

CREDIT MANAGEMENT AND LOAN PORTFOLIO PERFORMANCE OF SAVINGS AND CREDIT COOPERATIVE SOCIETIES IN NYANDARUA COUNTY, KENYA

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ABSTRACT

The SACCO sector globally continues to struggle with huge loan performance inefficiencies. Alarming, the Portfolio at Risk levels for local societies stand beyond the maximum boundaries endorsed by both the World Council of Credit Unions and the SACCO Societies Regulatory Authority. Theoretical foundations suggest that credit management has an effect on loan portfolio performance. While studies have tried to critique this state, a number of unresolved gaps still exist. The specific objectives of the study were: to determine the effect of client of client appraisal, lending policy, collections policy and loan diversification on loan portfolio performance of SACCOs in Nyandarwa County, Kenya. An explanatory research design was used. A target population of 25 Savings and Credit Cooperative Societies in Nyandarua County were studied using census approach. Questionnaires were used to collect primary data. The drop and pick method was used in administering the research instrument. Validity was assessed through expert opinion and pre-testing. Reliability test relied on the Cronbach's Alpha reliability test. Data analysis was done by use of both descriptive and inferential analysis. Descriptive statistics, correlation analysis and multiple linear regression were used to analyze data. The p value for client appraisal ($p=0.001$) is less than 0.05 level of significance which informs a finding that client appraisal has a statistically significant effect on loan portfolio performance. The p value for lending policy ($p=0.022$), which is

less than 0.05 significance level, indicates that lending policy has a statistically significant effect on loan portfolio performance. The p value for collections policy ($p=0.034$), which is less than 0.05 level of significance, indicates that collections policy is a statistically significant determinant of loan portfolio performance. The p value for loan diversification ($p=0.007$), being less than 0.05 level of significance, demonstrates that loan diversification was a statistically significant determinant of loan portfolio performance. Pearson correlation analysis results indicated that client appraisal ($r=0.764$, $p=0.002$), lending policy ($r=0.513$, $p=0.003$) and collections policy ($r=0.537$, $p=0.014$) have a strong positive and statistically significant relationship with loan portfolio performance. Nevertheless, although loan diversification ($r=0.355$, $p=0.020$) also demonstrated a positive correlation with loan portfolio performance, the results indicated that the relationship was weak. The study recommends that the SACCOs invest in technology based initiatives such as computerized loan tracking system that could turn around the way SACCOs operate their credit system and hopefully improve loan quality. The study recommends enhanced adoption of co-guarantee lending methods to help diversify risk among group borrowers. All ethical considerations were observed by the study accordingly.

Key Words: *client appraisal, collection policy, credit management, loan diversification, loan lending policy, loan portfolio performance, repayment rate*

INTRODUCTION

Demary (2018) warns that poor loan performance is an issues affecting the entire global financial system. As Aiyar, Ilyina, and Jobst (2015) observe, Non-Performing Loans stood at more than 9 percent of GDP for the European Union as a whole by the end of year 2014. This proportion of NPL to GDP represented more than twice the 2009 figures which demonstrated a deteriorating trend in loan performance over time. Among the European nations worst hit by the NPL challenges included Cyprus, Portugal, Greece and Italy. SACCOs as key players in micro finance lending stand out as among the worst affected institutions attributed to their lenient, member friendly lending options. Mpofu and Nikolaidou (2018) indicates that the problem of poor loan performance is even worse in the African region and points out Nigeria, Tunisia and Kenya as among the worst hit nations on NPL drawbacks. In Nigeria, players in the financial system were reported to be technically distressed to the extent of accrued nonperforming loans surpassing shareholders' funds.

Reports suggest a case of struggling players with alarmingly poor loan performance highlighted among Kenyan SACCOs. A key constituent of Kenyan SACCOs' asset base, loan advances to various categories of clients (institutions, groups and individuals) represented close to three quarters (73.42 percent) of the entire sector's asset value (Fujo & Ali, 2016). Notwithstanding the significance of SACCOs' lending function, inability to efficiently manage this class of assets greatly hurts their ability to perform and guarantee survival in line with the going concern objective (Clarke, 2018). Statistics indicate that Kenyan SACCOs continue to grapple with severe loan performance challenge. As such, the measurement and improvement of loan portfolio quality is the key to loan portfolio management.

