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INVESTMENT DECISION AND FINANCIAL SUSTAINABILITY OF CREDIT UNIONS IN RWANDA: A CASE OF SELECTED UMURENGE SACCO IN GASABO DISTRICT, RWANDA

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Abstract This research aimed to assess the impact of investment decisions on the sustainability of credit unions in Rwanda, focusing on selected U-SACCOs in Gasabo District. Specific objectives included evaluating the effects of expansion decisions, credit expansion policies, and technological investments on U-SACCOs' financial sustainability. The study aimed to enhance understanding of investment decisions in financial institutions and inform the development of relevant regulations and policies. A descriptive study design targeted 142 members of U-SACCOs' administration and employees, with a sample size of 105 determined using the Yamane formula. Data were collected through questionnaires and financial analysis, with descriptive and correlation analysis employed to interpret the results.Key findings indicated that 62.2% agreed on increased operational self-sufficiency, and 71% on the subsidy dependence index. Expansion decisions were successful according to 54.3%, while 62.8% felt positively about investment decisions. Credit expansion saw 64.6% agreement on robust risk management practices. Technological investments significantly enhanced U-SACCOs' outreach, with 53.0% agreement on improved access to underserved populations. The study found a strong association between hardware acquisition and operational self-sufficiency. Software investments showed an insignificant relationship with operational self-sufficiency but were significant for financial self-sufficiency. Recommendations include further research on management practices and the role of boards of directors.

Keywords: *Investment Decision, Financial Sustainability, Credit Unions, Rwanda*

1. Introduction

Saving and Credit Cooperatives were internationally agreed as one of reliable instruments to reduce poor living conditions and accessibility to finance[1].Further, they play the pertinent role in providing micro-financial services to the disadvantage group and poor peole, specifically in poor and informal sector in rural areas[2]. And after 40 years of theoretical expanding and practical buildup, creation of micro financial institutions with the entire functions was largely considered as pancreas of eliminate financial problems on poor vulnerable persons omitted from services of traditional banks. It was a pertinent initiative to ensure financial inclusion[3], [4].

The financial sustainability was the capability of financial institution givers to insure all of its expenses and it permits to sustained function of financial institutions and continuers the process of providing financial services to disadvantaged persons.

Globally as in China, Yue *et al.* (2023) stated that the core of credit union commercialization development is to achieve commercial sustainability. However, microfinance of full welfare nature is highly dependent on external characteristics, so it cannot provide all-round and long-term financial support to poor and vulnerable groups. Due to their historical background of serving the underprivileged, MFIs are largely reliant on donor funds. However, these funds are highly volatile and inadequate leading to financial unsustainability, which is likely to erode the quality of their future services. Thus, MFIs must strive for financial sustainability to meet their goals[1]. Financial sustainability regarded as an approach of securing future capital flow can be achieved via commercialization and competition of micro-lending services, especially for current shortage in procurement of subsidies and donations[5] [6]. It can be seen that in the context of commercialization, in order to continue sustainable development, MFIs should strengthen their capital structure management.

In Ghana, Agbloyor and Asongu (2021) stated that durability of international monetary fund was pertinent owing to the fact that it was pertinent elements of its vision and the scholar evidenced that IMF was durable which remain to help financial accessibility and reducing poverty and may stimulate resources from independent givers of assets owing to its capacity to generate to address functional expense and may stability of the vision to attain adequacy and suitability to access vulnerable[7].

Regionally in Kenya, Morwabe and Muturi (2019) state that despite the fact that Union credits are very helpful to the less privileged population, many of these institutions face challenges that affect their operational and productivity, and sustainability is one of the major challenges faced by Union credits. The authors argued that sustaining the operational and the administration of the Union credit over a long period of time is becoming a pretty tough, challenging, and general concern for SACCOs in Kenya[8].

In the Rwandan context, Rutanga, Barayandema and Mutarindwa (2021) stipulated that SACCOs are taken into consideration as private institutions, therefore, banks, financial services and cooperatives[9].

