
# Effect of Financial Inclusion on Performance of Agrico-Operatives in Rwamagana District. A Case of CORICYA

**RWINIKIZA Moise & Dr. TWESIGYE Daniel**

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# Effect of Financial Inclusion on Performance of Agrico-Operatives in Rwamagana District. A Case of CORICYA

**RWINIKIZA Moise[1] & Dr. TWESIGYE Daniel[2]**
**[1] Master of Accounting and Finance, University of Kigali, Rwanda**
**[2] Senior Lecturer, University of Kigali, Rwanda**

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## Abstract

The general objective of this study was to assess the effect of financial inclusion on performance of agrico-operatives in Rwamagana District. The study had the following specific objectives: to find out the effect of savings behavior on performance of agrico-operatives in Rwamagana District, evaluate the effect of access to credit practices on performance of agrico-operatives in Rwamagana District and assess the effect of financial literacy practices on performance of agrico-operatives in Rwamagana District. Agricultural cooperatives in Rwanda encounter challenges pertaining to limited financial access in their day-to-day operations. These challenges arise from the banking system's imposition of high collateral requirements and incompatible lending conditions. For instance, the periodicity of loan repayment is not aligned with the agricultural cycle, leading to poor results. Additionally, the cooperatives face issues related to low productivity and a high reliance on climate conditions, adding to their financial constraint. In this case the population under this study is 600 members of CORICYA in Rwamagana. The Solvin equation used to determine the appropriate sample size. This calculation representative sample of 240 for the study. The use of simple random sampling as a method employed to select a representative sample from the entire population. The following instruments were used to gather data for the research: a questionnaire and a documentation research. The statistical analysis of the collected data conducted using Statistical Package for Social Sciences (SPSS) which is a widely used tool for statistical computation in research. The researcher employed descriptive and correlational analysis in this approach. For savings behavior was 0.520, and this implies that for each increment of one unit in savings behavior, there is an anticipated increase of 0.520 units in the performance of agriculture cooperatives. Importantly, savings behavior exhibits a positive and statistically significant impact on cooperative performance ($p<0.05$). Similarly, the coefficient for access to credit services is 0.183. This means that for each one-unit increase in access to credit services, there is an expected rise of 0.183 units in the performance of agriculture cooperatives. Access to credit services also demonstrates a positive and statistically significant effect on cooperative performance ($p<0.05$). Lastly, the coefficient for financial literacy is 0.153. This indicates that with every one-unit augmentation in financial literacy, the performance of agriculture cooperatives is projected to rise by 0.153 units. Financial literacy likewise exerts a positive and statistically significant impact on cooperative

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performance (p<0.05). These results underscore the collective importance of savings behavior, access to credit services, and financial literacy in exposing the variations in performance of CORICYA agricultural cooperative. It is recommended that CORICYA agricultural cooperative continue to prioritize and incentivize savings behavior among its members. Implementing strategies to encourage regular savings and offering attractive interest rates will further enhance the cooperative's financial stability and enable it to meet members' needs effectively.

**Key words:** *Financial Inclusion, Savings Behavior, Access to Credit Practices, Financial Literacy Practices, Performance of Agricultural Cooperatives*

## 1. Introduction

Governmental and banking sector initiatives in financial inclusiveness have had little effect, as new innovations that enable online wealth management, the digital revolution of financial intermediaries' developments and group products and performers specializing in developing certain customer segments have all had a significant impact. Even if access to financial services does not necessarily mean full-fledged financial intermediation, states around the world are concerned about the issue. Access to finance is a significant policy priority. A serious worldwide handle issues is that a large percentage of working-age persons do not have access to the official financial sector (Arun & Kamath, 2015).
In Rwanda, agricultural cooperatives encounter difficulties related to limited financial access in their day-to-day operations. These challenges stem from the banking system's stringent collateral requirements and lending conditions that don't align with the agricultural cycle, resulting in poor outcomes. Moreover, these cooperatives face issues associated with low productivity and heavy reliance on climate conditions, exacerbating their financial constraints (Kankindi, 2019).

