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Metrine Nekoye Kituyi, Maniagi Musiega & Mogere Kelvin Machuki
Masinde Muliro University of Science and Technology, Kenya

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Abstract
Deposit-taking Savings and Credit Cooperative Organisations (SACCOs) hold member deposits, yet sector returns and asset quality have been unstable. This study examined the relationship between internal control systems and the financial performance of deposit-taking SACCOs in Western Kenya. A cross-sectional, quantitative-dominant mixed-methods design was used. A proportionate stratified random sample of 108 officers was drawn from 149 in the 18 SASRA-licensed deposit-taking SACCOs in the region, and 78 usable questionnaires were returned (72.2%) from all 18 SACCOs. Data were analysed using descriptive statistics, Pearson correlation and simple linear regression. Internal control was rated favourably (M = 3.90) and correlated strongly with perceived financial performance (r = .701, p < .001), explaining 49.1% of its variance (B = 0.661, 95% CI [0.508, 0.814]). The null hypothesis was rejected. The single-informant, cross-sectional data show association, not causation. Internal audit frequency and follow-up of audit findings were the weakest-rated controls; SACCO boards should prioritise regular internal audits and tracked corrective action.

Introduction
Savings and Credit Cooperative Organisations (SACCOs) are member-owned financial institutions that mobilise savings and extend affordable credit to people who are often poorly served by commercial banks. In Kenya, the deposit-taking segment is licensed and supervised by the SACCO Societies Regulatory Authority (SASRA); in 2023, regulated SACCOs held assets equivalent to 6.43% of GDP (SASRA, 2024). Sector performance has been uneven. Return on assets fell from 2.65% in 2020 to 1.59% in 2021 (Business Daily, 2022), the non-performing loans ratio rose from 8.40% in 2022 to 8.66% in 2023, and SASRA revoked two licences in 2023 (SASRA, 2024), even though aggregate sector surplus grew. The problem is therefore uneven performance across institutions rather than uniform decline, and weak internal control is among the explanations most often advanced (Sandimba & Ndede, 2023; Wamukota et al., 2022).

Following COSO (2013), internal control is a process, effected by an entity's board, management and other personnel, designed to provide reasonable assurance about the achievement of operational, reporting and compliance objectives. The reviewed evidence (Section 2.2) leaves three gaps. Contextually, most internal control studies concern commercial banks and listed firms (Ogbebor et al., 2020; Otoo et al., 2021; Bashaija, 2022), while peer-reviewed Kenyan SACCO evidence covers Nairobi (Sandimba & Ndede, 2023) or national samples examining one or two components (Wamukota et al., 2022; Manini & Abdillahi, 2023). Geographically, deposit-taking SACCOs in Western Kenya, which are largely occupation- and farmer-based, have received little attention. Conceptually, several studies examine a single component, whereas this study measures the internal

control system through four dimensions (control environment, risk assessment, control activities and fraud prevention mechanisms), analysed as one composite.

The objective of this study was to examine the relationship between internal control systems and the financial performance of deposit-taking SACCOs in Western Kenya. The article reports the internal control objective of a wider study of SACCO-specific facets, whose other results are reported separately.

Theoretical framework

Agency theory (Jensen & Meckling, 1976) views the firm as a set of contracts in which principals delegate authority to agents, creating agency costs of monitoring, bonding and residual loss; separating decision management from decision control limits these costs (Fama & Jensen, 1983). In a deposit-taking SACCO, members are the principals who entrust their savings to managers, who act as agents. Members have limited visibility of day-to-day operations, which creates information asymmetry and the risk of fraud, misreporting and imprudent lending. Internal control systems function as the monitoring and bonding mechanisms that the theory prescribes, and they matter more because SACCO shares cannot be traded, so there is no market for corporate control.