Loan portfolio performance indicates the extent to which the financial institutions achieve their lending objectives which contributes to the overall organizational goal of shareholder wealth maximization (Cooper et al., 2006). Loan portfolio performance is paramount to the success of not only SACCOs but all firms dealing with lending business (Fujo & Ali, 2016). For SACCOs, lending constitutes the main business activity. As such, the assets in lent out funds represent a huge proportion of shareholders' investment. The performance of the loan portfolio therefore has a significant implication on the wider firm performance and ability to maintain their going concern status. Loan portfolio constitutes the most significant assets of SACCOs and as such, the assessment of the current performance status of loan assets determines the able to actively manage the level of risk exposure and the profitability of an institution (Shisia & Sang, 2014).

Shong and Chung (2006) outlines the indicators of loan performance as encompassing the repayment rate, loan ratio (loans to total assets), portfolio at risk (PaR), and write off ratio (Bad Debts Written off/ Total Loans). Repayment essentially refers to the practice of reimbursing funds advanced by a lender. Repayment covers recovery of both the principal amount and the interest charged. The repayment rate signposts the proportion of owners funds and interest

successfully recovered from clients. This covers only the amounts due as the repayment structure could adopt several payment structures with diverse repayment schedules as agreed with borrowers (Hevner, 2009).

Credit management involves policies and measures set up by credit managers in order to guide the institutions when lending the loans to their clients (Fatemi & Fooladi, 2006). Saunders and Allen (2010) contends that, as lending institutions are exposed to high credit risk, it is imperative for them to maintain a sound credit management system to control the exposures. According to Marrison (2002), maintaining a good and sound credit management system helps in controlling the level of financial risks associated with lending and effectively improves the quality of advances and general credit performance. Client appraisal, loan lending policy, collection policy and loan diversification are various measures adopted in order to minimize the default risk, which is the main goal of credit management (Duffie & Singleton, 2012).

Credit management is highlighted in past literature as having the potential to influence the direction of loan portfolio performance. According to Van Deventer, Imai and Mesler (2013), prudent practice of credit management guarantees reimbursement of advances to clients and therefore drives sustainability of the credit function. SACCOs deal with a clientele from the financially excluded class, who in most cases are unable to access credit from other formal institutions such as commercial banks owing to stringent conditions. It is therefore more vital for the SACCOs to institute prudent credit management guidelines to ensure the clientele funded has the capacity and willingness to repay (Gatuhu, 2013).

The SACCO Societies Regulatory Authority (2016) highlights growing risk of lending for SACCOs noting that Non-Performing Loans (NPL) in the subsector increased by a whopping 2.36 billion between year 2015 and 2016 (SASRA, 2016). This represented a 17.86 percent growth from year 2015 figures. A deeper analysis of the SASRA loan condition figures for 2016 shows that the total loan portfolio at risk (PaR), calculated as a ratio of the NPL to gross loans shoot from 5.12 percent in 2015 to 5.23 percent in 2016. Alarmingly, the PaR of Kenyan SACCOs stands beyond the maximum boundaries endorsed by World Council of Credit Unions (5 percent) and SASRA (3 percent).

STATEMENT OF THE PROBLEM

Empirical studies indicate that Kenyan SACCOs continue to grapple with severe loan portfolio performance challenges. SASRA (2016) highlights a deteriorating state of loan portfolio performance for SACCOs, noting that Non-Performing Loans (NPL) in the subsector increased by a whopping 2.36 billion between year 2015 and 2016. This represented a 17.86 percent growth from year 2015 figures. A deeper analysis of the SASRA loan condition figures for 2016 shows that the total loan portfolio at risk (PaR), calculated as a ratio of the NPL to gross loans increased from 5.12 percent in 2015 to 5.23 percent in 2016. Thus the PaR of Kenyan SACCOs is way beyond the maximum boundaries endorsed by World Council of Credit Unions (5