Nonetheless, various studies have been conducted in Rwanda concerning financial inclusion and the performance of Savings and Credit Cooperatives (SACCOs). For example, a survey conducted in the Rusizi District by Eustache (2021) demonstrated that the financial performance of SACCOs in the region was significantly influenced by the financial inclusion measures implemented by these organizations. Similarly, Harelimana and Manirarora (2014) investigated how Clecam Ejoheza Kamonyi implemented financial inclusion in microfinance. Their research explored the connection between financial inclusion and financial performance in Rwanda.

However, despite the extensive research conducted by the scholars mentioned above on financial inclusion and the performance of agricultural cooperatives in Rwanda, none of these studies have delved into the impact of savings practices on the performance of cooperatives. This current study aims to fill this research gap and provide a unique contribution. The study employs regression analysis to provide statistical evidence on how access to credit, savings behavior, and financial literacy affect the performance of agricultural cooperatives. No study has shared the same objectives as the present research, and there is no identified study conducted in the cooperative sector of Rwamagana District. In light of these gaps in the literature, this study seeks to assess how each financial inclusion practice influences the performance of agrico-operatives in the Rwamagana District.

### 1.2 Objectives of the Study

Based on the problem statement of this study, the following are suggested objectives of the study, namely general objective and specific objectives.

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**General objective**

The general objective of this study is to assess the effect of financial inclusion on performance of agrico-operatives in Rwamagana District.

**The study had the following specific objectives:**

i. To find out the effect of savings behavior on performance of agrico-operatives in Rwamagana District.
ii. To evaluate the effect of access to credit practices on performance of agrico-operatives in Rwamagana District.
iii. To assess the effect of financial literacy practices on performance of agrico-operatives in Rwamagana District.

## 1.3 Research hypotheses

In the context of this study, the following research hypotheses were developed:

**Ho1:** There is no significant effect of savings behavior on performance of agrico-operatives in Rwamagana District.

**Ho2:** There is no significant effect of access to credit services practices on performance of agrico-operatives in Rwamagana District.

**Ho3:** There is no significant effect of financial literacy practices on performance of agrico-operatives in Rwamagana District.

**Ho4:** There is no significant effect of financial inclusion on performance of agrico-operatives in Rwamagana District.

# 2. Literature review

## 2.1 Theoretical review

A theoretical review in research involves an in-depth examination and analysis of existing theoretical perspectives, frameworks, and concepts that are relevant to a particular research topic. It focuses on understanding and evaluating the theoretical foundations that underpin the research problem, providing a comprehensive overview of the existing theories and their applicability to the study.

### The Resource-Based View (RBV)

The Resource-Based View (RBV) is a theoretical framework that highlights the significance of distinct and valuable resources and capabilities in attaining a lasting competitive advantage for firms. This concept was introduced by Barney in 1991 and further developed by Peteraf in 1993. As per this perspective, the performance of a company is contingent upon its capacity to procure, cultivate, and utilize resources that possess the attributes of rarity, value, inimitability, and non-substitutability. The Resource-Based View (RBV) framework offers valuable insights into the relationship between resource availability and utilization and the financial performance of cooperatives in the context of agriculture loans and cooperatives. Cooperatives that exhibit distinctive resources pertaining to agricultural loans, such as robust lender relationships, specialized loan program accessibility, or loan management proficiency, may enjoy a competitive edge over their counterparts. According to the Resource-Based View (RBV) theory, it is recommended that cooperatives concentrate on recognizing, cultivating, and exploiting their distinct resources in order to improve their economic outcomes. The process could potentially entail establishing robust collaborations with financial institutions, allocating resources towards technology and information systems to

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optimize loan management, or cultivating expertise in loan procurement and utilization. As per Barney's (1991) Resource-Based View (RBV), it is imperative to consistently develop and renew resources to sustain a competitive edge. It is recommended that cooperatives engage in routine evaluations of their resource portfolio with the aim of identifying opportunities for acquiring or developing new resources or capabilities. Additionally, it is important for cooperatives to ensure that their resource allocation strategies are aligned with their financial performance objectives.