The theory has, however, been criticised for assuming opportunistic agents and ignoring intrinsic motivation and trust (Eisenhardt, 1989). Stewardship theory offers the main alternative: where managers identify with the organisation, empowering rather than controlling governance may best serve principals (Davis et al., 1997), which is plausible in cooperatives whose staff share members' common bond. Agency theory therefore predicts a positive relationship between internal control and performance, whereas stewardship theory predicts a weaker one where trust substitutes for control. Consistent with agency theory and most of the empirical evidence, the study tested:

H_{01}: Internal control systems have no significant relationship with the financial performance of deposit-taking SACCOs in Western Kenya.

H_1: Internal control systems are positively associated with the financial performance of deposit-taking SACCOs in Western Kenya.

Empirical literature

Most studies report positive associations, but their designs differ in ways that affect effect size. In Ghana, Otoo et al. (2021) surveyed 160 staff of 20 bank branches and found monitoring significant, yet it uniquely explained only about 2.43% of the variance in performance. In Rwanda, Bashaija (2022) found a significant effect among 38 senior bank managers, and in Tanzania control activities, but not the control environment, affected bank performance in a sample of 36 (Kwatilaho, 2023). Using ten years of financial statements from 15 Nigerian listed banks, Ogbebor et al. (2020) found no significant effect. Among SACCOs, Yahya (2024) found communication, risk assessment, control activities and monitoring significant in Dar es Salaam, but with only 24 of 96 targeted respondents. Kenyan peer-reviewed evidence is also positive: monitoring and control activities explained 43.0% of the variance in SACCO performance (Wamukota et al., 2022), segregation of duties and approval controls were significant in a census of 42 Nairobi SACCOs (Sandimba & Ndede, 2023), and the control environment was positively related to performance in a survey of 110 SACCO managers (Manini & Abdillahi, 2023).

Three appraisal points follow. First, perception-based studies in which the same officer rates both controls and performance report much larger effects than studies using financial statements, which suggests common-method variance (Podsakoff et al., 2003). Second, results depend on the component examined. Third, the SACCO evidence rests on small samples, unpublished theses (Kwatilaho, 2023; Yahya, 2024) or single counties.

Conceptual framework

Figure 1 presents the conceptual framework. The internal control system, measured through the control environment, risk assessment, control activities and fraud prevention mechanisms, is hypothesised to relate to financial performance, measured through dividend per share, interest on members' deposits and net surplus.

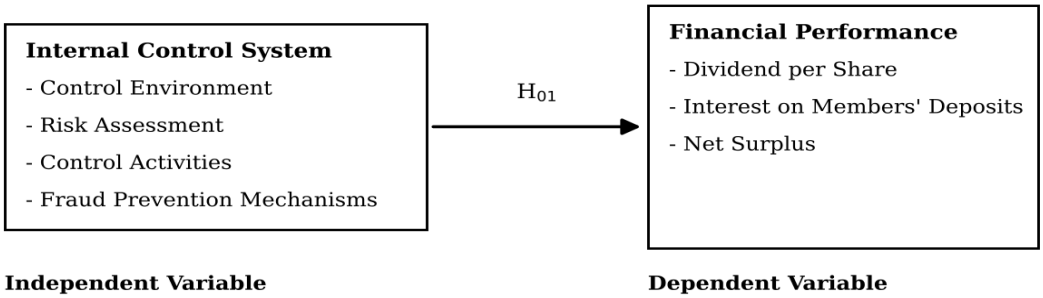


Figure 1: Conceptual framework (adapted from Carolyne & Simiyu, 2024)

Material and methods

Research design and study area

The study adopted a cross-sectional, quantitative-dominant mixed-methods design: structured Likert items supplied the descriptive and correlational evidence, and open-ended responses were used to interpret it. It covered all 18 SASRA-licensed deposit-taking SACCOs with head offices or branches in the Western Region of Kenya (Kakamega, Vihiga, Busia and Bungoma counties), as listed in the SASRA register for 2024 (SASRA, 2025). The SACCOs share one prudential framework but differ in size: SASRA classifies six as large, seven as medium and five as small.

