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Integrated Financial Management Information System (IFMIS) and Credit Scoring in Cooperative Societies: A Survey of Deposit Taking Saccos in Nyeri County, Kenya

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Abstract:
Financial management information systems are not a new phenomenon. On the contrary, the recording of financial information is the oldest known form of record keeping, dating back thousands of years. Yet financial information has long presented problems, particularly since the invention of money. Governments in developing countries are increasingly exploring methods and systems to modernize and improve public financial management. In Kenya, majority of SACCOs are faced by several obstacles in their managerial systems due to poor implementation of Integrated Financial Information Systems (IFIS) in their institutions. From recent studies, it is revealed that most of the SACCOs in Nyeri County including their branches are using traditional and old way in doing daily banking activities and also most of their systems and computers are old and without advanced software and new computer applications. The purpose of the study was to determine the effect of integrated financial management information system on credit scoring among SACCOS in Nyeri. The study adopted a descriptive survey research. The population for this study comprised 30 respondents who included the manager and the head of IT department in each of the 15 deposit taking SACCOs in Nyeri County. Since the population is not large, the study adopted a census approach by including all the 30 respondents in the sample. Data involved primary data and secondary data which were collected by use of questionnaires that were self-administered. Data were analyzed using descriptive analysis by use of Statistical Package for Social Sciences (SPSS V 21.0). In addition, multiple regressions were used to measure the strength of the relationship between the dependent and independent variables. Frequency tables and graphs were used to present the data for easy comparison. This study found that internal control mechanism facilitated by IFMIS affects credit scoring among SACCOs in Nyeri to a great extent. The study further found that organizational structure and resources affect credit scoring among SACCOs in Nyeri to a great extent. From the findings, the study concludes that internal control mechanism facilitated by IFMIS affects credit scoring among SACCOs in Nyeri. The study also concludes that information processing, information gathering, timeliness of information, verification of the accuracy and completeness of transactions and transparency of information affect the credit scoring among SACCOs in Nyeri County. The study further concludes that formalization, centralization, hierarchical arrangement of lines of authority and number of hierarchical levels affect the credit scoring of SACCOs in Nyeri. The study recommends that the SACCOs should ensure that the information flow is transparent and effective. This will help enhance confidence and credibility of the operations of the SACCOs. Also the SACCOs will be able to monitor the information of clients and avoid falling into bad debts. The study also recommends that SACCOs should ensure they put in place a proper strategy-structure alignment. This is because changes in the competitive environment require adjustments to the organizational structure. In addition, the SACCOs should realize that laxity in the realignment has a negative impact on financial performance.

Keywords: *credit scoring, internal control, information flow, staff competence*

1. Introduction

In the world today, systems for financial management are not a fresh phenomenon. Apparently, financial information recording is the one of the earliest known methods of record maintenance and can be traced back to thousands of years (Gijselinckx & Devetere, 2007). Despite this monetary information has long presented challenges, predominantly since the introduction of money. The current financial management stems back to the 15th century when the accounting system in use today of double entry was codified by Luca Pacioli (Schroy, 2010). Comprehensive accounting and monetary management are grounded on principles which include:

accountability, flexibility, legitimacy, contestability, transparency, and predictability. To realize these principles, effective accounting and financial systems are amongst the fundamentals that strengthen Sacco's ability to allot and use assets efficiently and effectively (Edelberg, 2006).

In the past two decades, consumer lending has continued to be progressively sophisticated as money lenders have shifted to information-driven systems to evaluate and rate credit risk. During the late 1990s, a great number of lenders still used single "house rate" and depend on interview procedures to screen the borrowers (Johnson, 2011). With the decrease in the cost of data storage and computing, and the improvement of underwriting technology, lenders gradually began to employ estimations of risk default while processing personal loans. The use of computerized credit scoring expedited by use of integrated financial management information system (IFMIS) is now the standard input into the valuing of mortgages, unsecured credit and auto loans (Chêne, 2009).

