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Fraud in Tanzanian Co-operatives: Perceptions from Community and Employee-based Savings and Credit Co-operative Societies in Kilimanjaro, Arusha and Tanga, regions, Tanzania

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Abstract

The proliferation of fraud among organizations has continued to be a major challenge worldwide. Current reports indicate that fraud among co-operatives in Tanzania amounted to an alarming figure of more than TZS 124 billion in the year 2023. However, there has been limited research addressing the issue of fraud in cooperatives in the Tanzanian context. The purpose of this research was therefore to explicate the types of fraud affecting employee and community-based Savings and Credit Co-operative Societies (SACCOS) in Tanzania. Specifically, the study aimed at establishing the dominant types of fraud facing SACCOS, and comparing the opinions from employee-based and community-based SACCOS. The variables measured include the independent variables (types of fraud: internal, external and collusion), the dependent variable (likelihood of fraud occurrence) and moderating variable (SACCOS category: employee-based, community-based). Primary data were collected from 223 SACCOS from three regions in Tanzania (Kilimanjaro, Arusha, and Tanga) using a questionnaire while an interview guide was used to collect data from 9 key informants. Data was analyzed using Partial Least Square – Structural Equation Modelling (PLS-SEM) and moderation was tested using PLS – Multi-Group Analysis (PLS-MGA). Findings indicate that internal fraud is the most dominant type of fraud among SACCOS, followed by collusion fraud and external fraud is the least dominant. Additionally, findings reveal significant differences between the perceived types of fraud facing employee-based and community-based SACCOS. Whereas employee-based SACCOS perceived collusion fraud to be more dominant, community-based SACCOS were of the opinion that internal fraud is more dominant. The study concludes that there are varied perceptions among employee and community-based SACCOS on the types of fraud occurring in these organizations. It is recommended that SACCOS should implement strong internal controls and also that fraud control education be provided to SACCOS employees, managers and Board members in order to reduce incidences of internal fraud.

Keywords: SACCOS, fraud, community, employee, Tanzania

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1.0 Introduction

The fraud predicament has sparked significant interest among the business community, stakeholders and scholars across the world (Sahla and Ardianto, 2023). The Institute of Internal Auditors (IIA) defines fraud as any illegal act characterized by deceit, concealment, or violation of trust (IIA, 2019). Global reports indicate that, total losses resulting from fraud in the years 2022/2023 was estimated at USD 5 trillion (ACFE, 2024) and that a typical company loses up to 5% of its revenue to fraud. Financial institutions are particularly vulnerable, with studies showing that they have three times the number of fraud cases as compared to other business organizations (Zainal *et al.*, 2022).

The current debate in fraud studies has been isolated to big businesses, banks, the public sector and private companies (Bunn *et al.*, 2019; Sipayung *et al.*, 2023; Fitriyah and Novita, 2021), leaving other sectors, such as the co-operative sub-sector literally unexplored. For instance, the issue of fraud has been extensively studied in banks, but the findings of these studies are irrelevant to the non-traditional financial institutions such as Savings and Credit Co-operative Societies (SACCOS), mainly due to their different organisational characteristics and mode of operation (Rahajeng, 2022).

Taking Tanzania as a case in point, fraud has been a topic of discussion among authors, citing it as one of the main challenges facing organizations and financial institutions (Zuberi and Mzenzi, 2019; PwC, 2018; Assad, 2011). For instance, a recent report issued by the Bank of Tanzania (BoT, 2024) shows that banks suffered losses amounting to TZS 10.3 billion in the year 2023. However, the report does not include cases of fraud in other organizations such as co-operatives in general and SACCOS in particular. In SACCOS, the problem of fraud has widely been reported by researchers such as Magumula and Ndiege (2019), Mashenene, *et al.*, (2019) and Magali (2013) among others. Although there is no institution which tracks fraud cases in Tanzania, the Cooperative Audit and Supervision Corporation (COASCO) in its 2023 report indicated that fraud among cooperatives (including SACCOS) was more than TZS 124 billion. This is alarming, and calls for more research into the issue of fraud among SACCOS in order to clearly understand the problem and device effective control measures.