The adoption of the Resource-Based View (RBV) perspective can facilitate cooperatives in comprehending the impact of their resource base on their capacity to obtain agricultural loans and, in turn, enhance their financial performance. The utilization of this theoretical framework offers a valuable perspective for examining and devising strategies for the allocation and utilization of resources within agricultural cooperatives.

**Financial Intermediation Theory**

The Financial Intermediation Theory is a theoretical construct that elucidates the function and significance of financial intermediaries, such as credit unions and banks, in the economy. The research emphasizes the role of intermediaries in minimizing transaction costs and information asymmetry between borrowers and lenders, which leads to the effective allocation of financial resources. As per the findings of Johnson (2020) the primary function of financial intermediaries is to facilitate the transfer of funds from surplus units to deficit units. This is achieved by collecting funds from the former and channeling them to the latter, which is in need of capital. Financial institutions offer a range of financial services, such as deposit-taking, lending, and risk management, to facilitate the process of financial transactions. The theoretical framework emphasizes various fundamental elements of financial intermediation. Financial intermediaries play a crucial role in mitigating the information and transaction costs that arise due to an information asymmetry between borrowers and lenders. The individuals possess specialized knowledge and skills in the areas of creditworthiness assessment, investment project evaluation, and borrower performance monitoring. Through the collection and examination of data, financial intermediaries are capable of making knowledgeable determinations regarding lending, thereby mitigating the expenses and hazards linked to direct lending.

The Financial Intermediation Theory underscores the significance of financial intermediaries in enabling the effective distribution of financial resources within an economy. Financial intermediaries play a crucial role in promoting the stability and efficiency of financial markets as well as facilitating economic growth. This is achieved through the reduction of information and transaction costs, the transformation of risks, the provision of liquidity, and the realization of economies of scale.

**Goal setting theory**

The goal-setting theory suggests that conscious goals and intentions have an impact on results. According to Locke (1986) and Latham (1990), based on the goal-setting theory of motivation, an individual's personal aspirations are likely to affect how successfully they do related activities. Goals that are specific, well-defined, and more demanding generate better levels of productivity than goals that are imprecise, simple, or do your best. For goal-setting theory to be effective, individuals must be committed to the goal, seek feedback, and be