percent) and SASRA (3 percent) (SASRA, 2018). In addition, the sector's regulator, Sacco Societies Regulatory Authority (2017) reports loan portfolio performance of SACCOs to be on a declining trend and attributes this to deterioration in the quality of loan assets with the level of non-performing loan ratio increasing to 6.14 percent in 2017 from the 5.23 percent recorded in 2016. The SACCOs in Nyandarua County are not exempted from this poor loan asset quality condition and have experienced escalating trends in the level of non-performing loans (defaulters) and poor repayment (Directorate of Cooperative Development, Nyandarua County, 2018). Mugambi, Njeru and Tirimba (2015) contend that lending represents a key component of SACCOs' asset base. In support of this proposition, Fujo and Ali (2016) indicates that credit advances is significant to SACCOs' lending function asserting that inability to efficiently manage this class of assets greatly hurts their going concern direction. The foregoing highlight of the SACCOs lending condition underlines the need for SACCOs to consider options for improving loan performance. While theoretical orientations suggest that credit management plays a pivotal role in enhancing loan performance, empirical literature presents conflicting stands on this matter. Further, despite the unfavorable trends in loan portfolio performance, there remains limited empirical evidence on the link between loan portfolio performance and credit management, especially in the context of SACCOs. Rauf, Lebbe, and Mulafara (2018) analyzed loan performance for financial institutions in Ampara district, Sri Lanka found that credit management was not significantly related to performance of loan portfolio. Empirically, these findings contradict those of Ahmed and Malik (2015), Kiplimo and Kalio (2014) and Gisemba (2010) who established that credit management has a positive effect on loan portfolio performance. Korir (2012), Gatakaa (2014) and Munyiri (2010) sought to assess the impact of credit management on financial performance of organizations and established that lending policy has a positive effect on organizational performance. Gaps are established on need to consider examining loan portfolio performance which is rarely addressed in past empirical literature. Other dimensions of knowledge gaps regards the context of past studies as most studies on the subject matter have a foreign setting (Ahmed & Malik, 2015; Adzobu, Agbloyor, & Aboagye, 2017; Singh, 2014; Raei, Farhangzadeh, Safizadeh, & Raei; 2016). Hence, to address the unresolved issues raised above, the current study sought to assess the effect of credit management on loan portfolio performance among SACCOs in Nyandarua County, Kenya.

RESEARCH OBJECTIVES

1. To establish the effect of Client Appraisal on Loan Portfolio Performance of Savings and Credit Cooperative Societies in Nyandarua County, Kenya.
2. To determine the effect of Loan Lending Policy on Loan Portfolio Performance of Savings and Credit Cooperative Societies in Nyandarua County, Kenya.
3. To assess the effect of Collections Policy on Loan Portfolio Performance of Savings and Credit Cooperative Societies in Nyandarua County, Kenya.
4. To establish the effect of Loan Diversification on Loan Portfolio Performance of Savings and Credit Cooperative Societies in Nyandarua County, Kenya.

THEORETICAL REVIEW

The study was guided by four theories which comprised of the agency, modern portfolio, informational asymmetry and transaction cost theories. The agency theory was initially developed by Ross (1973) outlining the agency relationships that arise in business arrangements. The agency model highlights the existing linkages among agents and principals in an entity (Jensen and Meckling, 1976). According to Bhati, McCrae and De Zoysa (2009), the agency conflict exists as the objectives of managers differ with those of shareholders. The agency theorists view managers as self-centred and individualistic. With regard to credit management, for instance, the managers may seek to advance minimal lending policy so as to keep the loan book attractive and avoid loan defaulters. This would conflict with shareholders objective in seeking maximization of their wealth achievable through well managed and control mass lending and loan book growth. The management often lack high risk appetite that would be the way to high returns (François & Missonier-Piera, 2007). The theory was applicable in assessing the variables of client appraisal, lending policy formulation and loan diversification and their influence on loan portfolio performance.

Modern Portfolio Theory was established by Markowitz (1952) and explains how investors can invest in different assets with high returns with low risks. The theory suggests that loan diversification, as a component of credit management in SACCOs has a positive ramification on performance of loan portfolio. The theory holds that investors are risk averse where they prefer high returns with minimum risks. Thus investors have diversified portfolio of assets where there is combination of different assets which are not perfectly positively related (Elton & Gruber, 1997). In the study, the theory was helpful in assessment of client appraisal, collections policy, lending policy and loan diversification and their influence on loan portfolio performance.

Information asymmetry theory was developed by Nelson (1970), which describes a situation where the parties have unequal access to useful information. With regard to credit management, information asymmetry framework applies in reconciling the information gaps between borrowers and SACCOs as the lenders. The problem of moral hazard and adverse selection usually arises due the difference of level of information between the lender and the borrower. The challenge of adverse selection manifests before disbursing the loan while later moral hazard arises after it is issued (Brown & Zehnder, 2010) The theoretical orientation will help in evaluating how management handle problems information asymmetry which increases the number of non-performing loans due to adverse selection and moral hazard effects.

Transaction cost theory was established by Coase (1937) and highlighted the growing importance of transaction costs in business assessment. Williamson (1998) would later develop the theory and renamed it as the transaction cost economics. . The transaction costs that a firm incur in credit management would include monitoring costs, enforcement costs, search costs, screening costs, bargaining costs, transfer costs, (Menard, 1997). The SACCO should balance

between the need to grow the loan book, through for instance, loan diversification with the need to keep checks on associated costs such as monitoring and evaluation costs (Gatuhu, 2013). The sound credit management which can be adopted by the SACCOs are credit appraisal and collection policies in the lending policies. The transaction cost theory will thus be helpful in determine the credit management guidelines that would best enhance the performance of loan portfolio.