Efforts made by the government of Tanzania and other co-operative authorities to try to curb fraud among SACCOS include the introduction of a code of conduct aimed at ensuring vetting of co-operative leaders and executives (URT, 2013), as well as enactment of the Microfinance Act, 2018 and the Microfinance Regulations 2019. The Act and Regulations required all SACCOS to have an internal auditor and put in place internal controls to prevent fraud (URT, 2018; URT, 2019). With these efforts, one could expect the problem of fraud to be reduced if not eliminated, but despite the measures, the problem of fraud has persisted.

According to ACFE (2024), management and anti-fraud professionals can evaluate their pertinent fraud risks and efficiently direct prevention and detection efforts by identifying which fraud types are more prevalent in particular industries. Since the types of fraud affecting SACCOS have not been empirically established, this makes it difficult to have focused and targeted fraud combating efforts since it is unclear as to which fraud type is dominant in which SACCOS category.

This study therefore aims at establishing the dominant types of fraud and comparing the perceptions of employee-based and community-based SACCOS operating in Tanzania. Given that SACCOS are unique member-based organizations controlled by both Board members, managers and employees, it is imperative to assess the types of fraud likely to affect these organizations.

2.0 Literature Review

2.1 Theoretical Review

2.1.1 The Agency Theory

Jensen & Merckling (1976) presented the Agency Theory describing the relationship between agents working on behalf of a principal, the issues that arise, and their solutions. According to the agency theory, there is a fundamental conflict between the agent and the principal because the agent ignores their duties to the principal in favor of their own interests.

In the cooperative context, the owner-members are the principal whereas the managers are the agents (Richards *et al.*, 1998). Cooperatives are believed to suffer more than other firms from the agency problem because unlike other firms, the shares of cooperatives are not freely traded in the market and profitability is not the main goal of cooperatives (Richards *et al.*, 1998, Ortman and King, 2007). This implies that the actions of the manager of a cooperative are less constrained by market forces, and this is where the role of the Board comes in (Cornforth, 2004). In cooperatives, the Board is vested with the role of controlling managerial behavior on behalf of the members, since there is less incentive for members to monitor the actions of their managers (Ortman and King, 2007). In this sense, the main function of a cooperative Board is to ensure managerial compliance with member's interests. Failure of the Board to perform this function may provide an opportunity for managers to indulge in unethical behaviors including fraud. However, there are some cases where the Board of cooperatives have been found to collaborate with management in conducting fraud (collusion between employees and the Board) as established by Ben, (2020). This study therefore uses the term "insiders" to refer to SACCOS Board members, managers and employees. The Agency theory in this context thus assumes that if the insiders are left unmonitored, they will be more likely to conduct fraud for their own benefit. This has been supported by PwC (2020) that about 60% of all fraud cases are conducted by insiders either on their own or in collaboration with external fraudsters.

Although the Agency theory has been criticized for being outdated by the evolution of modern practices in governance, it is still relevant and widely used in explaining agency relationships (Zogning, 2017). The theory contributes to this research as it presupposes that internal fraud (by Board members, managers and employees) is the most dominant types of fraud occurring in organizations. This study is therefore aimed at testing this assertion in the SACCOS context so that the theoretical assumptions can be upheld.

2.2 Types of Fraud facing SACCOS

Organizations are faced by three broad categories of fraud; internal fraud, external fraud or collusion between insiders and outsiders (PwC, 2020). Previous research has shown that SACCOS, like all other financial institutions, are not immune to the problem of fraud (Riitho and Wanjala, 2020). According to Wanjama (2019), the survival of SACCOS is threatened by the occurrence of frauds such as financial statement falsification, embezzlement of funds, and improper handling of members' monies. In Kenya for instance, the SACCO Societies Regulatory Authority (SASRA) in its 2023 report uncovered fraud totaling Ksh 118 million over the past two years due to employee fraud. In Tanzania, COASCO uncovered fraud amounting to TZS 124 billion, also from fraudulent activities of cooperative Boards and employees (COASCO, 2023). This seems to imply that internal fraud is the most dominant type of fraud facing SACCOS. A similar assertion is made by Wangu (2021) who reported that fraud in SACCOS is a result of a lack of robust internal controls, which makes it easier for unfaithful Board members and employees to commit fraud. Koskei, (2019) also found that of the three types of fraud (Internal, external, and collusion) internal fraud (accounting fraud, employee fraud, asset misappropriation/theft, and corruption) were the dominant types of fraud in SACCOS. On the other hand, Omona (2021) reported