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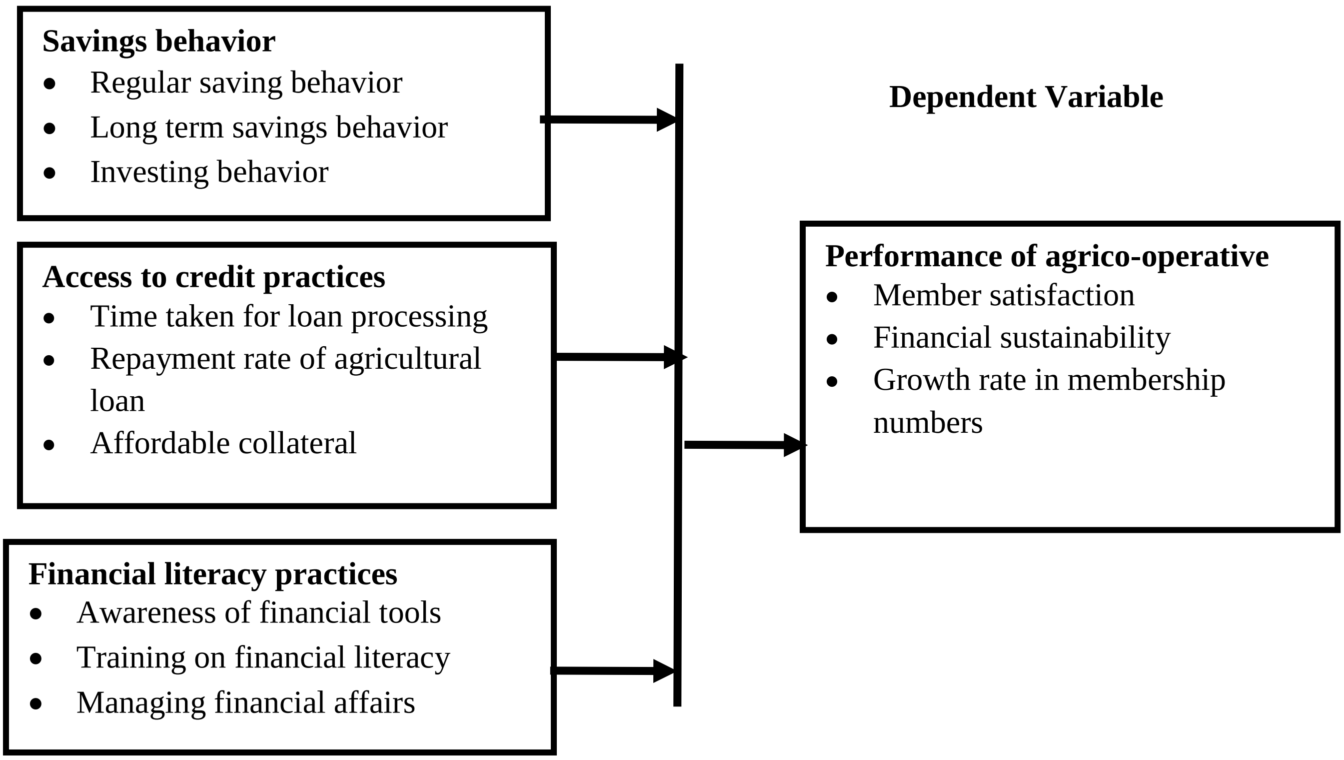
capable of completing the task. This shows that money literacy campaigns should be more successful when they are driven by beliefs and concerns about future financial stability.

Goal-setting theory investigated the process through which individuals or organizations set and pursue specified goals. It look at how setting specific and demanding goals can drive people to perform better, increase productivity, and improve outcomes. To be effective, goals should be precise, measurable, achievable, relevant, and time-bound (SMART). Goal-setting theory also stress the significance of feedback and commitment in goal achievement. Individuals and organizations can increase their concentration, drive, and performance by creating meaningful goals and offering feedback on progress, resulting in better outcomes and success.

## 2.2 Conceptual framework

A conceptual review is a tool researchers use to guide their inquiry; it is a set of ideas used to structure the research, a sort of a map. It is the researcher's own position on the problem and gives direction to the study. It may be an adaptation of a model used in a previous study, with modifications to suit the inquiry. Aside from showing the direction of the study, through the conceptual review, the researcher can be able to show the relationships of the different constructs that he wants to investigate.

**Independent Variable**
**Financial inclusion**




**Source: Designed by researcher, 2023**

**Figure 1: Conceptual framework**

Savings behavior play a crucial role in the performance of cooperatives. When members have higher average savings per member, it indicates their financial discipline and capability. This can contribute to the cooperatives' financial stability and sustainability, as it provides a larger pool of funds for lending and investment. Furthermore, a higher percentage of members with savings accounts reflects better financial inclusion, indicating that more members are actively participating in savings bahavior. This, in turn, leads to increased resources available for lending and promotes the overall performance of the cooperatives. Moreover, growth in savings demonstrates the increasing financial capability and commitment of the cooperatives members, which supports the cooperatives' financial stability and ability to provide sustainable services.

Access to credit practices is a key factor in determining cooperatives performance. The time taken for loan processing is crucial, as a shorter processing time allows members to receive funds more quickly. This facilitates timely investments in agricultural activities, which can enhance member satisfaction and contribute to the cooperatives' performance. Moreover, a high repayment rate of agricultural loans indicates the members' commitment and ability to repay their debts. cooperatives with a good repayment rate have lower default risks, leading to increased financial sustainability and the ability to offer more loans to support agricultural activities. Additionally, the availability of affordable collateral plays a significant role in promoting access to credit. cooperatives that accept collateral such as livestock or farm equipment make credit more accessible to members, thereby increasing the likelihood of members seeking loans.