Target population and sampling

The target population comprised 149 officers directly involved in designing, operating or overseeing financial controls: 18 internal auditors, 59 accountants, 18 credit officers, 18 risk officers, 18 finance managers and 18 chief executive officers or branch managers. The officer was the unit of analysis; the 18 SACCOs were covered as a census. The sample size was determined with the Krejcie and Morgan (1970) formula:

$$S = \chi^2 NP(1 - P) \,/\, [d^2(N - 1) + \chi^2 P(1 - P)]$$

where $\chi^2 = 3.8416$, $N = 149$, $P = 0.5$ and $d = 0.05$, giving $S = 107.6$, which was rounded up to 108. Proportionate stratified random sampling by job role gave 13 respondents in each stratum of 18 officers and 43 accountants, selected by simple random sampling from staff lists.

Instrument and measures

Primary data, the main data of the study, were collected with a self-administered questionnaire of five-point Likert items (1 = strongly disagree to 5 = strongly agree) and open-ended questions, developed from the indicators of the conceptual framework. The internal control construct was measured with nine statements covering organisational structure and accountability, ethical conduct, risk assessment, approval procedures, segregation of duties, frequency of internal audits, follow-up of audit findings, transparency of financial reporting, and fraud detection and reporting. Financial performance was measured with nine statements on dividends, interest on members' deposits and surplus. The midpoint, labelled "fairly agree", is treated as neutral. Composite scores are item means, interpreted as 1.00–1.80 strongly disagree, 1.81–2.60 disagree, 2.61–3.40 fairly agree, 3.41–4.20 agree

and 4.21–5.00 strongly agree. Sector-level SASRA data on dividends and surplus were used only to describe the trend.

Data collection and ethical considerations

Data were collected between November and December 2025 by the researcher and four trained research assistants using the drop-and-pick method, with follow-up visits and telephone reminders. The same officer rated both constructs. An introductory letter was obtained from the School of Business and Economics, Masinde Muliro University of Science and Technology, a research licence from NACOSTI and written permission from each SACCO. Participation was voluntary, respondents could withdraw at any stage and consented by completing the questionnaire, no names were recorded, and data are stored securely for five years.

Reliability, validity and common-method bias

A pilot study with 12 officers was conducted at Trans-National Times SACCO Society Ltd in Trans-Nzoia County, outside the study area, and its participants were excluded from the final survey. Reliability was assessed with Cronbach's alpha (≥ .70; Nunnally & Bernstein, 1994), content validity through review by experts in accounting and finance, and construct validity through principal component analysis of each construct, using the KMO measure, Bartlett's test and a minimum loading of .40 (Tabachnick & Fidell, 2007). Common-method bias was assessed with Harman's single-factor test, in which a first factor explaining less than 50% of the variance indicates no serious bias (Podsakoff et al., 2003).

Data analysis

Data were analysed with SPSS version 27 and STATA version 15. Descriptive statistics summarised the responses, and Pearson correlation and simple linear regression tested the hypothesis at the .05 level:

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

where Y is financial performance, β_0 is the constant, β_1 is the coefficient of the internal control system (X_1) and ε is the error term. Normality was tested with the Shapiro-Wilk test (Ghasemi & Zahediasl, 2012) and heteroskedasticity with the Breusch-Pagan test (Breusch & Pagan, 1979). Open-ended responses were coded thematically.

Results

Response and respondent profile

Of the 108 questionnaires distributed, 78 were returned with usable information (72.2%), above the 70% regarded as very good (Mugenda & Mugenda, 2003), from all 18 SACCOs (2–7 per SACCO). Returns were 25 of 43 accountants, 13 of 13 credit officers, 10 of 13 risk officers, 8 of 13 finance managers and 6 of 13 chief executives; 16 internal auditors responded against 13 allocated, and all were retained. With a finite-population correction, 78 responses give a margin of error of about ±7.7% at 95% confidence. Non-response was concentrated among chief executives and accountants. Most respondents were male (79.5%) and aged 35–44 years (57.7%); all held post-secondary qualifications, and 97.4% had served for more than five years.

Reliability and validity of the instruments

Table 1 presents the reliability and validity results. Both scales exceeded the .70 alpha threshold and loaded on a single component, so all items were retained, although alphas above .90 suggest some item redundancy (Tavakol & Dennick, 2011). In Harman's test, the first unrotated factor explained 41.73% of the variance, below 50%, so common-method bias is unlikely to dominate the results.

