2024; World Bank, 2024). The African Development Bank similarly recommends simplified frameworks and AI-powered tools for DTSACCOs and smaller institutions - another element of a global shift towards digital financial risk oversight (African Development Bank,

2023). The need for such comprehensive practices has been clearly underscored by disruption within the sector related to the COVID-19 pandemic and the resulting liquidity issues among DTSACCOs (Fang, Hasan, & Marton, 2022; Deloitte, 2023). The value of dynamic models such as automated stress testing, risk analytics, and predictive scoring has been demonstrated by recent studies (Lee, Kim, & Park, 2023). The DTSACCO sector in Kenya features over five million members and total assets exceeding KSh 880 billion (SASRA, 2023). This aspect of financial inclusion, however, has increased the organization's financial risk exposure. While the SASRA has implemented various reforms - including risk-based supervision, capital adequacy, and the implementation of MIS - the sector performance has been inconsistent (SASRA, 2022). Some institutions enjoy high returns on assets and loan recovery, while others experience significant non-performing loans, liquidity problems, and inefficiencies (FSD Kenya, 2022). The fluctuations in the sector return upon assets between 2.60% in 2019 to 1.59% in 2021, but then to 2.48% in 2023 and 2.46% in 2024, along with variable returns for members' points to deeper issues regarding financial management practice (Olumide, 2021; Etenyi, Nelima, & Maingi, 2024). The high-profile frauds that afflicted the Ekeza, Afya, and Kuscco DTSACCOs make clear the urgent need for reliable FRM systems (SASRA, 2024).

Despite this regulatory and technological advancement, a significant gap exists in the understanding of how FRM practices and MIS impact the financial performance of DTSACCOs in Kenya. Most investigations have been of risk-management practices or information systems in isolation from one another - the role of the MIS as a potential moderating influence being overlooked. Furthermore, the cooperative context is inappropriate to simply extrapolate from the world of commercial banking studies (Wambua & Mbaluka, 2020; Maina & Mwangi, 2019). There is thus a need for context-specific research on whether and how risk management practices moderated through MIS lead to improved financial outcomes. Such a research topic helps to fill the existing gap within the study of DTSACCO financial performance - an investigation of the interplay among financial risk management practices, management information systems, and financial performance of such DTSACCOs within Kenya (Ndung'u & Wekesa, 2023).

Savings and Credit Cooperative Organizations (SACCOs) are financial cooperatives that collect members' savings and provide credit at competitive interest rates. Such organizations in Kenya are subject to governance via the Sacco Societies Act (Chapter 490B of the Laws of Kenya) and the Sacco Societies Regulatory Authority (SASRA). The organizations feature cooperative elements like voluntary membership, democratic control, member involvement, and autonomy - all features that distinguish them from banks or microfinance institutions (SASRA, 2023). There are two main forms of SACCOs in Kenya: Deposit-Taking SACCOs and Non-Deposit-Taking SACCOs. Deposit-taking SACCOs receive licensing from SASRA to draw deposits from members, perform Front Office Service Activities (FOSA), and offer banking services. Non-Deposit Taking SACCOs function more as back-office organizations - they do take savings but do offer loan services (SASRA, 2024).

The SACCO sector plays a pivotal role in Kenya's socioeconomic and financial development. The organizations have over five million members, which represent around 10% of the Kenyan population - a significant proportion of medium and low-income populations without easy banking access (SASRA, 2024). The cooperatives have thereby effectively bridged the financial gap left by commercial banks. The total assets of SACCOs now exceed KSh 1.08 trillion - savings which are invested in both productive enterprises and housing, education, or small business development (World Bank, 2024). Additionally, they offer credit facilities at more competitive interest rates than either commercial banks or micro-lenders. This affordable credit supports entrepreneurship, agriculture, and community consumption while helping to reduce poverty and improve living standards (FSD Kenya, 2022). SACCO members fall within a range of clusters. Agriculture-based SACCOs represent 42.6% of total members. Government-based SACCOs, including employees in the teaching, civil service, or policing sectors, also account for a major share of these institutions. Other clusters include community-based SACCOs and private sector-based SACCOs (SASRA, 2023). Each of these focus areas allows the

SACCOs to meet the specific needs of their members. The cooperative movement underpins around 45% of the nation's economic activity, with SACCOs as its most prominent subsector. The provision of financial services to otherwise underserved populations is therefore a means of contributing to national poverty alleviation and sustainable development (SASRA, 2024).