presence of cases of collusion fraud between Board members and loan officers in Uganda SACCOS. Similarly, Ben (2020) revealed that a number of Kenyan SACCOs had experienced financial losses as a result of staff collusion and shady transactions involving certain Board of directors and employees. This seems to imply that collusion fraud is also dominant in some SACCOS, contrary to the previous proclamations.

However, current debates present opposing views as to which type of fraud is more dominant in organizations. According to ACFE (2022) and PwC (2022), current trends indicate that external fraud (online fraud) accounts for 46% of all fraud cases, making it more dominant followed by internal fraud (31%) and collusion (26%). Other researchers in support of this view have shown that cybercrime (online fraud) has doubled from 8% in 2016 to 16% in 2020 suggesting that online fraud is gaining momentum and becoming a new threat (Zainal *et al.*, 2022; Sow *et al.*, 2018). ACFE (2022) also reported that fraud conducted by two or more perpetrators increased from 42% in 2012 to 58% in 2022. Likewise, PwC (2022) stated that nearly 70% of organizations affected by fraud stated that collusion between offenders constituted the most problematic occurrences. The PwC report further showed that there has been an increase of collusion fraud from 21% in 2020 to 26% in 2022.

It is due to these contradictions in the literature that this research aimed to address the question “what is the dominant type of fraud facing SACCOS in Tanzania?”. It is important to uncover the types of fraud facing SACCOS as each fraud type requires a different fraud control mechanism.

2.3 Comparing perceptions of Employee and Community-based SACCOS

According to Waweru (2011) SACCOS can be categorized into employee-based and association (or community) based on the pattern of cash receipts and nature of the members. Piprek (2007) defined employee-based SACCOS as those which draws their membership from the employed, whereas community-based SACCOS are those whose members are drawn from the community irrespective of employment status (provided they live in the SACCOS' area of operation). Various authors have been interested in comparing the perceptions of employee and community-based SACCOS. For instance, Sangali (2013) performed a comparative analysis of SACCOS' performance between employee-based and community-based SACCOs in Tanzania and found that employee SACCOS were perceived to perform better than community-based SACCOS.

Research has established that types of fraud differ from one organization to another based on aspects which includes the organization's size, industry/sector, area of operation (location) etc (PwC, 2022; ACFE, 2022). However, many of the studies conducted on SACCOS' fraud such as Koskei (2019); Riitho and Wanjala (2020); Kamau (2016) etc. have assumed that all categories of SACCOS have the same perception of fraud. According to Cheah *et al.*, (2020), it is argued that research that combine data into a single homogeneous population have not determined whether the data show substantial differences between two or more subgroups. This study was therefore interested in comparing the perceptions of employee-based SACCOS and community-based SACCOS on the types of fraud they face, and in this context, the following hypothesis was developed:

H₁: *There are significant differences between perceived fraud types faced by employee-based SACCOS and community-based SACCOS*

3.0 Research Methodology

This study was cross-sectional in nature, implying that data was collected at a single point in time. Given the nature of the study, an embedded mixed methods design was deemed suitable, whereby the

quantitative data facilitated comparison between variables (Saunders *et al.*, 2016) whereas the qualitative data enhanced and provided contextual explanations for better understanding of the data. Kilimanjaro, Tanga, and Arusha regions were randomly chosen among the top five regions with the highest number of licensed and audited SACCOS in Tanzania (COASCO, 2023). A sample size of 216 SACCOS was obtained from the 470 SACCOS operating in the three regions using the Yamane (1967) formula, though the researcher was able to reach 223 SACCOS.

$$n = \frac{N}{1+N(e)^2} \dots\dots\dots \text{Equation (i)}$$

Where:

N is the population size,

e is the margin of error required = 5%

$$\text{Therefore: } n = \frac{470}{1+470(0.05)^2} = 216$$

The number of SACCOS in each region was calculated proportionately whereby from Kilimanjaro (68), Arusha (79), and Tanga (76). From there, a systematic random sampling technique (using an n^{th} term) was employed to obtain the required SACCOS from each district in the region based on the list of licensed and audited SACCOS available from District Cooperative Officers (DCOs). The study's respondents were comprised of either a Board Chairperson or Manager of the SACCOS as these were expected to be knowledgeable about issues of fraud in SACCOS. In addition, 9 key informants were approached.

A questionnaire was used to collect quantitative data and it was divided into two parts. The first part collected the demographic characteristics of the respondents, whereas the second part aimed at seeking the opinions of the SACCOS Chairpersons/managers on the type of fraud that affects SACCOS and the likelihood of fraud occurrence. The various types of fraud were established from the literature by Koskei (2019) and Ruankaew (2016) whereas perceived likelihood of fraud occurrence was established from Aghghaleh *et al.*, (2014). A five-point Likert scale with choices ranging from "Never" (1) to "Very often" (5) was used to indicate the most dominant fraud type. A five-point scale was used because it is more appropriate for people who are not familiar with Likert scale-style assessments, enabling them to distinguish between little details and offering a greater chance of information acquisition (Krosnick & Presser, 2010).

Qualitative data was collected from key informant interviews conducted using an interview guide. The KIs interviewed comprised of officials from the Cooperative Audit and Supervisory Corporation (COASCO), the Tanzania Cooperative Development Commission (TCDC), co-operative experienced members of academic staff from the Moshi Cooperative University (MoCU), and Savings and Credit Cooperatives Union League of Tanzania (SCCULT). Secondary data was collected from various reports including the COASCO audit report (2023) as well as the TCDC annual SACCOS report (2023).

Quantitative data was analyzed using Partial Least Square – Structural Equation Modeling technique (PLS-SEM). According to Hair *et al.*, (2017), PLS-SEM is the recommended technique for evaluating intricate models that impose constraints on both latent and observable indicators since it maximizes explained variance and permits a variance approach without regard to distribution. PLS is a variant-based structural equation analysis used to simultaneously test the measurement model as well as the structural model. The measurement model tests the validity and reliability, whereas the structural model tests the causality (hypothesis testing) (Sabrida and Bukit 2021). PLS Multi Group Analysis is also

considered one of the most efficient ways of comparing two groups (Hair *et al.*, 2017). The scale items measured are presented in Table 1.

Table 1: Scales items measured

Constructs and Indicators	
Internal Fraud	
IF1	Fraud due to financial statement manipulation
IF2	Theft of SACCOs funds or property
IF3	Embezzlement/misuse of SACCOS funds for personal gain
IF4	Loan related frauds
Collusion Fraud	
CO1	Collusion between SACCOS employees, managers and Board members
CO2	Collusion between SACCOS employees/Board members, and third parties
External Fraud	
EF1	Fraud by external perpetrators
EF2	Online fraud
Fraud Likelihood	
FOL1	Perceived likelihood of collusion fraud
FOL2	Perceived likelihood of internal fraud
FOL3	Perceived likelihood of external fraud

To establish whether there are significant differences in perception between employee-based and community-based SACCOS, Partial Least Square – Multi Group Analysis (PLS-MGA) was performed. According to Hair *et al.*, (2017), the purpose of MGA, or between-group analysis, is to assess predefined (sometimes called a priori) data groups in order to ascertain whether group-specific parameter estimations (such as outer weights, outer loadings, and path coefficients) differ significantly from one another. This approach is also among the most effective approaches to evaluate moderation across multiple relationships (Hair *et al.*, 2017).