Schroy (2010) on the study on the fundamentals of internal controls accentuated that an organization employee with the authority to spend company finances should not be accorded the power over the accounting entries that reveal such expenditures. All over the world there have been several occurrences in which monetary resources have been mishandled or misappropriated through deceitful practices leading to failure of several once successful businesses. Some of the related examples in point worth considering in order to establishing how these crimes are propagated are: In 1995, Barings Bank, one of the ancient merchant Bank in London, swiftly collapsed-the results of $1.3 billion in business losses suffered by Nick Leeson, an offshoot trader in the banks Singapore office. Although the popular press focused attention on the trader, Nick Leeson, primarily, it was later established that the criminals in the Barings' collapse were company directors, comprising those at the topmost level of the institution that did not recognize or disregarded the most rudimentary principle of internal control.

Dagbah (2011) on the study on internal control as a tool for financial management in the public sector states that in Ghana, there have been several cases or disclosures of unsuccessful internal controls, particularly in the public sector. Thus, the Auditor General's report on the public accounts dating back to the time of independence to date; and more specifically between the periods 31st December, 2006-2008 discovered some serious weaknesses which need to be looked at to warrant practical management of resources. The findings were as follows: uninformed payments, unpresented payment receipts and revenues fraud and other receipts. Others are contract loopholes, poor debt administration and enormous debt stock. The rest are procurement devoid of entity tender committee authorization, unlawful payment and/or withdrawal of salary as well as bank lodgments not showing in bank statements; citing a few to expound on the need to look at and/or fortify the internal control systems of the public sector administrations in Ghana. The instances cited clearly indicate that there are a lot of internal control discrepancies in the public sector in Ghana.

Lucey (2005) on the study on Management Information Systems states that Integrated Financial Information System (IFIS) is a system employed by most of modern banks these days to give information at high quality and precision required to manage the bank efficiently. Integrated Financial Information System (IFIS) offers the indispensable reports and summarizes the bank's fundamental operations to the senior managers in the bank and boost decision-making process. IFIS also ensures transparency and effectiveness of information provided for bank's customers. Investors require efficient information before deciding to invest in SACCOs and the quality of information they require can only be given using Integrated Financial Information Systems. Munyiri (2006), Savings and Credit Co-operative Societies (SACCOs), which are initiated locally, are more striking to customers, thus, they are extremely entrenching themselves in the financial sectors of many countries. In fact, they have solid bases of small saving accounts constituting a stable and relatively low-cost source of funding and low administrative costs (Branch, 2005). In addition, SACCOs are able to advance loans at lower interest rates than those charged by other financial providers. In addition, SACCOs have the aptitude and chance to reach customers in areas that are unappealing to banks including remote or poor areas. The main objective of SACCOs is to guarantee members enablement through deployment of savings and credit disbursement (Ofei, 2001). SACCOs in Kenya to accomplish this goal have mobilized more than Kshs.200 billion in savings (Co-operative Bank of Kenya, 2010).

Laudon and Laudon (2010) on the study on Management Information Systems indicate that service offered by savings and credit cooperative organizations (SACCOs) and other main financial institutions play a critical role in refining the reach and access of financial services (presently only 19% of Kenyans can access proper financial services). Notably, financial services make up to 4 per cent of GDP and its assets contribute alike to about 40 per cent of GDP. In the vision 2030, a more stable and vibrant financial system will be developed to mobilize savings, and to distribute these resources more effectively in the economy, where the contribution of SACCOs will be very crucial. The sustenance of SACCO would broaden the financial inclusion 'net' to comprise the marginalized majority (those viewed as poor in the society). This study evaluated the influence of integrated financial information systems on credit control in co-operative societies in Nyeri County. Mong'are (2011) on the study on financial performance of public enterprises and privately owned firms compared states that a financial management information system, or integrated financial management information system (IFMIS), is an information system that trails financial actions and summarizes financial information. The integrated financial management information system (IFMIS) was first applied in government ministries in 2003 and to the county governments in 2013, while its re-engineering course began in 2011 in order to stabilize and augment the IFMIS implementation. In its simplest form, an IFMIS is more or less like an accounting system designed to work according to the requirements and provisions of the setting in which it is in use. In general, the word "IFMIS" refers to the application of data and communications technology in fiscal processes to back the budget and institutional choices, fiduciary tasks, and the organization of monetary statements. An IFMIS store, classifies and makes accessibility of financial information easier (Gijselinckx & Devetere, 2007).