Statement of the Problem

The returns to members have been just as volatile - dividends on share capital and interest on deposits each rose between 2021 and 2022 before declining in 2023 (SASRA, 2024). Such volatility indicates that the expansion of both assets and membership has not translated into stable and risk-resilient performance - a cause for concern regarding sustainability and fulfilment of the sectoral mandate.

While financial risk management is expected to improve institutional resilience, the empirical evidence of its effect on performance is inconclusive. Some studies show a positive link to profitability (Kaur & Kapoor, 2020; Mwaura, 2020), while others show insignificant or even adverse effects (Mekonnen & Hailu, 2021; Akinyemi & Odusola, 2022). Such findings indicate a level of context-specificity in the practices and suggest that the nature and strength of the relationship within the Kenyan DT-SACCO sector are insufficiently established.

Current research in the area features contextual, conceptual, and methodological gaps. The contextual focus of much research remains on commercial banks, non-Kenyan institutions, or those with limited geographical areas of operation - all of which limit generalisability to the wider and more diverse DT-SACCO sector in Kenya (Opuko & Musiega, 2022; Kadima, Sindani & Maingi, 2023). Conceptually, existing studies focus mainly upon traditional credit and liquidity risks while ignoring newer compliance and technology-enabled operational risks - a significant limitation in the face of increasing digitisation of DT-SACCO operations. Methodologically, the use of cross-sectional studies and indicators like return on assets and equity reveals only a fraction of the multidimensional performance dimensions within these member-owned institutions (Basel Committee on Banking Supervision, 2021; Etenyi et al., 2024; Kenya Bankers Association, 2025; Nyamongo et al., 2024; Obuobi & Poku, 2021). This study, therefore, established the effect of risk assessment on the financial performance of deposit-taking SACCOs in Kenya.

Objectives of the Study

To determine the effect of risk assessment on the financial performance of deposit-taking SACCOs in Kenya.

Research Hypothesis

H₀₁: Risk assessment has no significant effect on the financial performance of deposit-taking SACCOs in Kenya.

Theoretical Framework

The Technology Acceptance Model (TAM) was proposed by Davis (1989). The model considers the perceived usefulness of a technology and the ease with which it may be used - factors that determine whether an organization accepts new technologies. The model has been widely applied to studies of financial technologies, including those based on MIS implementations in DTSACCOs (Venkatesh & Davis, 2000). The model suggests that staff and management will adopt such systems as they find them both useful and easy to use - aspects that enhance risk monitoring and assessment.

Risk assessment would be through technological prowess towards financial risk management and performance - an effective system will enhance risk tracking, decision-making, and reporting capabilities, whilst the adoption of a less effective system will limit such benefits (Ndegwa, 2022; Kipkemboi & Wanyonyi, 2020). While the model is strong at relating to user perceptions, it arguably understates the importance of external factors such as organizational structure and resources (Alalwan, Rana & Williams, 2018). Few studies appear to have treated the implementation of an MIS as a moderating variable rather than an independent or mediating variable (Dwivedi et al., 2019). The TAM

thus helps to explain the role of risk assessment within DTSACCOs of varying technological readiness.

Conceptual Review

Risk assessment is the process of evaluating the likelihood and impact of identified risks to determine their significance. The ISO standard on risk management, ISO 31000 (2018), treats risk assessment as encompassing both risk analysis and evaluation, aspects that provide organizations with a clear understanding of the risks to which they are exposed.