To conduct the multi group analysis, the four steps suggested by Cheah *et al.*, (2020) were observed as follows:

Step 1: Data preparation

When performing MGA, it is crucial to ensure that the subgroups have enough statistical power to detect the moderating effect (Hair *et al.*, 2017). According to Cheah *et al.*, (2020) the minimum sample size required for MGA is 160. Furthermore, researchers need to make sure that group-specific sample sizes don't differ significantly—that is, one group's sample size shouldn't be more than double that of the other group (Hair *et al.*, 2018). The sample sizes of the two groups used in this study are presented in Table 2:

Table 2: Sample size of data groups

Category	Cases
Employee based SACCOS	97
Community based SACCOS	126

Additionally, in order to identify moderator effects using MGA, a researcher should choose well established measures and evaluate the validity and reliability of such measures. (Hair *et al.*, 2019). In this study, reliability and validity was measured using Composite Reliability (CR) with a desirable cutoff

value of 0.70 (Ringle *et al.*, 2018). As shown in Table 3, all the latent constructs of the model possess composite reliability. The second component assessed in the measurement model is convergent validity. Convergent validity is measured by the Average Variance Extracted (AVE) for which the cut-off criterion value is 0.50 (Ringle *et al.*, 2018). Hence, all constructs measured possess convergent validity (Table 3). The Variance Inflation Factor (VIF) was employed as a proxy measure of collinearity. A VIF value less than 5 for an indicator indicates the absence of potential collinearity among indicators (Hair *et al.*, 2017), as shown in Table 3.

Table 3: Factor loadings, validity, reliability and collinearity

Full dataset (n=223)					Employee (n=97)			Community (n=126)		
	Loadings	CR	AVE	VIF	Loadings	CR	AVE	Loadings	CR	AVE
Collusion		0.923	0.712			0.96	0.923		0.89	0.802
CO1	0.926			2.046	0.962			0.902		
CO2	0.753			2.046	0.959			0.889		
External Fraud		0.875	0.847			0.88	0.788		0.865	0.746
EF1	0.933			1.448	0.897			0.907		
EF2	0.908			1.448	0.878			0.838		
Fraud Likelihood		0.909	0.658			0.93	0.822		0.887	0.724
FOL1	0.720			2.551	0.947			0.883		
FOL2	0.882			2.127	0.919			0.834		
FOL3	0.824			1.877	0.851			0.834		
Internal Fraud		0.907	0.617			0.93	0.753		0.884	0.649
IF1	0.747			2.832	0.911			0.871		
IF2	0.873			2.192	0.878			0.783		
IF3	0.802			2.141	0.850			0.828		
IF4	0.712			1.718	0.830			0.736		

In order to assess the discriminant validity of the constructs, the Heterotrait Monotrait (HTMT) Ratio procedure was employed. Henseler *et al.*, (2015), instructs that to check for discriminant validity, the most traditional threshold value of the HTMT ratio is less than or equal to 0.90. All HTMT values in this study are below the 0.90 criterion (Table 4).

Table 4: Discriminant validity using HTMT

	Collusion	External Fraud	FOL	Internal Fraud
Collusion				
External Fraud	0.887			
FOL	0.866	0.890		
Internal Fraud	0.828	0.881	0.814	

Step 2: Generating Data Groups

In this step, the relevant categorical variable is chosen from the dataset, and the groups to be compared are created. According to Cheah *et al.*, (2020) the selection of the categorical variable and subsequent selection of the groups should be guided by theory and empirical studies. In this study, the selection of the moderating variable “SACCOS type” and subsequent groups “employee-based SACCOS” and “community-based SACCOS” were obtained from literature by Sangali (2013) and Mumanyi (2014).

Step 3: Testing for Measurement Invariance (MICOM)

Verifying that the measurement models represent measures of the same characteristic under various circumstances is possible through measurement equivalency or Measurement Invariance of Composite Models (MICOM) (Henseler *et al.*, 2016). Variations in the paths (or β values) among latent variables may result from respondents' interpretations of the events under study, rather than actual variations in the structural relationships. Because MICOM provides researchers with the assurance that group differences in model estimates do not stem from the different interpretations and/or contents of the latent variable between groups, it is therefore an essential step before doing MGA (Cheah *et al.*, 2020). To run MICOM procedure in PLS, this study employed the Permutation calculation recommended by Cheah *et al.*, (2020). The results of the MICOM procedure are presented in Table 5. The permutations' results are confirmed if the permutations p-values are greater than 0.05, implying that the correlation is not significantly lower than 1.