Table 1: Reliability, construct validity and common-method bias tests

Test	Statistic	Decision
Cronbach's alpha: internal control system (9 items)	.924	Reliable (> .70)
Cronbach's alpha: financial performance (9 items)	.905	Reliable (> .70)
KMO: internal control / financial performance	.878 / .809	Adequate
Bartlett's test: internal control	$\chi^2(36) = 580.522$, $p < .001$	Suitable for factor analysis
Bartlett's test: financial performance	$\chi^2(36) = 473.038$, $p < .001$	Suitable for factor analysis
Loadings: internal control (one component, 62.73%)	.574–.903	All items retained (> .40)
Loadings: financial performance (one component)	.632–.856	All items retained (> .40)
Harman's single-factor test (first factor)	41.73% of variance	< 50%; no serious bias

Note. Principal component analysis. Source: Field data.

Descriptive and qualitative results

Table 2 reports the item distributions. Internal control had a composite mean of 3.90 ("agree"). Approval procedures (M = 4.01), organisational structure (4.00) and risk assessment (3.99) were rated highest, and the audit function lowest: frequency of internal audits (3.71; 61.5% agreement, 32.1% neutral) and corrective action on audit findings (3.83; 67.9%). Open-ended responses, reported as illustrative, were consistent with these ratings: respondents described audits, authorisation protocols, reconciliations and segregation of duties as deterring fraud and reducing errors, and standardised procedures as speeding up transactions. Because officers rated controls for which they are responsible, the favourable levels may include social-desirability bias.

Financial performance had a composite mean of 4.08 ("agree"; SD = 0.64). Dividend items were rated highest, including member satisfaction with dividends (4.33; 91.0% agreement), and efficient use of assets lowest (3.35; 46.2%). These perceptions are consistent with SASRA's sector-level data for all deposit-taking SACCOs, in which dividends on share capital rose from 9.80% in 2020 to 10.92% in 2023 and net surplus from KSh 14.2 billion in 2020 to KSh 21.3 billion in 2024; these national aggregates describe the context only and were not used in any test.

Table 2: Descriptive statistics for internal control and financial performance items (N = 78; percentages)

Statement	SA	A	FA	D	SD	Mean	Std. dev.
Panel A: Internal control system							
Organisational structure ensures accountability	30.8	46.2	16.7	5.1	1.3	4.00	0.897
Staff adhere to ethical standards	16.7	61.5	16.7	2.6	2.6	3.87	0.812
Risk assessment prevents losses	28.2	51.3	12.8	6.4	1.3	3.99	0.890
Clear approval procedures	26.9	52.6	15.4	5.1	0.0	4.01	0.798
Segregation of duties reduces fraud	29.5	47.4	14.1	7.7	1.3	3.96	0.932
Internal audits conducted frequently	15.4	46.2	32.1	6.4	0.0	3.71	0.808
Audit findings acted upon	23.1	44.9	24.4	7.7	0.0	3.83	0.874
Transparent financial reporting	20.5	55.1	14.1	10.3	0.0	3.86	0.864
Strong fraud detection and reporting	20.5	57.7	12.8	9.0	0.0	3.90	0.831
Composite mean						**3.90**	
Panel B: Financial performance							
Competitive dividends	55.1	30.8	9.0	3.8	1.3	4.35	0.895
Dividends increasing	44.9	38.5	10.3	5.1	1.3	4.21	0.917
Members satisfied with dividends	46.2	44.9	6.4	1.3	1.3	4.33	0.767
Attractive deposit interest	43.6	39.7	14.1	2.6	0.0	4.24	0.793
Deposit interest paid on time	41.0	43.6	9.0	5.1	1.3	4.18	0.894
Performance influences deposit interest	25.6	43.6	25.6	5.1	0.0	3.90	0.847
Consistent surplus	33.3	38.5	17.9	10.3	0.0	3.95	0.966
Surplus reinvested for members	43.6	41.0	11.5	3.8	0.0	4.24	0.809
Assets used efficiently	0.0	46.2	42.3	11.5	0.0	3.35	0.680
Composite mean						**4.08**	0.64

Note. SA = strongly agree (5); A = agree (4); FA = fairly agree (3); D = disagree (2); SD = strongly disagree (1). Source: Field data.