Risk assessment is a critical stage in financial risk management processes because it allows the organization to fully understand both the magnitude of those identified financial risks and which strategies for treatment are most appropriate. Financial institutions that perform such assessments routinely report lower loan default rates, reduced financial losses, and improved profitability (Lagat & Yegon, 2022; Nyandemo & Shiundu, 2023). Advanced risk assessment techniques such as stress testing significantly strengthen institutional stability (Isenberg, Sazu, and Jahan, 2022).

Risk assessment is a multidimensional construct reflecting the techniques used within an organisation to assess and prioritise risks. Drawing upon ISO 31010 (2019), Hopkins (2018), and financial risk management literature, the process incorporates four main practices - risk scoring, risk matrices, risk heat maps, and internal risk evaluations.

Risk scoring introduces processes associated with providing values or the rating of identified risks - a feature that allows for the standardisation of measuring risk severity (Hopkin, 2018).

Risk matrices provide a means of evaluating the risks that are recognised within an organisation. The ISO standard recognises such matrices as one of the most widely used techniques for risk assessment (ISO 31010, 2019). Each of these matrices contributes to more consistent, transparent, and objective risk assessments - allowing for risk elements to be clearly categorised.

Risk heat maps form visual tools for depicting risk elements within the organisation. The graphical representation of risks enables management to rapidly recognise in which areas an institution exists within high risk. Such visual tools enhance the communication of risk information and allow for better decision-making (Hopkin, 2018).

Internal risk evaluations involve reviewing risk elements and controls to determine whether risk practices are indeed adequate within that organisation. The Institute of Internal Auditors (2020) recognises such evaluations as means of providing quality assurance for risk management practices. Periodic reviews provide organisations with the means of recognising both weaknesses in risk practices as well as opportunities for improvement. Maalim and Noor (2023) noted the link between improved internal audit ratings and improved SACCO financial performance. Robinson and Gupta (2023) found that self-assessment frameworks reveal better risk alignment within organisations and the identification of existing risk controls.

Previous studies have employed various indicators to determine risk assessment, depending on the area of study. Nyandemo and Shiundu (2023) used credit and exposure evaluation within commercial banks. Lagat and Yegon (2022) used credit and liquidity risk evaluation practices. Mwangi and Mugo (2021) investigated risk-scoring models and lending assessment. Oludhe and Wambua (2021) employed risk matrices and loan evaluation frameworks within SACCOs. Maalim and Noor (2023) used internal audit evaluations and risk assessments. Other studies have made use of stress testing, scenario analysis, risk-ranking systems, and exposure analysis techniques as indicators of risk assessment models (Akinyemi & Odunayo, 2020; Isenberg et al., 2022).

Drawing upon ISO 31010 (2019) guidelines, Hopkin (2018) and the existing literature on financial risk management, the risk assessment practices within this study comprise the four main practices: risk scoring, risk matrices, risk heat maps, and internal risk evaluations. The risk assessment measures the extent to which SACCOs apply ratings to recognized risks. Risk matrices evaluate the extent to which

the institution uses such structured risk frameworks. Risk heat maps provide a visual assessment and communication of risk elements for effective decision-making.

Empirical Review

Risk assessment is the process of identifying risks, assessing their likelihood and potential impact, and determining their significance and response measures. The risk assessment process is undertaken by financial institutions in the evaluation of the borrower, credit scoring, and assessment of the portfolio, liquidity, stress tests, and vulnerabilities. Informed decision-making and efficient use of resources while reducing losses and improving performance are made possible through effective risk assessment.

Empirical research indicates a favourable association between risk assessment and financial performance. Studies of non-performing loans across different countries indicated that Ozili (2024) found credit risk indicators to be strong predictors of lending behaviour and profitability on a global scale. Within banking, Abu-Rummana et al. (2020) noted a negative association between credit risk and profitability indicators within Jordan, while Siddique, Khan and Khan (2022) also established that higher levels of non-performing loans indicated decreased banking performance - though better risk assessment practices led to improved financial outcomes. Both studies used data from banks within South Asia.

A growing number of recent research reports exist on technology-enabled risk assessment. Bi and Bao (2024) revealed how AI-based risk assessment systems enhanced evaluation and crediting decisions while Misheva et al. (2021) discovered that machine learning techniques enhanced risk predictive modelling capabilities and portfolio quality.