Hesse and Cihak (2007) on the study on Cooperative Banks and Financial Stability state that in today's culture, cooperative financial organizations hold a major market share, the International Monetary Fund (IMF) approximated that in the banking sector of the first world, cooperative finance had a market share of about 14 per cent in the year 2004. Thus significance of integrated financial management information system in these SACCOs is inestimable. In general, introducing an IFMIS in SACCOs implies essential deviations in operating processes. This can be effected flawlessly by focusing on information flows plus the manner in which the flows are prepared, managed, conveyed, revised and applied to ease-making of decisions. IFMIS design is heralded by thorough functional examination that reinforces current practical procedures, processes, customer profiles and specifications that can be supported by the new system. Thus, the need for IFMIS in SACCOs operations is so crucial since it is an invaluable player in the Kenyan socio-economic advancement. SACCOs cut across all sectors of the economy and deliver an imperative framework for deployment of both human and capital resources.

2. Statement of the Problem and Conceptualization

In Kenya, majority of SACCOs are confronted by several impediments in their administrative systems due to poor application of Integrated Financial Information Systems (IFIS) in their institutions. Most of the SACCOs in Kenya including their branches are using out-of-date and old ways in undertaking daily banking actions. Most of their systems and computers are time-worn and without current software and new computer applications, therefore, this situation brings about real problems and hindrances to instrument up-to-date information systems which is part of the IFIS. An effective IFIS is crucial to the triumph of any banking institution including SACCOs (Harish, 2003). Mnjama (2003) states that the poor condition of records management keeping in SACCOS present in Kenya is brought about by the lack of sufficient storage facilities, mishandling of IFMIS and meager information flow. Chêne (2009) posits that an IFMIS brings about productivity improvements and changes that alter existing processes. It encompasses institutional reforms, which intensely shakes work procedures and organizational provisions overseeing the administration of public funds. However, institutional reforms are not realized easily as per the International Consortium of Governmental Financial Management (ICGFM, 2008); it needs time, dedication, champs and valor to realize. According to SASRA (2012), SACCOs are bogged with challenges of wanting adoption of technology and inadequate IT skilled and knowledgeable manpower who fully comprehend Sacco operations.

Concerns have been raised concerning the lack of satisfactory transparency in provision of information to the market about scores granted which has influenced IFMIS efficiency in warranting a free flow of information. Moreover, there have been problems of handling liquidity due to lack of progress in IFMIS (Allen & Maghimbi, 2009). This tendency has led to reduction of SACCOs' reserves and collapse of more SACCOs in Nyeri County since it is not checked. Similar sentiments have been launched in Nyeri County, Kenya among SACCO members, with capital adequacy and credit control being the main problems facing the SACCOs. This study seeks to fill the gap on the effect of integrated financial management information system on credit scoring among SACCOS in Nyeri County. The purpose of this study was to determine the effect of integrated financial management information system (IFMIS) on credit scoring among SACCOs in Nyeri County in Kenya. The paper specifically sought to achieve the following objectives:

i. To determine the relationship between IFMIS internal control mechanisms and credit scoring among SACCOs in Nyeri County, Kenya.
ii. To establish the effect of information flow as facilitated by IFMIS on credit scoring among SACCOs in Nyeri County, Kenya.

3. Empirical Literature Review

This study was hinged on the stewardship theory, information theory of credit, actor-network theory and competency theory. Muthaura (2003) on the message from the head of public service and secretary to the cabinet, United Nations Public Service day asserted that a properly functioning Sacco is a reflection of the integrity and accountability of its records management system. One of the major features of integrated financial management information system is that it stores all the financial information relating to current and past years' spending and also stores the approved budgets for these years, details on inflows and outflows of funds, as well as complete inventories of financial assets (e.g., equipment, land and buildings) and liabilities (debt).

Ganster and Dwyer (1995) in the study on the effects of understaffing on individual and group performance in professional and trade occupations found that, at the group level of analysis, groups that are adequately or overstaffed appeared to be more productive than understaffed groups. IFMIS implementation involves considerable human resources requirements and capacity building needs throughout the entire SACCO. The low level of computer literacy in developing countries must first be adequately addressed before such projects can be truly viable. The lack of staff with required IT knowledge can easily be remedied by training and hiring. On the other hand, they also found that at individual level of analysis, staffing sufficiency showed a significant and negative indirect effect on performance.