SACCO movement known Umurenge SACCO in Rwanda was initiated by government in 2008 and according to MINECOFIN (2021), initiative of Umurenge SACCOs was primarily to address the issues of hindrance of development of financial sector and as well as financial exclusion which was highly alarming and 416 U-SACCOs were established at each administrative sector by mobilizing and collecting savings from community, both Rwanda cooperative Agency and National Bank of Rwanda with mandate to regulating SACCOs. Since the formation of Umurenge SACCOs in 2009, financial inclusion in Rwanda considerably increased from 48% in 2008 to 93% in 2020[10]. However, despite their valuable contribution to the Rwandan financial infrastructure, SACCOs still operate manually making them less efficient, uncompetitive and unsustainable, but also are prone to errors and fraud[11].

Hence, it becomes useful for the researcher to assess deeper the probable contribution of the investment decisions toward sustainability of SACCOs in Rwanda, by taking evidence from the Umurenge SACCOs operating in Gasabo District.

2. Research purpose

The study aimed to assess the impact of investment decisions on the sustainability of credit unions in Rwanda, focusing on selected U-SACCOs in Gasabo District.

3. Methods

Research Design

A research design describes the blueprint of approaches and procedures adopted when when conducting a research[12]. With the major objective of getting respondents' perceptions on the investment decision and sustainability of selected U-SACCOs, the current study employed a descriptive research approach. We'll do a quantitative analysis of the respondents' perspectives utilizing frequencies, means, and standard deviation. The link between the research variables was ascertained through the use of correlation analysis and hypotheses will be tested utilizing multiple regression. The researcher was eager to obtain relevant data on the case study in order to achieve the study's goals.

Data Collection Techniques and Data Sources

The study aimed to enhance knowledge about investment decisions in financial institutions and inform the development of laws, rules, and policies regulating U-SACCOs and their decision-making processes.

The researcher employed a descriptive study design targeting 142 members of the committee of administration and employees of selected U-SACCOs. The sample size was 105 participants, determined using the Yamane formula and stratified sampling technique. Data were collected from primary and secondary sources, using closed-ended questionnaires and financial analysis. Descriptive and correlation analyses were conducted, with regression analysis used to test hypotheses. Data analysis was performed using the Statistical Package for Social Sciences (SPSS).

Results indicated that 62.2% of respondents agreed that the operational self-sufficiency ratio of Umurenge SACCOs had increased, and 71% agreed on the subsidy dependence index. Expansion decisions were positively received by 54.3% of respondents, with 62.8% indicating successful investment decision operations. A strong association was found between physical expansion and operational self-sufficiency ($r=0.027$, p-value=0.035). Credit expansion decisions showed that 64.6% of respondents agreed on the adoption of robust risk management practices and prudent lending standards. Technological investment decisions revealed that 49.4% of respondents agreed on the allocation of financial resources towards technology, enhancing outreach and access to underserved populations (53.0%). There was a strong association between hardware acquisition and operational self-sufficiency (Pearson score of 0.0333, significance level of 0.000), while software investments showed an insignificant relationship with operational self-sufficiency but were significant for financial self-sufficiency (0.163, p-value=0.028).

U-SACCO services need improvement compared to the banking sector to attract larger clients. Management should coordinate investment practices to enhance competitiveness and profitability. Further studies should explore the role of boards of directors and management practices.

4. Results

The section analyzed information obtained from research instruments. Findings were relied on both primary and second data as well as from respondents and key informants. Results were analyzed based on research specific objectives. Five-point Likert scale was utilized as it was simple and clear than other scales.

Level Financial Sustainability of Credit Unions (Umurenge Saccos in Gasabo District, Rwanda

The study assessed financial sustainability of selected Umurenge SACCOs in Gasabo District, Rwanda.