Table 5: MICOM results

	Original correlation	Correlation permutation mean	5.00 %	Permutation p-value
Collusion	1.000	1.000	1.000	0.886
External Fraud	1.000	1.000	0.998	0.462
FOL	1.000	1.000	1.000	0.130
Internal Fraud	1.000	1.000	0.999	0.374

Step 4: Test for Multi Group Comparisons

After establishing measurement invariance, the researcher continued by examining group comparisons using MGA.

4.0 Findings and Discussion

4.1 Respondents' Demographic Characteristics

About 80% of the respondents were aged between 31 to 60 years, majority (68%) of which had a tertiary education qualification, followed by those with secondary education (25%). Only about 8% of the respondent had primary education implying that most of the respondents could adequately comprehend the research questions and offer sufficient answers. In total, 72 Board Chairpersons and 151 SACCOS Managers participated in the study. On the work experience, 96% of the Managers had worked at their respective SACCOS between 0 – 15 years, whereas all the Board chairpersons (100%) had worked for 0 – 10 years. The respondents were thus able to provide sufficient answers to queries about fraud in their SACCOS because of their extensive service history.

4.2 Structural Equation Model Evaluation

4.2.1 Coefficient of Determination (R-square)

As suggested by Hair *et al.*, (2017), we examined the R-squared values of the structural model to determine the coefficient of determination of each exogenous construct with respect to the endogenous constructs in the model. The outcomes of this analysis are presented in Table 6

Table 6: Coefficient of Determination (R-square)

	R-square	R-square adjusted
FOL	0.679	0.677

An important measure of the model's predictive ability is the R-Square statistic, which shows how much the endogenous latent variable's changes are explained by the exogenous latent variables taken together. R-Square values ranging from 0.50 to 0.75 are suggestive of a moderate degree of prediction regarding the combined effects of exogenous constructs on endogenous constructs, as described by Hair *et al.*, (2011) and Henseler *et al.*, (2009). As indicated in Table 6, the R-squared value of 0.679 obtained is in the specified range, hence demonstrating that the constructs of internal fraud, external fraud and collusion has a moderate effect on perceived likelihood of fraud occurrence in SACCOS.

4.3 Dominant Type of Fraud Facing SACCOS

The study was aimed at establishing the dominant type of fraud facing SACCOS. From the findings obtained, internal fraud emerged as the most dominant type of fraud facing SACCOS ($\beta = 0.491$, $p < 0.001$), followed by collusion fraud ($\beta = 0.325$, $p < 0.001$) and lastly external fraud ($\beta = 0.250$, $p < 0.001$). These findings imply that in the SACCOS, most frauds are committed by insiders, i.e., Board members and SACCOS' employees (management and staff). According to the report by COASCO (2023), some of the reasons as to why most SACCOS in Tanzania are faced by internal frauds are (1) weak or lack of internal controls which pave way for unfaithful employees and Board members to commit fraud, (2) many SACCOS do not have the internal audit department as instructed in the Microfinance Regulations and (3) inaction by relevant authorities to previously identified fraud threats by COASCO and Cooperative officers. The report also indicates that theft and misuse of SACCOS' funds are among the biggest challenges facing SACCOS. One Assistant Registrar interviewed had these to say on why internal fraud is rampant in SACCOS:

"...The problem is that in most SACCOS, members have left everything to the Board, managers and employees. In some SACCOS, one person performs the tasks of Board member, manager, cashier and everything. It appears the members do not know their responsibilities. The Board should be responsible to the members and the members should observe everything that the Board does and hold them responsible. Failure to do that leads to the problems that we have."

The Assistant Registrar's observation implies that in most SACCOS members are not involved in monitoring the performance of their leaders. This conforms to what was stated by Ortman and King (2007) that in cooperatives, there is less incentive for members to monitor the actions of their leaders, due to the fact that cooperative shares are not sold in the market, leading to "lack of capital market discipline". The findings of this study are similar to those of Wangu (2021) and Koskei (2019) who also found internal fraud to be most dominant in Kenyan SACCOS. These findings are also in line with the Agency theory's assertion that if left on their own, there is a big chance that agents (in this case SACCOS' employees and Board members) will be drawn to commit fraud for personal gain.