Schroy (2010) on the study on the Basics of Internal Controls postulates that the backbone of an institution's internal control system is dictated by human ability to handle internal control functions hence training and precise skills-sets are indispensible for human capacity growth. An operative monitoring system is a continuing valuation Programme that guides the design, application and efficacy of controls in alleviating risks. It is in this light that tools such as the internal control systems aside from being put in place also strengthen and diligently monitored to check and avoid the inaccuracies to guarantee effectiveness and proper use of resources for the attainment of performance objectives. Internal control should also be designed to meet the requirements of the specific business. This is because the more intricate an institution's control systems are, the higher the cost (IRM, 2002). Nonetheless, the role of efficient monitoring system in credit scoring among SACCOs is not well-expounded by Schroy (2010) which this study aims to fulfill.

Hendricks (2013) examined with Integrated Financial Management Information Methods indicate that the extent and also efficiency of an IFMIS may vary from an essential normal ledger sales software to a comprehensive technique addressing having a budget, balances receivable or perhaps payable, funds management, debts and assets management, procurement and buying, revenue management, human resource management and payroll. Its position is to connect, build up, method and produce details to any or all events within the finances technique using a continuous basis (Diamond & Khemani, 2006). Hence, it is imperative which the technique will be able to supply the necessary details reasonable and also effectively, because if not, it will not double and also quit to fulfill the middle function as a system since reasonable and also appropriate details are usually necessary in credit score rating. Nevertheless, whether these systems are functional in SACCOs is still a concern for this study and which the study aims to bridge the gap available.

Chêne (2009) on the study on the Implementation of Integrated Financial Information Management Systems (IFMS) attests to getting data transparency. An IFMIS can enhance budgetary administration of SACCOs in various ways, yet for the most part looks to upgrade certainty and believability of the financial backing through more prominent extensiveness and transparency of data. The reason for utilizing an IFMIS is to enhance plan arranging and execution by giving convenient and precise information to decision-making particularly regarding assessing financial soundness of account holders. A budgetary administration data framework, or Integrated Financial Information Management Systems (IFMIS), is a data framework that tracks monetary occasions and abridges budgetary data. An IFMIS stores, arranges and makes access to money-related data simple. It not only stores all the monetary data identifying with present and past years' spending, but additionally stores the affirmed plan for these years, subtle elements on inflows and surges of trusts, and completes inventories of money related resources (supplies, area and structures) and liabilities.

Olson, Slater and Hult (2005) on the study on institutional structure bring out a scientific classification of four separate mixes of structure/conduct types, which they name as: management dominant, customer-centric innovators, customer-centric cost controllers and middle ground. These option structure/conduct types are then matched with particular business techniques (i.e., prospectors, analyzers, low cost defenders, differentiated defenders) keeping in mind the end goal to differentiate which consolidation (s) of structures and practices best serve to encourage the procedure of executing a particular credit scoring.

Hendricks (2013) on the study on impact of staffing on credit scoring demonstrated that institutions that are effective at credit scoring consider the human asset figure in getting this going. Further, they understand that the human asset issue is truly a two-section issue. Initially, thought of human assets obliges that administration contemplate the institution's correspondence needs. That they explain the credit scoring methods so those entrusted with creating the comparing activity steps (strategies) completely comprehend the system they're to execute. Second, supervisors prominent at credit scoring are mindful of the impacts every new process will have on their human asset needs.

Boxall (2009) on the study on impact of staffing on credit appraisal demonstrates that the idea encompassing the vitality of HR in its unique sense comes from the view that individual's administration is a key hotspot for guaranteeing controlled credit scoring. The four fundamental requirements are: human's capacity and responsibility; vital prerequisites of human assets, overseeing human assets by experts, lastly, coordination of human asset administration in the credit scoring technique.

