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Influence of Information Symmetry Management on Loan Portfolio Quality for Savings and Credit Cooperative Societies in Tanzania

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Abstract

The study aimed to analyze the effect of information symmetry management on loan portfolio quality for Tanzania savings and credits cooperative societies (SACCOS). The specifically the study established the role the information policies, guideline and procedures, borrowers' information verification and MIS usage on the loan portfolio quality of SACCOS. Data were collected randomly from 145 SACCOS using a structured questionnaire. An ordinary least square multiple regression analysed the data. The findings indicated that the information policies, guideline and procedures, the borrowers' information verification and MIS usage influenced positively and significantly the loan portfolio quality of SACCOS in Tanzania. Based on the findings, SACCOS in Tanzania should prioritize developing and implementing robust information policies, guidelines, and procedures. Additionally, enhancing borrowers' information verification processes and maximizing the utilization of Management Information Systems (MIS) are crucial for improving SACCOS loan portfolio quality and overall financial performance. The study's findings contribute to agency theory by highlighting how effective information management practices, including policies, guidelines, and borrower verification, and MIS utilization, can mitigate information asymmetry and align incentives between lenders and borrowers. The practice is vital for promoting SACCOS' loan portfolio quality in Tanzania.

Keywords: *Information symmetry management, loan portfolio quality, savings and credits cooperative societies (SACCOS), Tanzania*

Introduction

Microfinance institutions (MFIs) globally are challenged by a problem of loan delinquency (Adbulai et al., 2020). Diverse studies have reported the problem of loan delinquency in MFIs worldwide (Zainuddin & Yasin, 2019). According to Boateng (2018), credit risk threatened the loan portfolio of the Ghanaian Savings and Credit Cooperative Societies (SACCOS). According to Abdulrauf (2022), non-performing loans endangered Nigeria's microfinance industry's viability. Ntoiti and Jagongo (2021) also noted that non-performing loans (NPL) threatened SACCOS' ability to continue operating in Kenya. In a similar vein, Muindi and Mutwiri (2021) observed that Portfolio at Risk (PAR) at Kenya's savings and credit microfinance institutions was 17.2%, higher than the permitted 5% threshold. For Tanzanian MFIs, Nkonyani and Mapesa (2019) revealed a PAR of 9.9%. In June 2023, the Tanzanian banking sector experienced a drop in non-performing loans to gross loans from 7.8% in June 2022 to 5.3% (URT, 2023).

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However, no data was given for the microfinance institutions. Additionally, Ndiege et al. (2016) attested to Tanzanian SACCOS's difficulties in managing non-performing loans. Magali (2022) reported the poor loan portfolio quality for SACCOS in the Mvomero district in Tanzania.

Abdulrauf (2022) emphasized that lending institutions' performance is enhanced when information is appropriately shared. Mukasafari (2022) revealed that proper information asymmetry management influenced the performance of the commercial bank in Rwanda. Song (2021) affirmed that information asymmetry negatively influenced the performance of the companies listed in the Chinese capital market. Ngeno (2021) revealed that the symmetric information for the Kenyan MFIs promoted issuance of loans to proper clients and in this way, it reduced the number of non-performing loans. However, the study concentrated on the factors such as rate of inflation, rate of interest and number of credits. The current study applied the variables of information policies, guideline and procedures, borrowers' information verification and MIS usage. John (2019) revealed that collateral, business ratings and consumer default information influenced positively and significantly the commercial banks' asset quality in Kenya. The literature shows that the majority of studies on the information asymmetry focused on the commercial banks. However, those carried out in MFIs did not assess how policies, guideline and procedures, borrower's information verification and MIS usage influenced the loan portfolio quality in SACCOS.

Lucas and McDonald (1992) connected information asymmetry to performance of commercial banks in the United States. However, the study focused on the commercial bank's asset quality, bank decisions on liability, and market valuation. In Brazilian MFIs. Marconatto et al. (2017) concentrated on monitoring, screening, and enforcement of borrowers. Muli (2017) evaluated how knowledge asymmetry affected the cost of borrowing for MFIs in Kenya. In similar vein, Cooper and Ross (2011) investigated the impact of knowledge asymmetry on MFI performance in Kenya. Bertrand (2020) established an association between the microlending method in Cameroon and information asymmetry. Furthermore, Riggins and Weber (2017) linked Kiva MFI clients' business investment performance with information asymmetry. Tadele et al. (2018) compared the performance of major and minor MFIs in Sub-Saharan Africa using the information asymmetry variable. Bhattacharya et al. (2013) found a correlation between the quality of income diversification and information asymmetry. Hughes et al. (2007) evaluated the impact of knowledge asymmetry on capital costs. Information asymmetry explained the disclosure quality (Brown & Hillegeist, 2007). Studies also link information asymmetry with variables such as dividend payment (Al-Hiyari et al.,