EMPIRICAL REVIEW

Ahmed and Malik (2015) studied credit management and loan performance targeting Micro Finance Banks of Pakistan. Multiple regression analysis was used to decide the underlying statistical association between credit risk management practices and MFIs' loan performance. Results indicated a strong relationship between client appraisals and MFIs' loan performance. There exist Contextual gaps as more study need to be done in local environment as well as shift focus to other players facing default problems such as SACCOs.

Kiplimo and Kalio (2014) analysed credit risk management and loan performance in microfinance institutions in Baringo County, Kenya. A descriptive survey research design was applied to analyse the performance of 7 MFIs operating in Baringo County. Regression and correlation analysis were the main statistical procedures. Results indicated a strong relationship between client appraisals and MFIs' loan performance. Contextual gaps existed in the study as more focus to different financial sector players other than MFIs need to be done.

Gatakaa (2014) assessed loan policy and financial performance of commercial banks in Kenya. Descriptive survey research design was used to analyse the performance of 43 commercial banks in Kenya under supervision of the Central Bank of Kenya. The study specifically sought to establish the loan policies assumed by Commercial Banks in Kenya. The period covered in the analysis was between financial years 2009 to 2013. The findings demonstrated a positive relationship between lending policy and financial performance. Empirical gaps depicts on the necessity to cover wide on credit management variables besides loan policy such as collections control, client appraisal and loan diversification. Contextual gaps are present thus more study should cover recent timespan owing to the recent changes seen in the financial environment.

Munyiri (2010) assessed lending policies and performance of Kenyan commercial banks. Various lending philosophies, standards, and guidelines employed by banks were assessed and how they impacted on performance. Descriptive survey research design was used and targeted a total of 46 commercial banks in Kenya. The outcome showed lending policies formulated by the commercial banks were largely customers friendly. They were also largely focused on customer capability and prevailing market conditions. The findings further demonstrated that bank lending policies influenced the level of bank performance. Empirical gaps exists in the study thus

expansive research on credit management variables in the analysis such as collections policy, client appraisal and loan diversification should be covered.

Moti, Masinde, Mugenda and Sindani (2012) assessed credit management system and performance of loans among MFIs in Kenya. The descriptive survey design was used in the analysis with the MFIs in Meru town being used as the choice target. The results portrayed a positive relationship between collection policy and loan repayment. Credit referencing was recommended as an effective tool for improving MFIs' loan performance. Contextual gaps are identified thus there is necessity to cover recent study owing to changing business environment and need to shift focus to other financial players with similar default woes such as SACCOs.

Ahmed and Malik (2015) assessed credit management and loan performance of Micro Finance Banks of Pakistan. The credit management variables analysed included client appraisal, risk control, credit terms and policy, and collection policy. Regression analysis outcome portrayed collections policy has a positive but insignificant influence on loan performance. Contextual gaps in the study indicate that more empirical investigation is necessary in the local sector since environments are rarely similar for useful outcomes.

Mulwa (2018) analyzed lending diversification and performance of the East African banking industry. The study further analyzed the effect of loan diversification on loan monitoring effectiveness. Results established that credit diversification positively influences banks' and loan returns. However, the asset quality was negatively affected by credit diversification. Results further showed that diversification enhanced loan monitoring effectiveness. Methodological gaps arise in that the dimension of loan performance is scarcely considered in past empirical studies.

Adzobu, Agbloyor, and Aboagye (2017) examined loan diversification and its influence on banks' risks and return. The study analyzed the impact of credit diversification across economic sectors on profitability as well as risk control success for Ghanaian banks. Results indicated that loan portfolio diversification neither enhanced profitability nor lessened exposure to credit risks. The study therefore recommended pursuit of other strategies for enhancing loan performance such as thorough loan screening. The limited approach to profitability and risk exposes methodological on need to consider other key dimensions of loan portfolio performance.

RESEARCH METHODOLOGY

An explanatory research design was adopted for the study. According to Ott and Longnecker (2015), explanatory research design seeks to elaborate why the problem exists. The research design provides an explanation of the cause and effect relationships among variables being studied. This design was preferred for the current study since the subject matter was about establishing cause and effect relationships between credit management and loan portfolio performance. The target population comprised of all the 25 SACCOs with active operations in Nyandarua County, Kenya (Directorate of Cooperatives Development, Nyandarua County,

2018). The study purposively picked 75 respondents who included credit officers and loan portfolio managers. The study used primary data for data collection. The study used semi structured questionnaire as primary data collection instrument. The study employed the drop and pick method to deliver the questionnaire to the respondents. Descriptive Analysis (means and standard deviation) and inferential analysis were applied to analyse data. The study adopted the following regression model in the analysis from Kutner, Nachtsheim and Neter (2004).