Pfeffer (2011) on his study showed that the HRM framework that creates and keeps up a company's key foundation ought to be viewed as a venture. HR along these lines, constitutes a fundamental component of the base that supports this quality creation procedure, and one which demonstrations as a potential vital lever for the organization credit scoring. This framework level centre is reliable with the advancement of an applied reason for the making of a vital effect and thus has been alluded to as an elite work framework. Also, it has been proposed that a SHRM framework produces staff conduct that concentrates on key business needs, which creates benefits, development and eventually market esteem. It is astounding to discover how changing economic situations have rendered large portions of the conventional wellsprings of playing point, for example, licenses, economies of scales, access to capital and business regulations, less imperative in the current monetary environment than they had been in recently.

Mutie (2006) on the study on Credit Scoring Practices and Non-Performing Loans in The Kenyan Commercial Banks depicts that credit scoring is a measurable technique used to anticipate the likelihood that an applicant or existing borrower will default. Credit scorecards are characterized as techniques used to anticipate the conduct of new candidates focused around the execution of past candidates. Scorecards can likewise be utilized to anticipate the execution of existing records, in view of past knowledge of records with comparative qualities. Credit scorecards come in two fundamental sorts, judgmental and factual. Judgmental (otherwise called master based) scorecards are basically situated formal, quantitative criteria created by joining the best practices and the learning of senior credit officers. They are particularly helpful for institutionalizing, disentangling, and accelerating choice-making. Factual scorecards are prepared with information from real advances and applications, and they have the vital included profit of evaluating the likelihood of default. Among factual models, there are two essential sorts: generic-which is built with information from an assortment of money-lenders and execution showed up for a brought together vault, for example, a credit agency, and custom-created with the execution information from a particular money related organization. A custom scorecard may utilize a non-exclusive score as one of its inputs (US Admin of the Currency, 1998).

Most of these studies have been conducted in other countries and in different industries other than the SACCO sector. In addition, the studies failed to address the issue of records management in Saccos. Further, their arguments only focus on few aspects of record management such as identification of records, classification and storing of records leaving the other aspects untackled. Majority of the studies concentrated on risk assessment aspects thus neglecting the other aspects of internal control mechanism such as monitoring and preparation of financial statements which are key and need to be analyzed in this study. Most of the SACCOs have not integrated computerized records management in their operations. Therefore, this study will address the above gap with the aim of achieving the objective of the study which is the effect of IFMIS on credit scoring among SACCOs in Nyeri.

4. Study Design and Methodology

This study adopted a descriptive research design. The population for this study comprised a total of 30 respondents who included the Sacco manager and head of IT department of the 15 deposit taking SACCOs in Nyeri County in Kenya. A self-administered semi-structured questionnaire was used to collect both primary and secondary data. Quantitative data was subjected to descriptive analysis using Statistical Package for Social Sciences (SPSS, V. 21.0) while qualitative data were analyzed by use of content data analysis, where the effect of IFMIS on credit scoring in deposit taking SACCOs were grouped into related themes. In addition, the study conducted inferential statistics such as multiple regressions to measure the strength of the relationship between the dependent and independent variables. ANOVA was used to test the significance of the model and regression diagnostics were computed.

The regression equation was: $Y= \beta_0+ \beta_1X_1+\beta_2X_2+ \beta_3X_3 +\beta_4X_4+\alpha$

Where: Y is the dependent variable (Credit Scoring),

$\beta0$ is the constant/Y-intercept, β_1, β_2, β_3, are the slopes of the regression equation,

X_1 is the Internal Control Mechanism, X_2 is the Information Flow, X_3 is the Organizational Structures and Resources, X_4 Staff Competence

α is an error term.

5. Results, Analysis and Discussion

This study deduced that internal control mechanism facilitated by IFMIS affects credit scoring among SACCOs in Nyeri. The study also established that the aspects of internal control mechanism facilitated by IFMIS that affect credit scoring among SACCOs in Nyeri to a great extent include risk assessment as shown by a mean score of 4.314, monitoring as indicated by a mean score of 4.193, accounting/ preparation of financial reports as shown by a mean score of 4.102 and control activities as expressed by a mean score of 3.695. This is in line with Amudo and Inanga (2009) who state that a strong internal control is one of the best defenses against business failures and an important driver of business performance. Arens et al (2006) on the study on Auditing and Assurance Services postulate that internal control system consists of policies and procedures designed to provide management with reasonable assurance that the entity achieves its goals and objectives. As such, internal control is deemed to be an important feature in the administration and management of financial resources. Effective internal control requires a strong control environment under which the other components are implemented.