Interestingly, collusion emerged as the second most dominant type of fraud facing SACCOS. The findings seem to agree with the report by ACFE (2022) and PwC (2022) as well as the findings by Akbar *et al.*, (2022) that in recent years there has been an increase in collaboration among fraudsters. With regard to collusion in SACCOS, one District Cooperative Officer interviewed commented that:

"...Leaders (Board members) sometimes participate in conducting fraud. When this happens, it is difficult for the leaders to take action against the management when they have collaborated to commit the fraud."

According to Tillman (2009), fraud is rarely the work of a single perpetrator as it requires coordinated efforts of individuals such as board members, auditors, accountants, bankers etc due to the complexity

of conducting as well as concealing it. In the SACCOS context, the increase in collusion fraud between Board members and employees emanates from increased regulation in the SACCOS which makes it difficult for individuals to commit fraud. For instance, the Microfinance Regulations of 2019 instructs that all SACCOS must have a vetted Board with relevant qualifications, a credit committee, competent and qualified personnel (manager and staff) and an internal auditor. The regulations also stipulate the duties and responsibilities of each party, which means that each employee has specific tasks to accomplish. In addition, the regulation that requires each SACCOS to have an internal auditor implies that for fraud to take place there has to be some sort of collaboration between or among the employees and Board members.

In this study, external fraud ranked as the least dominant type of fraud facing SACCOS, contrary to the reports by ACFE (2022) and PwC (2022) which established external fraud as being among the dominant type of fraud in organizations. This implies that in SACCOS, external fraud is not a big threat like in bigger organizations. For instance, the COASCO (2023) report did not show any cases of fraud by external perpetrators or online fraud among the audited SACCOS. A summary of the findings is given in Table 7.

Table 7: Dominant Types of Fraud

Fraud type	β	Standard deviation	T statistics	P values
Internal Fraud	0.491	0.055	8.893	0.000
Collusion	0.325	0.044	5.677	0.000
External Fraud	0.250	0.045	7.398	0.000

4.4 Multi Group Analysis of Fraud Types Facing Employee and Community Based SACCOS

This study was aimed at finding out whether there are significant differences between the types of fraud facing employee-based and community-based SACCOS. To accomplish this, the study employed the PLS - MGA and the permutation approach. Findings indicate that there are significant differences between employee-based and community-based SACCOS with regard to the perceived types of fraud, thus supporting the hypothesis H1. From the findings it is evident that internal fraud is significantly more severe in community-based SACCOS ($\beta = 0.55$, $p < 0.05$) than in employee-based SACCOS ($\beta = 0.454$, $p < 0.05$). The reason for this is that most community-based SACCOS are still small, and many of them are located in rural areas, whereas most employee-based SACCOS are larger and are located in urban areas. According to Bunn *et al.*, (2019) small businesses are victimized 10% higher, on average, than large businesses. Mengesha and Assefa (2018) also established that rural SACCOS were more likely to face fraud due to poor internal controls. They added that challenges such as weak governance, weak institutional capacity, low capital base, and lack of awareness among rural community-based SACCOS could potentially expose these organizations to fraudulent activities. One of the District Cooperative Officers interviewed had this to say regarding internal fraud:

“...Fraud by leaders and employees of community-based SACCOS is widespread because supervision of such SACCOS by Cooperative officers is weak. Since we (cooperative officers) are very few, we cannot manage to visit all the community-based SACCOS especially those in the rural areas. Therefore, supervision is still a problem. Also, there are many unfaithful Board members and employees in the community-based SACCOS and without strong supervision these people can very easily engage in fraudulent activities.”

The comments from the Cooperative officer implies that given the vastness of the country and the way community-based SACCOS are scattered, it becomes very difficult for the few available cooperative officers to perform effective supervision.