Financial literacy practices are associated with the performance of agricultural cooperatives. When members have awareness of financial tools and services offered by the cooperatives, they can make informed decisions regarding saving, borrowing, and investing. This increased awareness can lead to higher utilization of financial products and services, positively impacting the cooperatives performance. Furthermore, providing training on financial literacy equips members with the knowledge and skills to manage their finances effectively. Improved financial literacy enhances members' financial decision-making abilities, encourages regular savings, and promotes responsible borrowing, all of which contribute to the cooperatives financial sustainability and overall performance. Additionally, members who are capable of managing their financial affairs efficiently are more likely to engage in productive financial practices, such as regular savings and timely loan repayment. Effective management of financial affairs further supports the cooperatives financial stability and performance.

The independent variables related to savings bahavior, access to credit practices, and financial literacy practices are associated with the performance of agricultural. These variables influence aspects such as financial stability, member satisfaction, availability of funds for lending, efficient loan processing, repayment rates, and overall growth in membership numbers, thereby impacting the overall performance of the cooperatives.

## 3. Research methodology

### 3.1 Research design

According to Soeters, Shields & Rietjens (2014), research design encompasses the comprehensive blueprint or framework that guides the entire process of conducting a research study. It encompasses the strategies, techniques, and protocols employed for collecting, scrutinizing, and interpreting data, all geared towards addressing the research objectives or questions.

### 3.2. Population and sample size of the study

According to Snelson (2016), in research technique, the phrase population does not relate to the population of a nation, but rather to the objects, topics, facts, instances, events, or occupations indicated for selection. In this case the population under this study is 600 members of CORICYA in Rwamagana.

The Solvin equation used to determine the appropriate sample size, as it provides a straightforward approach for computing the number of participants required for the study.
The total sample would be determined using the following formula.

$$n = \frac{N}{1 + N(e)^2}$$

In this formula, n represents the size of the sample, N the number of participants, and e the margin of error (0.05).

$$n = \frac{600}{1+600(0.05)^2} = \frac{600}{1+600(0.0025)} = \frac{600}{1+1.5} = \frac{600}{2.5} = 240$$

This calculation compared to the previous equation gives a representative sample of 240 for the study.

**Table 1: Sample size**

| Category | Population | Sample size |
|---|---|---|
| Male | 362 | 145 |
| Female | 238 | 95 |
| Total | 600 | 240 |

Source: CORICYA report, 2022

### 3.3 Data collection instruments

The following instruments utilized to gather data for the research: a questionnaire, interview and a documentation research.

#### Documentary technique

According to Wilson, Van, and Schelte's (2013) definition, documentation refers to the meticulous scrutiny, comprehension, and assessment of documented evidence for a specific purpose, such as in the context of social research. The utilization of documentary evidence is a technique employed by researchers to gather additional information. Secondary data refers to data that has been collected by a third party and is derived from various documents.

#### Questionnaire technique

According to Baker's (2016) study, the findings suggest that, typically, a survey instrument is distributed to participants either via mail or in person. Closed-ended statements may be presented to survey respondents. Closed-ended questions provide respondents with a limited set of answer options to choose from.

#### Interview

The interview is a methodological approach that involves the use of questioning to elicit responses. It typically involves two or more individuals engaging in a dialogue, with an interviewer posing questions and the interviewees providing their ideas and observations. The objective of this study is to gather data from the employees of CORICYA Agriculture cooperative regarding their financial inclusion and performance.

### 3.4. Methods of data analysis

The researcher employed descriptive and correlational analysis in this approach. The methodology employed in this study involves conducting a descriptive analysis, wherein the frequency, proportion, and percentage of each factor under investigation computed. The

Pearson correlation used to examine and quantify the quantitative association between two variables. The examination of the relationship between independent and dependent variables involves the utilization of a correlation matrix.

## 4. Research findings

In this chapter presents the data collected. It shows the connections between variables to draw conclusions.