The study deduced that information flow facilitated by IFMIS affects credit scoring among SACCOs in Nyeri to a great extent. In addition, the study established that aspects of information flow facilitated by IFMIS affect credit scoring among SACCOs in Nyeri to a great extent include quality and availability of information as expressed by a mean score of 4.086, information processing as shown by a mean score of 4.025, timeliness of information as indicated by a mean score of 4.018, information gathering as shown by a mean score of 3.957, verification of the accuracy and completeness of transactions and transparency of information as expressed by a mean score of 3.942 and 3.571 respectively. This concurs with Chêne (2009) who on the study on the Implementation of Integrated Financial Information Management Systems (IFMS) asserts that access to information is transparency. An IFMIS can improve financial management of SACCOS in a number of ways, but generally seeks to enhance confidence and credibility of the budget through greater comprehensiveness and transparency of information. The purpose of using an IFMIS is to improve budget planning and execution by providing timely and accurate data for decision-making especially when it comes to evaluating creditworthiness of debtors. Thus, it is expected that IFMIS will have a positive effect on credit scoring among Saccos.

The study further found that organizational structure and resources affect credit scoring among SACCOs in Nyeri to a great extent. The study also found that aspects of organizational structure and resources affect credit scoring among SACCOs in Nyeri to a moderate extent include formalization as shown by a mean score of 4.384, centralization as indicated by a mean score of 3.774, hierarchical arrangement of lines of authority and number of hierarchical levels as indicated by a mean score of 3.688 and 3.549 respectively. This is in line with Heide, Grønhaug and Johannessen (2010) who state that factors relating to the organizational structure are the second most important in credit scoring after information availability. Drazin and Howard (2011) in the study on effect of organizational structure on credit scoring see a proper strategy-structure alignment as a necessary precursor to the successful credit scoring. They point out that changes in the competitive environment require adjustments to the organizational structure. If a Sacco lags in making this realignment, it may exhibit poor performance and be at a serious competitive disadvantage.

Finally, the study found that staff competence affects credit scoring among SACCOs in Nyeri to a great extent while 23.1% indicated to a very great extent. On the same, the study established that the aspects of staff competence affect credit scoring among SACCOs in Nyeri to a great extent include skills and attitude as shown by a mean score of 4.248, experience as indicated by a mean score of 4.158, behaviours and capabilities as expressed by a mean score of 4.105 and 3.907 respectively. This concurs with Hendricks (2013) whose study on effect of staffing on credit scoring indicated that successful organizations consider credit scoring as the human resource factor to make this happen.

6. Hypothesis Testing

The regression findings are as presented below.

Model		Unstandardized Coefficients				
		B	Std. Error	Beta	t	Sig. (P-values)
1	(Constant)	4.835	0.521		9.28	1.21E-13
	Internal Control Mechanism	0.792	0.159	0.632	4.981	4.70E-06
	Information Flow	0.581	0.193	0.154	3.01	3.68E-03
	Organizational Structures and Resources	0.628	0.231	0.241	2.719	8.33E-03
	Staff Competence	0.704	0.301	0.264	4.683	7.65E-04
a. Dependent Variable: Credit scoring						

Table 1: Regression coefficients of the relationship between credit scoring and the four predictive variables