Similar findings have emerged from Africa-based research investigations. Cobbinah et al. (2024) used the Generalized Method of Moments and benchmark regression models to indicate how credit, liquidity and market risks significantly impacted performance within Ghanaian banks.

Kenyan studies reveal even stronger evidence regarding the impact of risk assessment upon financial performance. Mwangi and Murigu (2019) showed how mapping risks and analysing their consequences enhanced claims management and lowered operating expenses within insurance organisations - an application of Contingency Theory. Nyandemo and Shiundu (2023) established that risk assessment practices had aided commercial banks within the Kenyan system to detect credit problems earlier and make better loan decisions.

Several similar themes emerge from these evaluated papers. The first and most general point of agreement is that sound risk assessment practices lead to greater financial success - outcomes made possible through better decision making, portfolio quality and reduced financial losses.

The literature on risk assessment and financial performance reveals both commonalities and important variances. The majority of research, however, confirms the positive and statistically significant association. The size of such an effect, though, differs according to both type of institution and risks examined, and the metrics for financial performance.

The bulk of studied research lies within the framework of Risk Management Theory - that organisations enhance performance when risks are systematically assessed and ranked prior to implementing control measures. Studies by Ozili (2024), Cobbinah et al. (2024) and Etenyi et al. (2024) all revealed that good risk assessment led to enhanced profitability and sustainability. The Agency Theory is also evident within studies concerning credit and borrower assessment.

Methodological variations are visible within the research studies. The global research mainly deployed more sophisticated quantitative methods - Generalized Method of Moments models (Siddique et al., 2022; Cobbinah et al., 2024), panel-data regression models (Abu-Rummana et al., 2021), Least Squares Dummy Variable models (Mushafiq et al., 2023) and machine learning models (Bi & Bao, 2024). Many studies conducted within Kenya and elsewhere, however, used cross-sectional surveys and descriptive

methods and relied upon self-reported data from managers and staff members within SACCOs (Kule et al., 2020; Nderitu, 2022; Kipchirchir, 2024; Orai, 2023).

The literature as a whole indicates a strong and widespread consensus that risk assessment has a favourable impact upon financial performance - particularly in better assessing borrowers, improving portfolio quality, reducing financial losses and better allocating resources. Despite this general consensus, however, critical gaps do exist within the field. The majority of studies focus upon credit risk assessment relative to operational or liquidity risk - or upon enterprise-wide risk assessments. While profitability ratios are mostly used to indicate financial performance, less focus is placed upon operating costs, credit impairment costs or liquidity premium costs.

Conceptual Framework

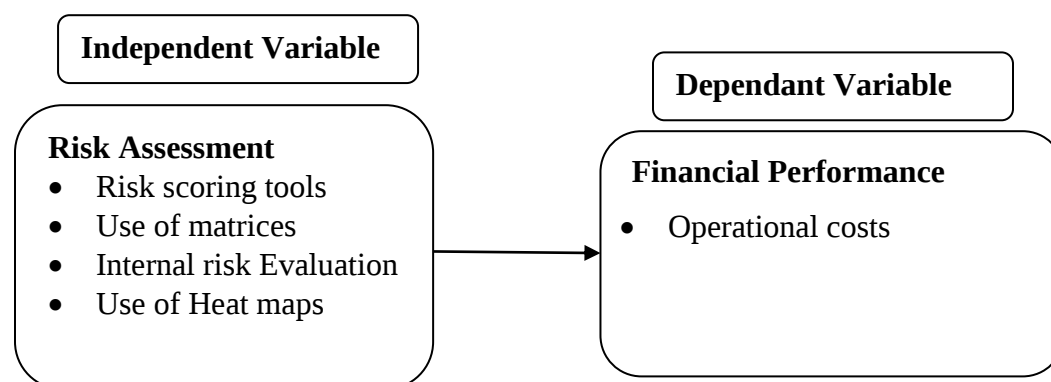


Figure 1.1: Conceptual Framework

Source: Researcher, (2025)

Methodology

Research design: The study's design included both descriptive survey elements and causal research designs.