**Table 2: Correlations**

| | | Savings behavior | Access to credit services | Financial literacy | Performance of agrico-operatives |
|---|---|---|---|---|---|
| Savings behavior | Pearson Correlation | 1 | .583** | .527** | .701** |
| | Sig. (2-tailed) | | .000 | .000 | .000 |
| | N | | 240 | 240 | 240 |
| Access to credit services | Pearson Correlation | | 1 | .420** | .547** |
| | Sig. (2-tailed) | | | .000 | .000 |
| | N | | | 240 | 240 |
| Financial literacy | Pearson Correlation | | | 1 | .481** |
| | Sig. (2-tailed) | | | | .000 |
| | N | | | | 240 |
| Performance of agrico-operatives | Pearson Correlation | | | | 1 |
| | Sig. (2-tailed) | | | | |
| | N | | | | 240 |

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

Source: Field data, 2023

The provided Table 2 illustrates the correlations among four key variables: Savings behavior, Access to credit services, Financial literacy, and Performance of agriculture cooperatives. The data includes Pearson correlation coefficients, which gauge the strength and direction of the linear connection between pairs of variables. The significance level (Sig.) is also indicated, representing the likelihood of observing the correlation by chance.
For instance, the Pearson correlation coefficient between saving behaviors and the performance of agriculture cooperatives ($r=0.701$, $p<0.05$) signifies a positive and moderately robust relationship. This suggests that individuals exhibiting better savings behavior tend to be associated with better-performing agriculture cooperatives. Likewise, a positive and substantial relationship is revealed between access to credit services and financial literacy ($r=0.547$, significant at the 0.05 level). This implies that improved access to credit services is linked to higher levels of financial literacy. Similarly, members possessing higher levels of financial literacy are linked to better-performing agriculture cooperatives ($r=0.481$, $p<0.05$), indicating a positive and moderately strong relationship. The findings underscore significant relationships among savings behavior, access to credit services, financial literacy, and the performance of agriculture cooperative.

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**Table 3: Model Summary**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | .729[a] | .531 | .525 | .44899 |

a. Predictors: (Constant), financial literacy, access to credit services, savings behavior

Source: Field data, 2023

Table 3 presents the Model Summary for a multiple regression analysis conducted to examine the relationship between socio-economic welfare variables and their predictors: financial literacy, savings behavior, and access to credit services. The table provides several important statistical measures to assess the quality and effectiveness of the regression model. The multiple correlation coefficient R is 0.729, representing the strength and direction of the linear relationship between the predictors (financial literacy, savings behavior, and access to credit services) and the outcome variable (Performance of agriculture cooperatives). This indicates a relatively strong positive relationship between the predictors and Performance of agriculture cooperatives. R Square (Coefficient of Determination) is 0.531. This means that approximately 53.1% of the variance in Performance of agriculture cooperatives can be attributed to the combined influence of financial literacy, savings behavior, and access to credit services.

**Table 4: ANOVA[a]**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| | Regression | 53.906 | 3 | 17.969 | 89.134 | .000[b] |
| 1 | Residual | 47.576 | 236 | .202 | | |
| | Total | 101.483 | 239 | | | |

a. Dependent Variable: Performance of agrico-operatives

b. Predictors: (Constant), financial literacy, access to credit services, savings behavior

Table 4 displays the outcomes of an Analysis of Variance (ANOVA) applied to a regression model. This model investigates how the predictors financial literacy, savings behavior, and access to credit services relate to the dependent variable, namely the performance of agriculture cooperatives. The F-value, which stands at 89.134, determines the overall statistical significance of the regression model. A higher F-value signifies a more potent and substantial relationship between the predictor variables (financial literacy, savings behavior, and access to credit services) and the dependent variable (performance of agriculture cooperatives). In this specific instance, the p-value is reported as .000, indicating it is less than the conventional threshold of 0.05. These results indicate that policies and interventions targeted at fostering financial literacy, promoting responsible savings behavior, and facilitating access to credit services could potentially exert a positive influence on the performance and overall achievements of agriculture cooperatives.