The regression equation above has established that taking all factors into account (internal control mechanism, information flow, organizational structures and resources and staff competence) constant at zero, credit scoring among Saccos in Nyeri will be 4.835. The findings presented also show that taking all other independent variables at zero, an increase in the scores of internal control mechanism would lead to a 0.792 increase in the scores of credit scoring among Saccos in Nyeri, an increase in the scores of information flow aspects would lead to a 0.581 increase in the scores of credit scoring among Saccos in Nyeri. Further, an increase in the scores of organizational structures and resources would lead to a 0.628 increase in the scores of credit scoring among Saccos in Nyeri. In addition, the findings show that an increase in the scores of staff competence will lead to a 0.704 increase in the scores of credit scoring among Saccos in Nyeri. Overall, information flow had the least influence on credit scoring among Saccos in Nyeri while internal control mechanism had the highest influence. According to the model, all the variables were significant as their significance value was less than 0.05. All the variables were positively correlated with credit scoring. Based on the findings, the study therefore, rejects the entire null hypotheses. The significance of internal control mechanism was 4.70E-06 as indicated by the P value which implies that internal control mechanism has a significant effect on credit scoring. The significance of information flow was 3.68E-03 as indicated by the P value which implies that information flow has a significant effect on credit scoring. The significance of organizational structures and resources was 8.33E-03 which means that organizational structures and resources has a significant effect on credit scoring. Finally, the significance of staff competence was 7.65E-04 which implies that staff competence has a significant effect on credit scoring.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.843	0.711	0.705	0.00512

Table 2: Model Summary

R-Square (coefficient of determination) is a commonly used statistic to evaluate model fit. R-square is 1 minus the ratio of residual variability. The adjusted $R^{2,}$ also called the coefficient of multiple determinations, is the percent of the variance in the dependent explained uniquely or jointly by the independent variables. 70.5% of the changes in the credit scoring among Saccos in Nyeri could be attributed to the combined effect of the predictor variables.

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3.601	4	1.182	4.203	0.0174
	Residual	17.26	21	0.306		
	Total	20.861	25			

Table 3: ANOVA resultsof the regression analysis between credit scoring and predictor variables

From the ANOVA statistics in table 4.16, the processed data, which are the population parameters, had a significance level of 0.0174 which shows that the data are ideal for making a conclusion on the population's parameter. The F calculated at 5% Level of significance was 4.203. Since F calculated is greater than the F critical (value = 2.84), this shows that the overall model was significant i.e. there is a significant relationship between credit scoring and IFMIS.

6.1. Test of Multicollinearity

A situation in which there is a high degree of association between independent variables is said to be a problem of multicollinearity. Multicollinearity can also be solved by deleting one of the highly correlated variables. Heteroscedasticity means that previous error terms are influencing other error terms and this violates the statistical assumption that the error terms have a constant variance.

Model		Collinearity Statistics	
		Tolerance	VIF
1	Internal Control Mechanism	.937	1.068
	Information Flow	.873	1.145
	Organizational Structures and Resources	.796	1.218
	Staff Competence	.864	1.157

Table 4: Summary of Collinearity Statistics

The Variance Inflation Factor (VIF) was checked in all the analyses and it ranged from above 1 to 4 which is not a cause of concern according to Myers (1990) who indicated that a VIF greater than 10 is a cause of concern. The basic assumption is that the error terms for different observations are uncorrelated (lack of autocorrelation).

6.2. Normality Test

Normality of the variables was examined using the skewness and kurtosis. According to Kline (2011), the univariate normality of variables can be assumed if the skewness statistic is within the interval (-3.0, 3.0) and the kurtosis statistic lying in the interval (-10.0, 10.0).

	Kolmogorov-Smirnov			**Shapiro-Wilk**		
	Statistic	df	Sig.	Statistic	df	Sig.
Internal Control Mechanism	2.203	25	.017	1.914	25	.005
Information Flow	3.045	25	.032	1.632	25	.032
Organizational Structures and Resources	2.943	25	.041	1.231	25	.021
Staff Competence	2.153	25	0.03	1.532	25	.019

Table 5: Tests of Normality

From the finding on the Kolmogorov-Smirnov and Shapiro-Wilk test on normality, the study found that significance in both tests were less than 0.05 which led to the rejection of the null hypothesis that that data on internal control mechanism, information flow, organizational structures and resources and staff competence were not normally distributed an indication that data on the variables were normally distributed.

6.3. CUSUM Test for Parameter Stability

CUSUM test for parameter stability presented in the Figure below shows that the model is stable over time as it does not deviate from lines but is balanced on the line from one observation to another (that is, there is no change in models parameters given Harvey-Collier t (27) of 0.105681 with p-value 0.91660).