Table 1 Financial Sustainability of Umurenge Saccos in Gasabo District

Financial Sustainability of Credit Union	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Total	
	%	%	%	%	%	Mean	Std.
Due to investment decision, our U-SACCO is capable to manage its functioning costs via operation income from its operation	22.0	3.0	4.3	62.2	8.5	3.323	1.333
Our U-SACCO is able to capture its functioning costs operating revenue or.	9.1	7.9	4.9	60.4	17.7	3.695	1.131
Our U-SACCO is able to produce sufficient income to cover its costs.	4.2	4.2	12.3	30.5	48.5	4.15	1.08
Our U-SACCO may endless its income to attain expenses	8.8	7.1	9.3	33.0	41.8	3.917	1.260
Our U-SACCO emphases on revenue produced from	9.9	9.9		18.5	50.5	3.901	1.379

portifolio rather than subsidies			11.0				
Currently, the U-SACCO can operate without the subsidies from the government.	7.1	9.7	7.7	24.7	50.5	4.016	1.276

Source: Primary Data (2023)

Data indicated that respondents agreed that the operational self-sufficiency ratio of Umurenge SACCOs had increased, with a standard deviation of 1.113. Additionally, 60.4% agreed that the financial self-sufficiency ratio had increased, with a mean of 3.369 and a standard deviation of 1.131. Furthermore, 71% overwhelmingly agreed on the subsidy dependence index.

41.8% of respondents, with a mean of 0.917 and a standard deviation of 1.260, strongly agreed that U-SACCOs were able to generate enough revenue to cover costs. The chief of operations at U-SACCOs mentioned that various investment decisions had significantly improved their ability to generate sufficient revenue to cover costs, largely due to improved accessibility of financial services.

Moreover, 50.5% of participants, with a mean response of 3.901 and a standard deviation of 1.379, strongly confirmed that U-SACCOs could cover their expenditures with their revenue. Interviewees specified that investment decisions led to increased expenditures and enhanced financial sustainability. 50.5% strongly agreed that U-SACCOs could operate without government subsidies, with a mean of 4.016 and a standard deviation of 1.276. Secondary data confirmed that these investment decisions significantly contributed to the sustainability of SACCOs.

Expansion Decisions and Financial Sustainability of U-SACCO in Gasabo District

Before assessing influence of expansion decisions on sustainability of U-SACCOs in Gasabo District, the study was questioning whether and the way in which expansion decisions were adopted at U-Saccos in Gasabo District. Respondents were asked to assess expansion decisions using five-point Likert scale.

Table 2 Expansion Decisions Applied at Saccos in Gasabo District

Statement on Recognition	NS	A	SA	Mean	Std Dev.
The receipt of awards and accolades enhances the reputation of our social enterprise.	7 8.8%	32 40.0%	41 51.2%	4.50	.636
Awards and accolades attract potential investors and donors to support our social enterprise.	5 6.3%	32 40.0%	43 53.8%	4.49	.590
Collaborating with other organizations strengthens our social enterprise's impact on the community.	7 8.8%	32 40.0%	41 51.2%	4.48	.621
Collaborative projects enable us to reach a wider audience and expand our outreach efforts.	3 3.8%	42 52.5%	35 43.8%	4.50	.636
Media exposure contributes to our credibility and legitimacy as a social enterprise	0 0.0%	42 52.5%	38 47.5%	4.46	.620
Being featured in the media, helps attract volunteers and skilled professionals to support our initiatives.	6 7.5%	40 50.0%	34 42.5%	4.47	.556
Positive media coverage increases public awareness of our social enterprise and its mission	0 0.0%	46 57.5%	34 42.5%	4.47	.556

Source; Primary Data (2024)

Findings measured the types of expansion decisions at SACCOS in Gasabo District using responses from participants. The study revealed that investment decision functions are managed at the U-SACCO level, with 54.3% of respondents agreeing, a mean of 4.86, and a standard deviation of 1.190. Additionally, 62.8% agreed that U-SACCOs evaluate risks associated with lending to low-income individuals, with a mean of 4.01 and a standard deviation of 0.936.The study found that 56.7% of respondents agreed that U-SACCO has introduced new products and operations recently, with a mean of 4.17 and a standard deviation of 0.850. Furthermore, 68.3% confirmed that U-SACCO has increased capacity and diversified operations in the last two years, with a mean of 4.05 and a standard deviation of 0.803.