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon$$

Where: Y = Loan Portfolio Performance (Using a Composite Index for Repayment Rate and Loan Ratio); X1= Client Appraisal, X2= Lending Policy, X3= Collections Policy and X4 = Loan Diversification; β_0 = regression intercept, β_1 , β_2 , β_3 β_4 , = coefficients while ε is the error term

RESEARCH RESULTS AND FINDINGS

Descriptive Statistics

Descriptive statistics describe the state or condition of the parameters but may not allow generalisations or inferences to the population. Loan portfolio performance was indicated through repayment rate and loan ratio (Loans to Total Assets). The average loan repayment loan among the SACCOs stood at 88.78%. The loan ratio (loans in relation to total assets) stood at 74.88%. Hence, the loan portfolio performance of the SACCOs in Nyandarua County was fairly good. As indicated by the mean of the means (3.8692), the SACCOs largely implemented client appraisal as a credit management practices. The average standard deviation (0.9997) further confirmed this state of affairs as it demonstrates that data was tightly held close to the mean. The results show that the character, credit history, capacity, cash flows and conditions were largely considered before credit decision.

Lending policy as a credit management practice was widely applied by the SACCOs in Nyandarua County. This is reflected by the mean of the means (3.54) which showed that many SACCOs in the study area were guided by a lending policy. The low average standard deviation (1.27) demonstrated that the data was held close to the mean validating this condition. Results further indicated that the SACCOs implemented varying loan repayment periods for clients. There were also various timeline of repayment options for clients including terminal (one off) or periodic repayments basis to enhance lending policy. There were also a variety of loan products for members. Nonetheless, the SACCOs had only moderately engaged services of registered credit referencing bureaus to ascertain the credit worthiness of borrowers. The results also showed that SACCOs only moderately adopted loan rescheduling for clients who were unable to meet prior arrangements. The SACCOs had also moderately implemented measures to control the risk of moral hazard and adverse selection.

The mean of the means (3.84) provides evidence that collection policy as a credit management practice was widely applied by the SACCOs in the study area to enhance loan portfolio performance. The low average standard deviation (1.23) demonstrates that observations were closely held to the mean, therefore validating the existence of that condition. The SACCOs adopted stringent monitoring and evaluation program for loans advanced to clients. The SACCO largely implemented a stringent monitoring and evaluation program for loans advanced to clients. The results indicated that level of resources, framework to deal with delinquents and variety of loan collection channels was satisfactory. The SACCO also had a well spelt out policy for dealing with delinquent loans in addition to a well spelt out philosophy to curb internal abuse. Flexible repayment options had also been established to ensure clients are not overburdened with debt. Nonetheless, the SACCOs were yet to adequately adopt modern methods for monitoring loans advanced.

The mean of the means (3.83) demonstrated that loan diversification was largely implemented as a credit management practice to enhance the quality and performance of the loan portfolio. The average standard deviation (0.98) further affirmed the validity of this condition, as it represents proximity of observations about the mean. The SACCOs had as well largely adopted a variety of products targeting various sectors of the economy. Sector based loans were also largely customized with unique conditions specified to meet the demands of those segments. In addition, the SACCOs also largely offered both group and individual lending packages to spread their risk exposures and were also informed by diverse needs of borrowers. The large application of co-guarantee lending methods among SACCOs helped to diversify risk among group borrowers. SACCOs also largely allowed clients to use different types of collaterals and also largely ensure monitoring effectiveness of loans offered to their clients.

Inferential Statistics

The study used the Pearson Correlation Analysis to analyse the relationships among the variables of interest to the study. The analysis method was considered useful as it would demonstrate the nature, strength, direction and significance of the associations between the independent variable (s) and dependent variables; credit management practices and loan portfolio performance. The results are captured in Table 1.

Client Appraisal as a credit management practice demonstrated a very strong, positive correlation with loan portfolio performance. This is evidenced by Pearson correlation coefficient (0.764) which shows a very strong and positive association and the P value of 0.002 which signposts that the relationship is statistically significant as the value is less than 0.05. The results agree with past studies by Ahmed and Malik (2015), Kiplimo and Kalio (2014), Gisemba (2010) and Korir (2012) who established a strong relationship between client appraisals and loan portfolio performance.