**Table 5: Coefficients[a]**

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | |
| | (Constant) | .702 | .193 | | 3.630 | .000 |
| | Savings behavior | .520 | .059 | .525 | 8.842 | .000 |
| 1 | Access to credit services | .183 | .054 | .188 | 3.386 | .001 |
| | Financial literacy | .153 | .065 | .125 | 2.358 | .019 |

a. Dependent Variable: Performance of agrico-operatives

Source: Field data, 2023

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Table 5 presents the outcomes of a multiple regression analysis, showcasing the coefficients associated with the predictors (savings behavior, access to credit services, and financial literacy) as well as the constant term within the regression model. These coefficients signify the anticipated effects of each predictor on the dependent variable, which is the performance of agriculture cooperatives.

The constant term, represented by α and valued at 0.702, stands for the expected outcome of the dependent variable (performance of agriculture cooperatives) when all predictor variables are at zero. The coefficient for savings behavior is 0.520, this implies that for each increment of one unit in savings behavior, there is an anticipated increase of 0.520 units in the performance of agriculture cooperatives. Importantly, savings behavior exhibits a positive and statistically significant impact on cooperative performance ($p<0.05$).

Similarly, the coefficient for access to credit services is 0.183. This means that for each one-unit increase in access to credit services, there is an expected rise of 0.183 units in the performance of agriculture cooperatives. Access to credit services also demonstrates a positive and statistically significant effect on cooperative performance ($p<0.05$).

Lastly, the coefficient for financial literacy is 0.153. This indicates that with every one-unit augmentation in financial literacy, the performance of agriculture cooperatives is projected to rise by 0.153 units. Financial literacy likewise exerts a positive and statistically significant impact on cooperative performance ($p<0.05$). These results underscore the collective importance of savings behavior, access to credit services, and financial literacy in exposing the variations in performance of CORICYA agricultural cooperative. The results showed that all three hypotheses were rejected as the p-values for savings behavior, access to credit services, and financial literacy were less than 0.05, indicating significant positive effects on the performance of agrico-operatives in Rwamagana District.

## 5. Conclusion

The study aimed to assess the effect of financial inclusion on the performance of agrico-operatives in Rwamagana District, with a focus on the case of CORICYA agricultural cooperative. The research objectives were to investigate the effect of savings behavior, access to credit practices, and financial literacy practices on cooperative performance. The study also developed three research hypotheses to test the significance of these factors. The findings of the study provide valuable insights into the relationship between financial inclusion and cooperative performance. Firstly, the results revealed that savings behavior plays a vital role in the success of agricultural cooperatives. Encouraging and incentivizing members to save regularly within the cooperative leads to increased financial stability, allowing the cooperative to invest in various activities that benefit its members. Secondly, access to credit services was found to have a significant positive effect on the performance of agricultural cooperatives. When members have timely and flexible access to credit, they can expand their agricultural activities, invest in new opportunities, and improve their livelihoods. Thirdly, financial literacy practices were also found to have a significant positive effect on cooperative performance. Members who receive financial literacy training make informed financial decisions, manage their finances effectively, and diversify their income sources. This knowledge equips members with the skills needed to navigate financial challenges and improve their overall financial well-being, ultimately benefiting the cooperative's performance. All null hypotheses ($H_{01}$, $H_{02}$, $H_{03}$) were rejected. Overall, financial inclusion, through savings behavior, access to credit services, and financial literacy practices, has a significant positive effect on the performance of CORICYA agricultural cooperative in Rwamagana District.

**6. Recommendations**

Based on the findings, it is recommended that CORICYA agricultural cooperative continue to prioritize and incentivize savings behavior among its members. Implementing strategies to encourage regular savings and offering attractive interest rates will further enhance the cooperative's financial stability and enable it to meet members' needs effectively.

The cooperative should continue to improve and expand its access to credit services, ensuring timely and flexible loan facilities for members. Considering members' creditworthiness and offering appropriate loan amounts will further empower them to invest in their agricultural activities and improve their livelihoods.

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