Philosophy: The study adopts a positivist philosophy, focusing upon objectivity, quantifiable observations/statistical analysis, and causal relationships; the research draws upon empirical data from surveys and reports (Bryman & Bell, 2021).

Population: The research targeted the 176 DTSACCOs licensed by SASRA as of December 2024 and peer-grouped according to total assets. The distribution within each category included 42 classified as large-tier institutions (with assets of 5 billion Kenyan shillings or more - constituting 59.84% of the total assets); 56 medium-tier SACCOs (with assets between 1 billion and 5 billion shillings - 32.38% of the total assets); and 78 small-tier SACCOs (representing 54.02% of the registered SACCOs but only 7.78% of total assets) (SASRA, 2024). The details are shown in Table 1.

Table 1: Target Population

Tiered Category	Number of SACCOs
Large	42
Medium	56
Small	78
Total	176

Source: SASRA (2024)

Sample: The desired sample size was determined using Yamane's (1967) formula: $n = N / [1 + N(e^2)]$. With n indicating the size of the sample, N the relevant population, and e the margin of error (set here at 0.05): $n = 176 / [1 + 176(0.05^2)] = 176 / (1 + 0.4375) = 176 / 1.4375 = 122$. Thus, the sample represented 122 DTSACCOs; one senior accountant was targeted within each sampled SACCO.

A stratified random sampling procedure was adopted to ensure that each population subgroup was adequately represented (Hossan, Dato' Mansor & Jaharuddin, 2023).

A purposive sampling technique was also employed to select respondents from departments such as

internal audit, credit, finance, and ICT, with a focus upon those with relevant expertise and insights (Campbell, Greenwood & Walker, 2020).

Data Collection Instruments: The study used both primary and secondary data, collected together through triangulation, with convergence at the analysis of financial performance metrics derived from secondary data sources compared with primary data sources. The secondary data elements were converted to a five-point Likert scale to match the primary data.

Data Analysis: The data were analyzed using both descriptive and inferential statistics (including correlations and regression).

Results and Discussion

Response Rate

The study targeted 488 respondents from the 122 DTSACCOs in Kenya - staff from the above departments. Of the 488 questionnaires distributed, 366 were completed. This gives a response rate of 75% - very good within survey research.

Risk Assessment

This section presents statistics on risk assessment practices within Kenya's Deposit-Taking SACCOs, based on four indicators. Table 4.7 presents the study results.

Table 4.1: Risk Assessment Practices

Indicator	Response Category	Frequency (n=366)	Percentage (%)
Risk Scoring Tools (Uses formal tools)	Yes	342	93.4
	No	24	6.6
Risk Matrices (Uses matrices)	Yes	339	92.6
	No	27	7.4
Internal Risk Evaluation (Formal process)	Yes	366	100.0
	No	0	0.0
Risk Heat Maps (Uses heat maps)	Yes	327	89.3
	No	39	10.7

Source: Research Data (2025)

The findings indicate a widespread adoption of risk assessment tools within the DTSACCOs. The adoption of risk scoring tools is consistent with Wanjiru and Muturi (2020). Risk matrices are utilized at a rate consistent with support from Zhongming et al. (2023). The performance evaluation appears universal and reflective of a governance-informed structure and self-assessments within the organizations.

The respondents were later asked: "How would you describe the contribution of robust risk assessment to reducing your SACCO's operational and financial losses?"

Three main themes emerged from the responses:

Theme 1: The Quantification of Risk Exposure (52%) - the majority of SACCOs indicated that risk assessment tools help to quantify the risks facing their organisation. One respondent noted: "Risk scoring tools tell us exactly how risky a borrower is prior to approving a loan - a considerable reduction in default rates". This finding is again matched by the results of Kadima et al. (2023) who also saw a reduction in default rates with such structured credit assessments.