Table 1: Pearson Correlation Analysis

		Loan Portfolio Performance
Client Appraisal	Pearson Correlation	.764**
	Sig. (2-tailed)	.002
	N	60
Loan Lending Policy	Pearson Correlation	.513**
	Sig. (2-tailed)	.003
	N	60
Collections Policy	Pearson Correlation	.537**
	Sig. (2-tailed)	.014
	N	60
Loan Diversification	Pearson Correlation	.355**
	Sig. (2-tailed)	.020
	N	60

** Correlation is significant at the 0.01 level (2-tailed)

The Pearson correlation coefficient for loan lending policy (0.513) represents a strong level of positive association between loan lending policy and loan portfolio performance. The P value of 0.003 affirms that the relationship is statistically significant as the value is less than the 5% or 0.05 level of significance. The results share with past findings by Gatakaa (2014), Munyiri (2010) and Ong'era (2016) who showed that loan lending policy had a positive relationship with loan portfolio performance.

Collections Policy as a credit management practice showed a strong, positive correlation with loan portfolio performance. The relationship is strong and positive as evidenced by the Pearson correlation coefficient which stands at 0.537. Further, the relationship is statistically significant since the P value of 0.014 is less than 5% level of significance. The results agree with Moti, Masinde, Mugenda and Sindani (2012), Ahmed and Malik (2015), Wachira (2015) and Wanja (2013) who also indicated that collections policy was positively related with loan portfolio performance.

The Pearson correlation coefficient for loan diversification (0.355) represents a weak level of positive association between loan diversification and loan portfolio performance. The P value of 0.02 demonstrates that the relationship is statistically significant as the value is less than the 5% or 0.05 level of significance. The findings agree with Mulwa (2018) who indicated that loan diversification enhanced loan portfolio performance by enhancing loan monitoring effectiveness. Results however conflict with Adzobu, Agbloyor, and Aboagye (2017) and Singh (2014) who found no evidence to relate loan diversification with loan portfolio performance.

The multiple linear regression analysis was further employed to determine the effect of credit management practices on loan portfolio performance. The regression analysis was considered appropriate for purposes of testing the research hypothesis and hence fulfilling the research objectives. The model summary showed the usefulness of the regression model in explaining loan portfolio performance. In other words, it shows the proportion of the dependent variable that is influenced by the independent variables. Table 2 show the model summary output.

Table 2: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.853 ^a	.7276	.7201	1.210001	1.709

a. Predictors: (Constant), Client Appraisal, Lending Policy, Collections Policy, Loan Diversification

b. Dependent Variable: Loan Portfolio Performance

R square, the Coefficient of Determination (0.7201) indicates that 72.01 percent of variation or changes in loan portfolio performance was explained by variation or change in credit management and its component variables; client appraisal, lending policy, collections policy and loan diversification. A further implication is that only, only 27.99 percent of variation in loan portfolio performance was influenced by other factors excluded from the model.

Table 3 gives a summary of the F-Test on ANOVA. The results are key in explaining whether there exists evidence that credit management collectively has an effect on loan portfolio performance.

Table 3: ANOVA

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	5.081	4	1.270	.548	.001 ^a
	Residual	376.490	56	6.723		
	Total	381.571	60			

a. Predictors: (Constant), Client Appraisal, Lending Policy, Collections Policy, Loan Diversification

b. Dependent Variable: Loan Portfolio Performance

At the 5 percent level of significance, the Analysis of Variance (ANOVA) output presents evidence to demonstrate that the gradient of the regression line was different from zero. This is because the P value of 0.001 was below the 0.05 or 5% level of significance. Hence, the study finds that credit management (collectively) has a significant overall effect on loan portfolio performance of SACCOs in Nyandarua County, Kenya.

Table 4 presents the model coefficients. The output is key in determining the effect of each independent variable on loan portfolio performance. The results also provide evidence regarding the statistical significance or otherwise of the independent variables (client appraisal, collections policy, lending policy and loan diversification) in predicting loan portfolio performance.