2024), industrial revolution 4 (Jacob et al., 2024), and collateralized credit and asset sales (Madison, 2024). However, none of these studies have analysed how the information asymmetry affected the portfolio quality in SACCOS.

Most Tanzanians who are barred from formal financial services are served by SACCOS (Ndiege et al., 2016). SACCOS play a significant role as in reducing poverty and promoting the economic wellbeing of the underprivileged and marginalized community (Anania & Rwekaza, 2018). Tanzania Cooperatives Development Commission (TCDC, 2023) reported that throughout Tanzania and the Dar es Salaam area, respectively, there were 2,034 and 517 active SACCOS in 2022. TCDC (2023) also reported an increase in SACCOS members in Tanzania between 2021 and 2022, from 1.3 million to 1.8 million. Furthermore, according to TCDC, the total value of SACCOS assets increased to 1.22 trillion from 889.53 billion Tanzanian Shillings (TZS) in the same year. Additionally, there was an increase in deposits and savings from TZS 678.81 billion to TZS 897 billion. Still, total loans outstanding increased from TZS 798.40 million-1.05 trillion. Thus, the data manifests that Tanzanian SACCOS continue to face loan default challenges (TCDC, 2023).

This study intended to answer the following research questions: How the information policies, guideline and procedures influenced the loan portfolio quality of SACCOS in Tanzania? How the borrower's information verification influenced the loan portfolio quality of SACCOS in Tanzania? How MIS usage influenced the loan portfolio quality of SACCOS in Tanzania?

Literature Review

Theoretical Review

The agency theory expresses the challenges corporate owners face when appointing third parties to manage their wealth (Kenani and Bett, 2018). The question of whether or not these stewards would handle owners' funds with the same dedication as owners gave rise to agency theory (Jensen & Meckling, 1976). The agency theory highlights risk acceptance or aversion, ownership control, and the effects of proper information disclosure (Dalton et al., 2007; Panda & Lepsa, 2017; Ali, 2020). The theory explains that information asymmetry usually deters the organization's performance (Chowdhury et al. 2024; Flayyih & Khiari, 2023; Bakari et al., 2019; Panda & Lepsa, 2017; Omar et al., 2016). In microfinance institutions,

the agent must provide the principal (shareholders) with sufficient information to support loan assessment and portfolio quality (Japheti & Magali, 2021).

When applying the agency theory to credit collection processes on MFI performance, Ngonyani and Mapesa (2019) and Ndirangu et al. (2019) did not explore the impact of information asymmetry on loan portfolio quality. However, moral hazard and adverse selection factors were taken into account by Edwin and Omega (2018) and Kingu and Gwahula (2018) while evaluating the credit management procedures and nonperforming loans on the performance of MFIs. Tchakoute-Tchuigoua (2019) related information asymmetry to MFI loan approval decentralization, outreach, and loan portfolio quality. The literature indicates that none of the current studies has linked the agency functions, information asymmetry, and loan portfolio quality in the Tanzanian SACCOS.

Methodology

The following sections outline the methodological approaches that guided the study.

Study Area

The research used SACCOS with licenses in the Dar es Salaam region. SACCOS have the potential to assist impoverished and marginalized Tanzania's population (Magali, 2022). Additionally, because they enable economically impoverished people access to loan money, SACCOS are acknowledged as a method for reducing poverty (Anania & Rwekaza, 2018). SACCOS loans help meet low-income families' financial, medical, educational, and other social requirements (Shifa & Fuller, 2022). The area of Dar es Salaam was selected due to its high number of SACCOS compared to other Tanzanian regions (TCDC, 2023).