Theme 2: The Prioritization of Mitigation Efforts (31%) - risk matrices and heat maps were noted as aiding focus upon the most significant risks facing an organisation. Such a typical response was: "The heat map shows management where to put controls first - we no longer waste resources on low-impact risks". This finding once again reflects the support for Mwangi and Murigu (2019) who made similar points about visual risk tools enhancing decision clarity and allocations of resources within organisations.

Theme 3: Improved Portfolio Quality (17%); whilst risk assessment is mainly used to manage individual lending activity, some respondents did note an enhancement in the quality of loan portfolios. One said: "Since we started using scoring models the NPL ratio has dropped from 12% to 7%". This finding once again echoes the findings of Mushafiq et al. (2023) who also found that robust credit risk assessment

processes lead to better financial performance through improved portfolio quality.

Table 4. 2: Correlation Analysis Between Risk Assessment and Financial Performance

		X1
Risk Assessment	Pearson Correlation	1
	Sig. (2-tailed)	
	N	366
Operational Costs_	Pearson Correlation	.690**
	Sig. (2-tailed)	.000
	N	366

Source: Research Data 2025

Table 4.14 presents the Pearson correlation coefficients for risk assessment and operational costs - a measure of financial performance within the DT-SACCOs. Risk assessment and performance features a strong positive correlation ($r = 0.690$, $p < 0.01$); risk mitigation likewise showed a positive correlation ($r = 0.636$, $p < 0.01$). Risk assessment exhibited a strong positive relationship with operational cost performance ($r = 0.690$, $p < 0.01$): institutions rigorously evaluating risk exposures exhibit lower operational costs. These findings indicate the value of risk scoring, risk matrices, risk heat maps, and internal risk evaluations, all of which contribute to enhanced decision quality and resource allocation within SACCOs. Such findings indicate a reduction in inefficiencies or losses. The findings confirm those of Nyandemo and Shiundu (2023), who found that risk assessment enabled commercial banks to detect errors earlier and improve their performance. However, Mushafiq, Sindhu, and Sohail (2023) also report that while many risk indicators are significantly related to performance, some, such as liquidity metrics, did not significantly predict performance within the firms examined.

Table 4. 3: Risk Assessment and Financial Performance

Table 4: 5. Risk Assessment and Financial Performance						
Model Summary ^b						
Model	R	R Square	Adjusted R Square		Std. Error of the Estimate	
1	.771 ^a	.595	.591		.52148	
ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	144.239	4	36.060	132.599	.000 ^b
	Residual	98.173	361	.272		
	Total	242.412	365			
Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	0.463	0.173		2.681	0.008
	Risk Assessment	0.361	0.080	0.254	4.525	0.000

a. Dependent Variable: Operational Costs_

Source: Research Data 2025

The model summary results indicate a strong positive relationship between financial risk management practices and financial performance, as evidenced by reduced operational costs ($R = 0.771$). The coefficient of determination ($R^2 = 0.595$) indicates that around 59.5% of the variation in operational costs can be jointly explained by risk assessment. The adjusted determination coefficient (0.591) confirms the model's substantial explanatory power.

The level of determination within this current investigation is higher than either the 49.1% level found within the credit risk management context of microfinance institutions of Kadima, Sindani, and Maingi (2023) or the 37.8% level found within the capital risk of Temesi, Musiega, and Sindani (2023). This directly responds to the recommendation of those authors to investigate DTSACCOs to compare findings, thereby extending the area of research beyond microfinance institutions.

The ANOVA results confirm that the overall model is statistically significant ($F = 132.599$, $p = 0.000$). The very low p-value indicates that the null hypothesis - that financial risk management practices have no joint effect upon operational costs - can indeed be rejected. Risk assessment also has a similarly positive and statistically significant effect on operational costs ($\beta = 0.254$, $t = 4.525$, $p = 0.000$). The findings revealed that risk assessment had a positive, statistically significant effect on operational cost

performance ($\beta = 0.254$, $t = 4.525$, $p < 0.001$).