Regarding improvements in operating efficiency and cost reduction, 63.2% agreed that replacing obsolete products has positively affected financial sustainability, with a mean of 4.18 and a standard deviation of 0.589. Lastly, 66.5% of respondents agreed that recent physical expansion has enabled U-SACCO to reach more underserved populations, particularly in remote areas, with a mean of 4.269 and a standard deviation of 0.513.

Table 3 Correlation between Expansion Decisions on Financial Sustainability of U-Saccos in Gasabo District

Statement on Effective Communication	NS	A	SA	Mean	Std Dev.
The organization effectively solicits feedback from stakeholders.	1 1.3%	42 52.5%	37 46.3%	4.50	.502
The organization demonstrates openness to receiving both positive and constructive feedback.	1 1.3%	35 43.8%	44 55.0%	4.41	.598
Communication within the organization is clear and easily understandable.	0 0.0%	40 50.0%	40 50.0%	4.49	.502
Goals and objectives are effectively communicated to all stakeholders.	1 1.3%	36 45.0%	43 53.8%	4.46	.538
The organization actively listens to the concerns and needs of its stakeholders.	0 0.0%	41 51.2%	39 48.8%	4.56	.518
Employees and team members feel heard and understood by the organization.	1 1.3%	47 58.8%	32 40.0%		

Source: Primary Data (2023)

This research felt the existence of strongly association between physical expansion and operational self-sufficiency ratio (r=0.027, level of significance 0.035), with financial self-sufficiency ratio (0.094, and p-value=0.30). Physical expansion was connected to subsidy dependence index and the p-value was 0.12 implying less than 0.05 showing the adjust in physical expansion generate a change in ameliorating return on operational self-sufficiency ratio, financial self-sufficient ratio and subsidy dependence index.

However, the service diversification is positively associated with the operational self-sufficiency ratio (r=0.007, p-value was 0.095) with ROA (r=0.090) and it was less than 0.05), added new products was strongly correlated with ROE (r=0.160, p-value) and subsidy dependence index (r=0.035, p-value=0.064).

Effect of Technological Investments Decisions on Financial Sustainability of U-SACCOs in Gasabo District

The study provided data on technological investment decisions for ensuring financial sustainability of U-Saccos in Gasabo District.

Table 4 Technological Investment Decisions Applied at U-Saccos in Gasabo District

Statement	Strongly Agree %	Disagree %	Neutral %	Agree %	Strongly Agree %	N	Total Mean	Stds.
Our U-SACCO has recently made decision regarding the allocation of financial resources towards acquiring, implementing, and upgrading technology-related assets and solutions.	3.0	5.5	1.8	49.4	40.2	103	4.184	0.941
The technology acquired recently has helped our U-SACCO to optimize its operations, reduce costs, and increase productivity.	6.7	6.1	8.5	55.5	23.2	103	3.823	1.067
Technology has significantly enhanced the outreach and access of U-SACCO to underserved populations.	6.1	3.7	4.9	53.0	32.3	103	4.018	1.035

Our technology has improved fraud detection, compliance monitoring, and regulatory reporting of our U-SACCO	0.0	0.0	7.7	36.4	57.7	4.500	.637	0.0
Our technology provide better customer support, enhancing the overall customer experience.	2.7	4.9	2.7	54.9	34.6	4.131	.900	2.7
Technological investment decisions in U-SACCOs are aligned with the specific needs, capacity, and context of our U-SACCO.	6.0	6.6	7.7	19.2	60.4	4.214	1.204	6.0

Primary Data (2024)