Population and Sampling and Sample size

The study's population consisted of the 277 licensed SACCOS in the Dar es Salaam region. Active SACCOS often receive a license (TCDC, 2023). The study used stratified sampling because there were two forms of SACCOS (employee-based and community-based SACCOS). As a result, the employee- and community-based SACCOS comprised the stratum. Simple random sampling was employed following stratification to choose the SACCOS representative for the survey. The sample size was estimated using Yamane's formula proposed by Kothari (2014). The formula is $n = \frac{N}{1 + N(e)^2}$, Where n = sample size, N = population size,

e = confidence interval which is 5% for social science research, N=227. By using the formula, 145 SACCOS were computed as the sample size.

Data Collection and analysis procedures

The study collected data used a structured questionnaire with closed-ended questions. Clarifying the study's goal to the respondents promoted a 100% response rate. The researcher identified the outliers, missing values and converted variables with large values into logarithm base 10. Fortunately, no missing values and outliers were noted. In variable coding, variables with categories were assigned numerical values. After screening and coding, data were entered into IBM Statistical Packages for Social Sciences (SPSS), Version 22 for analysis. Ordinary Least Squares (OLS), and descriptive statistics were used. Using multiple regression analysis, loan portfolio quality was regarded as dependent variable and was presented by LPQ. The independent variables were information asymmetry management (IAM) indicators were verification of borrowers' information (VBI), information asymmetry policies and procedures (IPP), Management Information System (MIS) for risk borrowers' detection (MRB). As recommended by Mmari (2020), the multiple regression equation was written as;

$$LPQ = \beta_0 + \beta_1 VBI + \beta_2 IPP + \beta_3 MIS + \epsilon$$

$\beta_0, \beta_1, \beta_2, \beta_3$ are the coefficients representing the impact of each independent variable on the loan portfolio quality and ϵ is the error term.

Testing For Multiple Regression Assumptions

The homoscedasticity, normality, multicollinearity, outliers, autocorrelation assumptions of the multiple regression analysis were examined. Kurtosis and skewness values were used to assess the data's normality. Using skewness of less than 10 and Kurtosis nearly to 0 as recommended by Karagiorgis et al. (2023), the dataset was confirmed to be normally distributed.

Using Zach (2020)'s Breusch-Pagan heteroscedasticity testing criteria, the value of multiple regression R-square was 0.568. The computed R-square, or Breusch-Pagan value, was 82.928 (0.568*146). The value roughly corresponded to a significance level of 0.025, indicating that there was no heteroscedasticity. The dataset's outlier existence was ascertained using the Mahalanobis distance (Rafiq et al., 2023). The findings indicated that the Mahalanobis test that no value had a p-value less than 001. Thus, the investigation confirmed that there were no abnormalities in the data set.

Using the Kyriazos and Poga (2023)'s multicollinearity test recommendations, the Variance Inflation Factor (VIF) values, did not exceed the threshold of 10.0 and tolerance levels were not less than 0.1. These findings imply that multicollinearity in the model could not be verified the Durbin-Watson coefficient was 1.753, which was between the recommended limits of 1.5 and 2.5. Hence, according to Ghasemi et al. (2023), the presence of autocorrelation in the model was not proven.

Validity and Reliability of the research instrument

As recommended by Cooper and Schindler (2014), the researcher constructed the questionnaire based on the expert opinions. Furthermore, the study's variables were taken from earlier research. In addition, before formal study, twenty respondents completed the questionnaire for pre-testing purpose, and all extraneous items were removed. The reliability of the instrument was examined utilizing Cronbach alpha values. Sharma (2016) stated that an instrument is deemed credible if the computed Cronbach alpha is equal to or higher than 0.7. The results of the reliability analysis displayed in Table 2 are all than 0.7, proving the research instrument's reliability.

Table 1: Reliability analysis

Variable	Number of items	Cronbach Alpha
Verification of Borrower's information (VBI),	4	0.845
information asymmetry Policies and procedures (IPP)	5	0.736
MIS for risk borrowers' detection (MRB)	4	0.762

Ethical Consideration

The researcher asked the university's postgraduate office for a research clearance letter. The researcher obtained the respondents' informed consent prior to gathering any data. Furthermore, the investigator ensured the respondents' privacy and data protection through the passwords. Moreover, the researcher ensured the data's anonymity and confidentiality. Additionally, the researcher avoided data fabrication and incorrect reporting. The researcher ensured that all previous works used for writing were adequately acknowledged.