DT SACCO institutions that perform systematic risk evaluations via scoring models, matrices, heat maps, and internal assessments are found to be better at addressing both risk exposures and resource allocation. Effective risk assessments assist institutions in identifying high-risk areas and processes, improving lending or portfolio management activities, or implementing interventions before risks give rise to losses. Such systematic risk analysis inherently reduces uncertainty and enables better planning and cutting costs associated with fraud, default, and operational failures.

A review of the relevant empirical research indicates strong and widespread consensus on the positive impact that effective risk assessment can have on organizational performance. Despite the different methodologies, performance metrics, and risk assessment measures used in these studies, the findings all appear to indicate the same result. Mushafiq, Sindhu, and Sohail (2023), examining firms listed on the Pakistan Stock Exchange using Least Squares Dummy Variable regression methods, indicated that firms with better credit-risk profiles achieved significantly higher levels of return on both assets and equity. On the other hand, studies that used indicators such as non-performing loans to identify poor risk assessment all reported negative effects on organizational performance. Abu-Rummana et al. (2021) discovered that credit risk had significantly reduced profitability within Jordanian banks; Siddique, Khan, and Khan (2022), using the Generalized Method of Moments approach, indicated similarly how higher ratios of non-performing loans negatively impacted banking performance throughout South Asia. Despite different methods employed - panel regression models or surveys - all studies indicate that organizations that systematically evaluate risk tend to exhibit better financial performance. Most indicate a significant link between risk assessment measures and performance indicators - none find that even a weak risk evaluation enhances results.

Recent studies reveal a growing use of analytical, tech-driven risk assessment methods. Bi and Bao (2024) discovered that AI-based risk systems better evaluate borrowers and credit decisions. Misheva et al. (2021) report how machine-learning methods enhance risk prediction outcomes and portfolio quality. Nyandemo and Shiundu (2023) show how risk assessment assists Kenyan banks in detecting errors and enhancing lending practices. Mwangi and Murigu (2019) also established that exposure mapping techniques reduce operational costs within insurance organizations.

These findings do support Risk Management Theory - the idea that organisations improve performance through assessing and responding to risk prior to losses occur (Hopkin, 2018; COSO, 2017; Basel Committee, 2023). The results are consistent not just with the Basel Committee framework but also with the Technology Acceptance Model (Davis, 1989). The adoption of risk scoring models and matrices and stress tests depends when managers seeing them as both useful and easy to use within operations contexts.

From a practical perspective, then, DTSACCOs should enhance their risk assessment frameworks - including the use of risk-scoring tools, matrices, heat maps, internal evaluations, and stress tests. Such practices improve the accuracy of risk recognition and resource allocation - reducing inefficiencies (ISO 31010, 2019; Nyandemo & Shiundu, 2023; Etenyi et al., 2024). Regulatory bodies such as SASRA may also promote these tools to enhance sectoral resilience and sustainability.

This investigation adds value to existing risk assessment research by extending it beyond profitability to operational costs, providing data from the still underrepresented sector of Kenyan DTSACCOs. Risk assessment was recognized as the second most influential financial practice upon operational costs - an indicator of its strategic importance. Limitations include a cross-sectional study design, reliance on self-reported data and potential biases from respondents, and a focus on only Kenyan DTSACCOs.

Future research efforts should include longitudinal studies of risk impacts, incorporate artificial intelligence, predictive analytics, and stress tests into risk assessment methods and systems, and compare DTSACCOs with banks and microfinance institutions across countries.

Conclusion

The study shows how risk assessment plays a critical role in enhancing the financial performance of SACCO institutions, through being able to evaluate and address risks and resource allocations. The significant influence on operational costs confirms such an impact.

Recommendations

Risk assessment emerged as a strong and consistent predictor of financial performance - another means of enhancing its effectiveness, especially in credit management. Therefore, DTSACCOs should enhance the integration and consistent application of risk assessment tools - particularly in lending and financial decision-making. There is a need to ensure risk scoring tools and matrices are applied across a greater proportion of operations within SACCOs to maximise their effectiveness. The organisations should also invest in such advanced analytical tools and staff training to enhance risk evaluation accuracy and reliability.

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