Table 4: Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients		T	Sig.
	B	Std. Error	Beta			
1 (Constant)	9.841	.305			32.27	.051
Client Appraisal	.701	.284	.799		2.468	.001
Lending Policy	.588	.326	.601		1.804	.022
Collections Policy	.501	.216	.594		2.319	.034
Loan Diversification	.333	.401	.345		.830	.007

a. Dependent Variable: Loan Portfolio Performance

From the results, it is evident that all the credit management variables; client appraisal, lending policy, collections policy and loan diversification have a positive and statistically significant effect on loan portfolio performance. From the results captured in the coefficients table, the regression model for credit management practices and loan portfolio performance was developed as:

$$Y = 9.841 + 0.701X_1 + 0.588X_2 + 0.501X_3 + 0.333X_4 + \varepsilon$$

Where: Y = Loan Portfolio Performance, X₁= Client Appraisal, X₂= Lending Policy, X₃= Collections Policy and X₄ = Loan Diversification.

The coefficient for client appraisal (0.701) indicates that a unit increase in client appraisal would result to a 0.701 unit increase in loan portfolio performance. The effect of client appraisal on loan portfolio performance is statistically significant because the associated P-Value (0.001) falls below the 5% level of significance. As such, this resulted in rejection of the null hypothesis and a conclusion that client appraisal has a significant effect on loan portfolio performance. The results agree with past studies by Ahmed and Malik (2015), Kiplimo and Kalio (2014), Gisemba (2010) and Korir (2012) who established that client appraisal played a big role in positively influencing loan portfolio performance.

The coefficient for lending policy (0.588) indicates the variable has a strong positive effect on loan portfolio performance. The effect of lending policy on loan portfolio performance is statistically significant as since the p-value of 0.022 is less than 0.05 significance level. Hence, a unit improvement in lending policy would lead to a 0.588 unit improvement in loan portfolio

performance. The null hypothesis was therefore rejected and a supposed made that lending policy was a statistically significant determinant of loan portfolio performance. Findings agree with Gatakaa (2014), Munyiri (2010) and Ong'era (2016) who showed that lending policy had a positive effect on loan portfolio performance.

The coefficient for collections policy (0.501) signposts a strong positive effect of collections policy on loan portfolio performance. The effect of collections policy on loan portfolio performance is statistically significant since the associated p-value of 0.034 is less than 0.05 significance level. The implication is that a unit improvement in collections policy would result to a 0.501 unit improvement in loan portfolio performance. The null hypothesis was therefore rejected and an inference made that collections policy has a significant effect on loan portfolio performance. The results agree with Ahmed and Malik (2015), Wachira (2015) and Wanja (2013) who also indicated that collection policy had a positive effect on loan portfolio performance.

The coefficient for loan diversification (0.333) represents a positive effect of the variable on loan portfolio performance. The effect of loan diversification on loan portfolio performance is considered statistically significant as the associated P-value of 0.007 is less than the 0.05 significance level. As such, a unit improvement in loan diversification would result to a 0.007 unit improvement in loan portfolio performance. This informed rejection of the null hypothesis and a conclusion made that loan diversification has a significant effect on loan portfolio performance. The findings agree with Mulwa (2018) who indicated that loan diversification had a positive effect on loan portfolio performance by enhancing loan monitoring effectiveness. Results however conflict with Adzobu, Agbloyor, and Ab oagye (2017) and Singh (2014) who found no evidence to show any effect of loan diversification on loan portfolio performance.

SUMMARY OF KEY FINDINGS

Results indicated that the loan portfolio performance as represented by loan repayment rate and loan ratio was fairly good. Nevertheless, it was indicated that some players could be performing poorly and needed to learn the strategies employed by other SACCOs which were performing better. With regard to client appraisal as a credit management practice, the Pearson Correlation Analysis results showed that the variable had a very strong, positive correlation with loan portfolio performance. Regression analysis results further demonstrated that client appraisal was a useful predictor of loan portfolio performance. Further, results demonstrated that the practice of client appraisal was largely implemented by the SACCOs. Most importantly, the 5 Cs model of character, capacity, capital, collateral and conditions was widely applied in assessing the credit worthiness of borrowers. Nevertheless, the SACCOs had only moderately enlisted the services of information sharing bodies to get information regarding the credit history of borrowers. The consideration of capital and personal assets contribution by prospective borrowers was also moderately considered.

Pearson Correlation Analysis output showed that collections policy as a credit management practice has a strong, positive correlation with loan portfolio performance. Regression analysis results showed that collections policy was a statistically significant predictor of loan portfolio performance. The SACCOs adopted stringent monitoring and evaluation program for loans advanced to clients. The SACCOs largely implemented a stringent monitoring and evaluation program for loans advanced to clients. The results indicated that level of resources, framework to deal with delinquents and variety of loan collection channels was satisfactory. The SACCO also had a well spelt out policy for dealing with delinquent loans in addition to a well spelt out philosophy to curb internal abuse. However, the SACCOs were yet to adequately adopt modern methods for monitoring loans advanced.