Findings and Discussions

The regression analysis was executed to analyse the influence of information asymmetry management on the SACCOS' loan portfolio quality. Specifically, the study analysed how the guidelines and procedures, borrower's information verification and MIS usage influenced the loan portfolio quality in SACCOS. The findings from the regression analysis are presented in Table 2. The study revealed that information symmetry statistically and significantly influenced the loan portfolio quality in SACCOS. The R-squared value of 0.568 indicates that the independent variables explained 56.8% of the variance. Moreover, the significant F-value of 30.416 suggests that independent variables had the power to influence the loan portfolio quality in SACCOS.

The findings show that the information symmetry management under the independent variables of verification of borrowers' information, information asymmetry policies and procedures and MIS for risk borrowers' detection were all positive and significant. The findings indicate that effective verification procedures positively influenced loan portfolio quality within SACCOS. The findings indicate that when institutions rigorously confirmed borrower information (such as income, credit history, etc.), they were better equipped to select creditworthy individuals. This practice reduced the risk of defaults and enhanced the overall quality of loans issued by SACCOS. The findings are consistent with Abdulrauf (2022) who stressed that information sharing between lending institutions improves the performance of financial institutions. Ngeno (2021) revealed that the symmetric information for the Kenyan MFIs promoted issuance of loans only to proper clients and in this way, it reduced the number of non-performing loans.

Moreover, clear policies and procedures to mitigate information asymmetry between borrowers and lenders proved crucial for improving loan portfolio quality. When SACCOS implemented transparent disclosure requirements and standardized reporting formats, it fostered trust and minimized adverse selection and moral hazard issues. This transparency led to better assessments of credit risks and ultimately improved the quality of the loan portfolio. Kowa et al. (2023) revealed that proper loan policies improved the loan recovery for SACCOS loans in Uganda. However, the study did not disclose the role of symmetric information in promoting the loan portfolio quality.

Furthermore, utilizing a robust management information system (MIS) to identify risky borrowers positively impacted loan portfolio quality. An effective MIS enabled early detection of potential defaulters,

allowing SACCOS to intervene proactively and manage risks promptly. By facilitating timely risk assessments and intervention strategies, a well-functioning MIS contributed significantly to maintaining a healthier loan portfolio. The findings are in tandem with Ali et al. (2021) who demonstrated that ICT investments promoted the financial performance MFIs in Niger.

Table 2: Results from the regression analysis

R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson			
7770.753	0.568	0.549	0.29849	1.753			
ANOVA^a							
	Sum of Squares	df	Mean Square	F	Sig.		
Regression	181.947	6	30.324	30.416	0.000		
Residual	138.581	139	0.997				
Total	320.527	145					
Coefficients^a							
Variables in the Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	1.106	0.550		2.012	0.000		
Verification of Borrower's information	0.473	0.077	0.430	6.124	0.000	0.629	1.589
information asymmetry Policies and procedures	0.332	0.069	0.370	4.778	0.000	0.518	1.930
MIS for risk borrowers' detection	0.306	0.112	0.181	2.740	0.002	0.712	1.405

Conclusions and Recommendations

The findings indicated that the information asymmetry management under indicators of policies, guideline and procedures, the borrowers' information verification and MIS usage influenced positively and significantly the loan portfolio quality of SACCOS in Tanzania. Therefore, the study underscores the importance of robust information policies, guidelines, and procedures within Tanzania's Savings and Credit Cooperative Societies (SACCOS). The findings highlight that these components, alongside thorough borrowers' information verification processes and practical MIS utilization, play pivotal roles in enhancing the loan portfolio quality of SACCOS. By ensuring the implementation and adherence to sound information management practices, SACCOS can mitigate risks associated with loan default and improve overall financial performance. Consequently, policymakers and stakeholders should prioritize developing and

enforcing comprehensive information management frameworks to foster a healthier and more sustainable lending environment within SACCOS in Tanzania.

The study contributes to agency theory by illuminating the crucial role of information policies, guidelines, procedures, borrowers' information verification processes, and Management MIS utilization in enhancing the loan portfolio quality of SACCOS. By demonstrating how these factors positively influence loan portfolio quality, the research underscores the importance of reducing information asymmetry between borrowers and lenders within cooperative societies. This insight is instrumental in advancing agency theory, as it emphasizes the significance of aligning incentives and interests between principals (SACCOS) and agents (borrowers) through improved information transparency and management practices, ultimately leading to more efficient and effective governance structures within cooperative lending institutions.

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