The researcher asserted that responses collected on technological investment decisions applied at U-Saccos in Gasabo District. In this regards, Our U-SACCO has recently made decision regarding the allocation of financial resources towards acquiring, implementing, and upgrading technology-related assets and solutions as agreed by 49.4%, mean was 4.184 and standard deviation of 49.4% implying that that they have agreed. A result on the technology acquired recently has helped our U-SACCO to optimize its operations, reduce costs, and increase productivity evidenced that participant agreed that the technology acquired recently has helped our U-SACCO to optimize its operations, reduce costs, and increase productivity.by 55.5% at the mean of 3.823 and std of 1.067. Technology has significantly enhanced the outreach and access of U-SACCO to underserved populations.

Findings on the statement whether technology has improved fraud detection, compliance monitoring, and regulatory reporting of our U-SACCO, findings felt that 4.500= mean, 0.637, standard deviation felt that 57.7% accepted. Findings on if technology provide better customer

support, enhancing the overall customer experience, 54.9%, mean response 4.131, standard deviation was 0.900 accepted, 60.4%, mean of 4.214, standard deviation=1.204 strongly agreed with the statement technology provide better customer support, enhancing the overall customer experience. Finally, 52.2% mean of 4.335, standard deviation equal to 0.889 strongly agreed with technological investment decisions in U-SACCOs are aligned with the specific needs, capacity, and context of our U-SACCO..

Qualitative results obtained through interview with the head of operations assert "in *our cooperative customer support, technological investment decisions are aligned with the specific needs, capacity, and context of our U-SACCO have positive impact on financial sustainability of U-SACCO*".

Table 5. Correlation between Technological Investment Decisions and Financial Sustainability of U-Saccos in Gasabo District

		Hardware acquisition	Software investment	Technology for the outreach and access	Operational self-sufficiency ratio	Financial self-sufficiency ratio	Subsidy Dependence Index
Hardware acquisition	Pearson Correlation	1	0.212	0.263	0.333	0.044	-0.024
	Sig.(2-tailed)		0.004	0.000	0.000	0.555	0.750
	N	103	103	103	103	103	103
Software investment	Pearson Correlation	0.212	1	0.203	0.136	-0.012	0.017
	Sig.(2-tailed)	0.004		0.006	0.067	0.876	0.816
	N	103	103	103	103	103	103
Technology for the outreach and access	Pearson Correlation	0.263	0.203	1	0.037	0.016	0.163
	Sig.(2-tailed)	0.000	0.006		0.619	0.829	0.028
	N	103	103	103	103	103	103
Operational self-sufficiency ratio	Pearson Correlation	0.333	0.136	0.037	1	-0.043	-0.068
	Sig.(2-tailed)	0.000	0.067	0.619		0.566	0.363
	N	103	103	103	103	103	103
Financial self-sufficiency ratio	Pearson Correlation	0.044	-0.012	0.016	-0.043	1	-0.040
	Sig.(2-tailed)	0.555	-0.876	0.829	0.566		0.593

	N	103	103	103	103	103	103
Subsidy Dependence Index	Pearson Correlation	-0.024	0.017	0.163*	-0.068	-0.040	1
	Sig.(2-tailed)	0.750	0.816	0.028	0.363	0.593	
	N	103	103	103	103	103	103

Source: Primary Data (2024)

The researcher found a strong association between hardware acquisition and operational self-sufficiency ratio at Pearson score of 0.0333 and significance level of 0.000) implying that the level of significance was less than 0.05. Results on software investment show insignificant relationship, expect its relationship with financial self-sufficiency ratio (0.163, p-value=0.028).

5. Discussion

The researcher discussed results by comparing or contrasting with previous studies. Results were compared based on specific objectives of the study. Five-point Likert scale was utilized as it very easy than other scales.

Expansion Decisions and Financial Sustainability

Yue et al. (2023) investigated the impact of financial sustainability on capital leverage in Chinese microfinance. They analyzed the performance of 45 commercial microfinance institutions amidst economic downturn and deleveraging. Mediation analysis showed that profitability suppresses the relationship between financial sustainability and capital leverage, with the core explanatory variable (OSS) coefficient at −0.0218, significant at 5%[1].