The Pearson Correlation Analysis results indicated that loan diversification has a weak but positive association with loan portfolio performance. Regression analysis results indicated that loan diversification was a statistically significant predictor of loan portfolio performance. The SACCOs had largely adopted a variety of products targeting various sectors of the economy. Sector based loans were also largely customized with unique conditions specified to meet the demands of those segments. The large application of co-guarantee lending methods among SACCOs helped to diversify risk among group borrowers. The firms also largely allowed clients to use different types of collaterals and also largely ensure monitoring effectiveness of loans offered to their clients.

CONCLUSIONS

It was concluded that credit management practices collectively plays a significant role in determining the loan portfolio performance of SACCOs. Regarding client appraisal and loan portfolio performance, the regression analysis results informed a conclusion that client appraisal plays a significant role in influencing the level of loan portfolio performance. Results of the Pearson correlation analysis results led to a conclusion that client appraisal has a positive relationship with loan portfolio performance and as such, an improvement in client appraisal would lead to an improvement in loan portfolio performance. Regression analysis results informed a conclusion that lending policy is a useful predictor of loan portfolio performance. As such, the stricter the lending policy is, the more improved would be the loan portfolio performance. The Pearson Correlation Analysis results also informed a conclusion that lending policy has a positive relationship with loan portfolio performance. As such, an improvement in lending policy would result to an improvement in loan portfolio performance.

On collection policy and loan portfolio performance, the regression analysis results informed a conclusion that collections policy is a useful determinant of loan portfolio performance. As a change in the state of collection policy would result to a change in the level of loan portfolio performance. The Pearson Correlation Analysis results informed a further conclusion that an improvement on the collection policy would lead to an improvement in the loan portfolio performance. Contrariwise, a decrease in implementation of collection policy leads to a decrease

in loan portfolio performance. Going by the regression analysis results, it is concluded that loan diversification is a useful determinant of loan portfolio performance. The study further concludes that a change in loan diversification leads to a change in loan portfolio performance. The Pearson Correlation Analysis further leads to a conclusion that an increase in loan diversification leads to an increase in loan portfolio performance. On the contrary, a decrease in loan diversification leads to a decrease in loan portfolio performance.

RECOMMENDATIONS

As client appraisal was found to yield the largest influence on loan portfolio performance, the study recommends that the SACCOs' managers consider addressing the few client appraisal concerns that were raised through the findings. The SACCOs management also need to improve on consideration of capital and personal assets contribution by prospective borrowers which was found to be weakly implemented. To effectively guard members' interests, the study recommends that the SACCO Societies Regulatory Authority propose guidelines that would make it mandatory for SACCOs to enlist the services offered by information sharing bodies to ensure that only credit worthy borrowers benefit. This would help in improving the objectivity with which clients are assessed for funding and stimulating the going concern status of SACCOs. The authority should also consider further protecting investor interests by enforcing the strict application of the 5Cs model to ensure that only clients who have the capacity and willingness to repay are funded. On loan diversification, the study recommends more adoption of co-guarantee lending methods among SACCOs to help diversify risk among group borrowers.

The study also makes recommendations to the Kenya Union of Savings and Credit Cooperatives (KUSCCO), the umbrella body tasked to facilitate advocacy and representation of SACCOs. To the union, the study recommends training facilitation of SACCOs on technology based initiatives that could turn around the way SACCOs operate their credit system and hopefully improve loan quality. Specifically, the union should train members on computerised loan tracking systems and ensure that the loans are kept in check from disbursement to full recovery. Although the SACCOs were found to have a fairly prudent collections policy, the study recommends that SACCO managers improve adoption of modern methods for monitoring loan advances such as computerized loan tracking which was weakly implemented.

On lending policy, the study recommends that management teams of SACCOs embrace loan rescheduling for clients who feel overwhelmed with previous repayment plans. This would help in reducing delinquency rates and improving the performance of loan portfolio among SACCOs. The management should ensure that their credit system is effective in controlling the risk of moral hazard and adverse selection. The SACCO Societies Regulatory Authority through the National Treasury's Financial Sector Support Project (NTFSSP) is currently developing a market conduct policy for SACCOs premised on need to strengthen the existing legal and regulatory framework to better protect shareholders' and public interest. The study recommends that the National Treasury's Financial Sector Support Project takes note of the current findings with

regard to lending policy in improving the legal and regulatory framework for SACCOs. Specifically, the project should consider recommending a lending system that balances between need to control risk with need to promote financial inclusion. The project should consider measures to help SACCOs control credit risk exposures as it submits its report.

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