Correlation and regression

The Pearson correlation between internal control and financial performance was $r = .701$ (95% CI [.567, .800], $p < .001$). Table 3 shows that internal control explained 49.1% of the variance in financial performance, $F(1, 76) = 73.374$, $p < .001$ ($B = 0.661$, 95% CI [0.508, 0.814], $\beta = .701$): a one-unit higher internal control rating is associated with a 0.661-unit higher performance rating. H_{01} was therefore rejected. The Shapiro-Wilk test was significant for internal control ($W = .867$) and financial performance ($W = .872$; both $p < .001$), reflecting negative skew, but with $N = 78$ the estimates are robust to moderate non-normality (Ghasemi & Zahediasl, 2012). The Breusch-Pagan test did not indicate heteroskedasticity, $\chi^2(1) = 1.898$, $p = .168$.

Table 3: Regression of financial performance on internal control systems

Predictor	*B*	*SE*	95% CI	β	*t*	*p*
(Constant)	1.502	0.306	[0.893, 2.111]		4.915	< .001
Internal control system	0.661	0.077	[0.508, 0.814]	.701	8.566	< .001

Note. Dependent variable: financial performance. $R^2 = .491$; adjusted $R^2 = .485$; $F(1, 76) = 73.374$, $p < .001$; $N = 78$. Source: Field data.

Discussion

The strong positive association is consistent with agency theory's prediction that monitoring and bonding mechanisms are associated with better outcomes for members, and with positive findings in SACCOs and banks (Bashaija, 2022; Sandimba & Ndede, 2023; Wamukota et al., 2022; Yahya, 2024). It does not test the theory's mechanisms, however, and cannot distinguish agency from stewardship explanations: the high ratings for ethical conduct and accountability are equally compatible with a culture of trust (Davis et al., 1997).

The explained variance of 49.1% is far larger than the 2.43% that Otoo et al. (2021) attributed to monitoring in Ghanaian banks. Part of the difference may be real, since SACCO members cannot discipline managers through a share market. Part is likely methodological: Harman's test suggests that common-method variance does not dominate, but single-informant ratings can still inflate associations, and a single-predictor model may absorb the effects of other determinants. The contrast with Ogbebor et al. (2020), who used financial statements and found no effect, points the same way; differences in enforcement may contribute, but this remains a conjecture.

Structural controls such as approvals and segregation of duties were rated highest and the audit function lowest, a pattern consistent with Kwatilaho's (2023) finding that operating controls matter more than the control environment. Because the regression used the composite index, the contributions of individual controls were not estimated. The low rating for efficient use of assets suggests that controls protect assets more than they improve their productive use.

Limitations

Financial performance was measured through single-informant perceptions, and SASRA data were sector-level and could not be linked to individual SACCOs. Officers are nested in 18 SACCOs, but the analysis treated them as independent, so standard errors may be understated. Consistent with the conceptual framework, internal control was the only predictor, so omitted-variable bias is possible. Non-response bias was not formally tested, senior managers were under-represented, and the cross-sectional design supports association, not causation.

Conclusions

Based on 78 officers from all 18 SASRA-licensed deposit-taking SACCOs in Western Kenya, internal control systems are positively and significantly associated with perceived financial performance (r = .701; R^2 = .491), and H_{01} was rejected. The audit function was the weakest-rated element of control. The study adds evidence from a region not previously studied, to the authors' knowledge, and its results are consistent with, though not a direct test of, agency theory in a member-owned setting. SACCO boards and audit committees should increase the frequency of internal audits and track corrective action on audit findings to completion, and SASRA may give audit follow-up explicit weight in supervisory reviews. Future research should use SACCO-level indicators from SASRA filings, such as return on assets and non-performing loan ratios, obtain data from different informants, and estimate the effects of individual control dimensions with multilevel models.

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