Tilahun (2022) explored the link between credit expansion and financial sustainability of microfinance institutions (MFIs) in Sub-Saharan Africa. The study found that credit expansion positively affects MFI sustainability. Loan portfolio size and loan intensity are positively associated with sustainability, with loan intensity having higher economic significance. A 10% increase in operating inefficiency results in an 11.8% to 14.1% decrease in financial sustainability[4].

Bitok, Cheboi, and Kemboi (2020) examined the relationship between portfolio quality and financial sustainability of Kenyan microfinance institutions. They found that portfolio quality significantly affects financial sustainability ($\beta = 0.211$; p-value < 0.05). Firm age positively affects sustainability ($\beta = 0.773$; p-value < 0.05), while firm size has a negative effect ($\beta = -0.749$; p-value < 0.05). The study concluded that portfolio quality is crucial for financial sustainability[13].

Effect of Investment Decisions on Financial Self-Sufficiency

Hossain and Khan (2020) aimed to identify factors affecting the financial sustainability of MFIs in Bangladesh using an econometric approach with an unbalanced panel data set of 145 observations from 29 MFIs between 2008-2012.

Kayembe et al. (2021) investigated factors influencing MFI sustainability in Malawi. A cross-sectional survey conducted in November-December 2020 among MFI employees in the central region of Malawi used convenience and purposive sampling via an online Google form. The survey achieved a 79.3% response rate, with 63% male respondents. Ordinary least square regression results indicated that reporting and loan management systems ($\beta = 0.200$, $P = 0.021$), corporate governance ($\beta = 0.257$, $P = 0.004$), and commercialization ($\beta = 0.161$, $P = 0.047$) positively influenced MFI sustainability[14].

Morwabe and Muturi (2019) found that FOSA activities, government securities, fixed deposit accounts, and shares as investment decisions strongly influenced DT-SACCOs' profitability. Rutanga et al. (2021) assessed the effect of capital structure on the financial sustainability of MFIs in Rwanda, using data from annual financial reports of 20 MFIs and SACCOs from 2014-2018. Fixed effects OLS regression models revealed that debt financing adversely affects financial self-sufficiency and performance, while share capital improves operational and financial sustainability, as well as return on assets. Retained earnings moderately and positively increased financial sustainability.

Effect of Investment Decisions on the Subsidy Dependence Index

Memon, *et al.,* (2021) reveal that economic indicators such as foreign investment, human development, inflation, interest rate, private credit, and labor force participation have negatively influenced financial sustainability except for the GDP growth. The overall economic results seem imperative from the good-governance perspective of MFIs[15].

Uchenna, *et al.* (2020) investigated the impact of corporate governance on financial sustainability of Microfinance Institutions in Nigeria during the period, 2011 to 2015. The main findings reveal that the regression model is not significant at 1 per cent level with the adjusted R-Squared of 28% and 48% for the respective models[16].

Ringera and Muturi (2019) assessed the effect of investment decisions on financial performance of microfinance firms in Kenya. The specific objectives of this project were to establish the effect of expansion decision and research and development decision on financial performance of microfinance firms in Kenya. The study found that expansion decision and investments in research and development had positive and a statistically significant effect on performance of microfinance banks[8].

6. Conclusion

The study aimed to investigate the impact of expansion decisions on the sustainability of SACCOs. The researcher concluded that selected investment decision variables had a clear influence of 58.8% on financial success between 2014 and 2018. Additionally, the study assessed the influence

of credit expansion decisions on financial sustainability in SACCOs within Gasabo District and Rwanda overall. Results demonstrated that strategic parameters for assessing technological advancement in SACCOs and the broader financial sector are crucial. The findings indicated that investment decisions play a significant role in ensuring the financial sustainability of SACCOs.

Conflict of interest statement

The author declares no conflicts of interest.

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