On the other hand, findings indicate that collusion fraud is significantly more rampant in employee-based SACCOS ($\beta = 0.353$, $p < 0.05$) than in community-based SACCOS ($\beta = 0.263$, $p < 0.05$). Employee based SACCOS are normally larger than their counterparts, meaning that they employ more staff, they have better systems and generally have better internal controls. When an organization has better internal controls, it becomes more difficult for an individual to commit fraud, thus resorting to collusion between and among the fraudsters (Tillman, 2009).

With regard to external fraud, no significant differences were found between employee-based and community-based SACCOS ($\beta = 0.225$, $p > 0.05$). The implication is that the rate of external fraud is perceived to be the same among employee-based and community-based SACCOS in the study area. The summary of the MGA results is given in Table 8.

Table 8: Multi Group Analysis Results

	Community	Employee	Difference	Permutation mean difference	Permutation value	p
Internal Fraud	0.55	0.454	0.096	0.003	0.027	
External Fraud	0.225	0.225	-0.001	0	0.488	
Collusion	0.263	0.353	-0.09	-0.003	0.04	

5.0 Conclusion and Recommendations

5.1 Conclusion

The findings of this study offer valuable insights into the types of fraud facing SACCOS. The study established internal fraud as the most dominant type of fraud in SACCOS in the studied area. In addition, collusion between SACCOS' employees and the Board has also featured as one of the main frauds facing these organizations. The results are consistent with earlier studies that found internal fraud to be the most common type of fraud. The findings also support the proclamation by the Agency Theory that fraud is mainly internal and that when agents (in this case SACCOS Board members and employees) are left on their own, they will probably engage in fraudulent activities for their personal gain. However, contrary to other studies which presumed all SACCOS to be similar, significant differences have been found with regard to how community-based SACCOS and employee-based SACCOS perceive the issue of fraud. The study has established that employee-based SACCOS perceive collusion fraud to be more severe, whereas community-based SACCOS perceive internal fraud to be more dominant.

5.2 Recommendations

Based on these findings, it is recommended that the Tanzania Cooperative Development Commission (TCDC) which is the regulator of cooperatives, should see to it that SACCOS develop and adhere to internal control guidelines and Standard Operating Procedures (SOPs) for fraud prevention. Formerly, the task of formulating internal controls was vested to the Boards and management of SACCOS, but seeing that they are among the culprits, this study suggests the intervention of the regulator in order to ensure that strong internal controls and SOPs are developed and implemented. TCDC should also strengthen its SACCOS supervision and examination practices to ensure that, among other things, the internal controls are being implemented and any identified incidences of fraud are swiftly dealt with.

Since internal fraud and collusion between Board and employees has emerged as the dominant types of fraud affecting SACCOS, it is recommended that TCDC (through the District Cooperative Officers) should strengthen vetting of SACCOS Board members to ensure that only people with high integrity are elected as Board members. Likewise, TCDC should see into it that SACCOS put in place stringent procedures for recruiting managers and other staff, including performing rigorous background checks to establish the veracity of the people who are employed in the SACCOS.

It is also recommended that SACCOS support institutions such as the Moshi Co-operative University (MoCU), TCDC and SCCULT should strengthen fraud training and sensitization programs specifically to SACCOS Board members and employees. Such trainings should focus on the fraud predicament and its magnitude, as well as its effects on the performance and development of SACCOS. This study recommends that the trainings should be tailor-made to the employee-based and community-based SACCOS depending on which fraud type is perceived to be more prevalent in that particular category.

6.0 Theoretical and Policy Implications

This study contributes to the Agency theory by confirming the assertion that fraud is mainly internal (involving Board members, managers and staff), and when agents are left unmonitored, they will be drawn towards conducting fraudulent activities. The study has shown that the proclamation of the theory can be upheld in the SACCOS context just as in other organizations.

With regard to policy implications, the findings of this study contribute to the Microfinance Policy and Regulations (especially the SACCOS Regulations) by bringing to light the significance of developing internal control guidelines and standard operating procedures for SACCOS. The Microfinance Policy and Regulations can be improved by making it mandatory for each SACCOS to have an internal control guideline and standard operating procedures. The presence of strong internal controls has been found to be effective in deterring fraud occurrence.

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