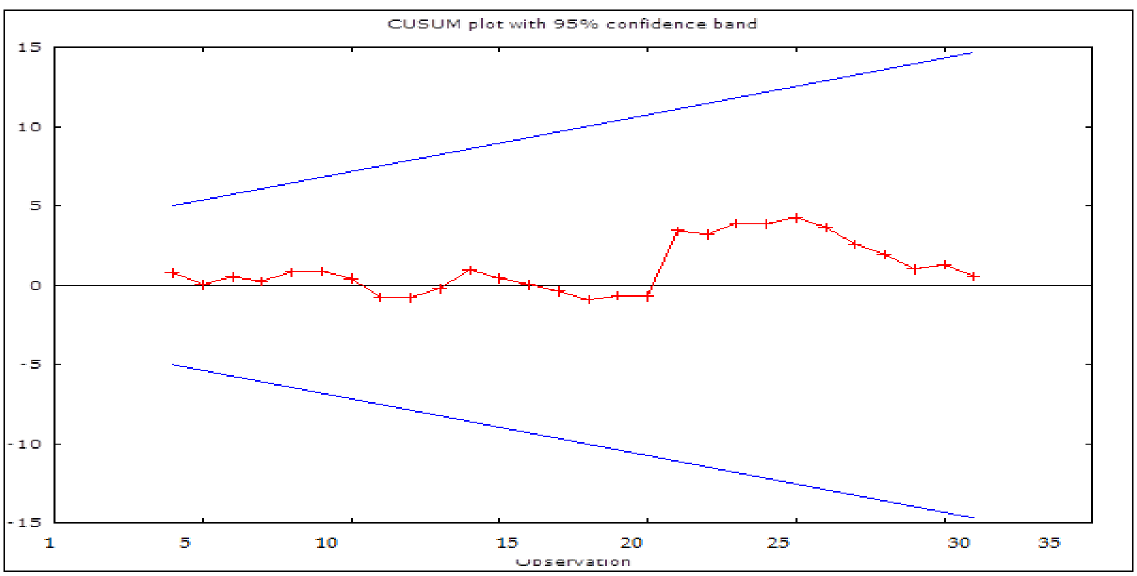

Figure 1: CUSUM test for parameter stability

6.4. Chow Test for Structural Break

Chow test for structural break was done considering the 17th observation as the breakpoint. The test produced the following results: F (6, 22) = 0.415716 with p-value 0.8606. Chow tests the null hypothesis of no structural break. The p-value of f-statistics is 0.8606 above 5%. The study thus, fails to reject the null hypothesis that there is no structural break in the data depicting the model parameters are structurally stable.

7. Conclusion and Recommendations

From the findings, the study concludes that internal control mechanism facilitated by IFMIS affects credit scoring among SACCOs in Nyeri. The study also concludes that information processing, information gathering, timeliness of information, verification of the accuracy and completeness of transactions and transparency of information affect the credit scoring among Saccos in Nyeri. The study further concludes that formalization, centralization, hierarchical arrangement of lines of authority and number of hierarchical levels affect the credit scoring of Saccos in Nyeri. Finally, the study concludes that staff experience, behaviours and capabilities, skills and attitude affect the credit scoring of Saccos in Nyeri. From the research findings and conclusions, the study recommends that the Saccos in Nyeri should implement control mechanisms that are in line with the nature of activities they dwell on. The Saccos should also ensure that they regularly audit the control mechanisms to ensure their effectiveness and that they impact positively on credit scoring.

The study also recommends that the Saccos should ensure that the information flow is transparent and effective. This will help enhance confidence and credibility of the operations of the Saccos. Also, the Saccos will be able to monitor the information of clients and avoid falling into bad debts. The study also recommends that Saccos should ensure they put in place a proper strategy-structure alignment. This is because changes in the competitive environment require adjustments to the organizational structure. In addition, the Saccos should realize that laxity in the realignment has a negative impact on financial performance.

Finally, the study recommends that the Saccos should ensure that they have competent staff at all times. This can be made possible through facilitation of training, regular evaluation and motivation of staff through issuance of rewards.

Further research could be conducted by incorporating more effects (variables). The study population composed of total of 30 respondents who included the manager and the head of IT department in each of the 15 deposit taking SACCOs in Nyeri. Further study could be undertaken by involving other regions in the country.

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