

Understanding How Cooperatives Use Financial Reports to Make Decisions. Evidence from Agricultural Cooperatives in Rwanda

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Abstract

Cooperatives entities have a great contribution in socioeconomic development of nations, whether developing and developed countries. The National vision 2050 cooperatives are expected to contribute immensely. At regional level, cooperatives have been included in strategies to achieve Africa Agenda 2063. Internationally, cooperatives are among strategies to achieve the global agenda 2030 through the Sustainable Development Goals (SDGs- 2030)(MINICOM, 2018).

Cooperatives activities contributed directly to achievement of some SDGs such as SDG 1: end poverty in all its forms everywhere especially help in enhancing resilience and production capacity, and better distribution of income among citizens. SDG-2: End hunger, achieve food security and improve nutrition and promote sustainable agriculture where 48% of registered cooperatives are distributed in the agricultural activities which are farming, livestock and fishing activities. They also contribute to SDG-5: Achieve gender equality and empower all women and girls. In this line cooperative entities are promoting members economic participation and provide basic framework for the economic and social empowerment of women and girls. SDG-8: Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all. In this perspective cooperatives are considered as primary production entities which are to procure economic production in terms of diversification, processing, technological upgrading and innovation. This is job creation and value chains enhancement, then contribute to economic growth of respective nations. SDG-12: Ensure sustainable consumption and production patterns where cooperatives contribute to production activities such as agriculture activities (MINICOM, 2018).

Keywords: Economic Growth • Innovation • Agricultural Cooperatives

Section One: Introduction

In Africa mostly, African Union has clear agenda2063 which provides a framework for "an integrated, prosperous and peaceful Africa, driven by its own citizens and representing a dynamic force in the international arena". The first goal of this agenda is that African countries are to have a high standard living, quality of life and wellbeing for all citizens, goal-4 enforces to achieve transformed economies, goal-5 is to have modern agriculture for improved productivity and production. EAC vision 2050 set goals that are commonly achieved through enhanced agricultural productivity for food security and transformed rural economy and this will be achieved through cooperative establishment. All of these have been done in order to improve quality of life.

Rwanda is ending its Vision 2020 which aimed at transiting and transforming

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to becoming a middle-income country, with a targeted average GDP per capita of US\$1,240. To achieve this eminent vision, the Government of Rwanda has developed and implemented the programme of Economic Development for Poverty Reduction Strategy (EDPRS) for the period of 2008-2012 (EDPRS 1) and 2013-2018 (EDPRS 2). To achieve this growth, the poverty rate would have to be reduced by at least 24%, creation of 1.8 million new off-farm/non-agricultural jobs, 35% increase in urbanisation, and 28% increase in export growth, with the private sector receiving the dominant share of investment between 2012 and 2020 (Ministry of Economic Planning and Finance [MINECOFIN], 2013).

Currently Rwanda is following the National Strategy for Transformation (NST-1), under this strategy it is expected that cooperatives will contribute in creating 1,500,000 (over 214,000 annually) off-farm, decent and productive jobs for national economic development especially for women and youth in order to increase economic growth. Cooperatives activities are also expected to significantly contribute to the increase of exports by 25.3% annually. They will increase domestic savings and lead Rwanda to a hub for financial services which are useful for robust investments by 22.3% of GDP in the year 2024. The agricultural cooperatives in Rwanda are to become modernized in order to increase productivity towards having cooperatives that are more commercial than life survival (MINICOM, 2018).

The various policy measures established were initiated to ensure a

comprehensive development of all sectors of the economy, in particular the agricultural sector which shelters more than 70% of the labour force. In light of its economic importance to the nation, it becomes necessary to modernize and increase the productivity of agricultural and livestock produce. The strategic emphasis placed on transforming the sector started with using enhanced agricultural inputs such as improved seeds and fertilizers, land consolidation policy that encouraged crop intensification and marshland irrigation. As such, an important policy measure was enacted to promote the creation or establishment of cooperatives.

A cooperative is an autonomous association of people united voluntarily to meet their common economic, social, and cultural needs and aspirations through a jointly-owned and democratically-controlled enterprise, according to internationally recognized co-operative values and principles (Rwanda Cooperative Agency [RCA], 2018). Working together in the form of cooperative is one of the priority pillars of the Government of Rwanda. Mutuyeyezu [1] reported that around 4 million Rwandans work together in cooperatives, mainly formed around the agricultural sector, where women represent 48% of the total population.

In the management of the cooperatives, informed strategic decision making is essential. In the study of Osadchy, Akhmetshin, Amirova, Bochkareva, Gazizyanova and Yumashev [2] it was found that financial statements are essential components for decision-making. The financial statement is part of the financial reports which provide useful, complete, reliable, and objective information that users need to make various informed decisions such as investment, financing and operations that would improve the efficiency and effectiveness of the organization [3]. The financial reports contain fundamental information on financial position of the entity; assets and the sources of funding (capital, contributions, donations and other external liabilities). Nevertheless, the daily operational activities (income and expenses), statement of profit or loss, and other comprehensive income are ingredients for financial report according to Friã dos Santos, Pires and Fernandes [4].

The activities of cooperative require cash inflows and cash outflows with reference to purchases of milk, and other materials to produce cheese and fermented milk. The same applies to maize dairy and horticulture cooperatives. The aforementioned processes require operational, financing and investment decisions anchored on statement of cash in and out flows. The structural-administrative and operational reliance of these cooperatives demands that the financial report dictates and creates the pathway for information sharing and members' contributions. It further regulates the elected organs and the General Assembly activities which rely on financial reports for decision making [5].

Among the major challenges confronting some cooperatives in Rwanda, is "mismanagement of cooperative resources which is caused by financial management illiteracy, fund embezzlement, lack of transparency, and weak accountability due to limited knowledge and skills in accounting. The presence of limited financial resources resulted into high dependence on Government or donor agencies support for development. Continuous reliance on external sources of support is unsustainable for developing the cooperative and promoting its growth which will negatively impact their overall success and resilience of the cooperatives. It is in this context that this research was done with the purpose of responding to the call of Land O' Lakes Venture 37, for researchers to investigate how cooperatives utilize financial reports to make decisions in 30 primary cooperatives, three cooperatives unions, one confederation of cooperatives in Rwanda, and one public institution; Rwanda Cooperative Authority, the Government of Rwanda cooperative regulator whereby the latter was considered as an apex organization in Rwanda.

The main problem this research addressed was to determine how financial reports are used for decision-making in primary cooperatives in Rwanda. The answer to core question required an investigation into the following specific questions towards deepening insight:

1. What are financial reports prepared by agricultural cooperatives and to what extent do cooperative members understand the financial reports available to them when categorized according to sex and of education?

2. Is there any significant contribution of financial reports on their operational, investment and financing decisions making of agricultural cooperatives in Rwanda?

3. Do qualities of financial information do not have significant effect on operating, investing or financing decisions of primary agricultural cooperatives in Rwanda?

4. To what extent financial literacy of agricultural cooperatives' members affect operating, investing or financing decisions in primary agricultural cooperatives in Rwanda?

5. Does financial literacy of agricultural cooperatives' members have significant contribution on operational, investing and financing decisions in agricultural cooperatives in Rwanda?

Conceptual and Theoretical Framework

Conceptual framework

The conceptual framework provided graphical insight on the measures of the financial reports and types of decisions that are necessary in cooperatives under study. It also provides the link between financial reports and decision making using the impact modelling framework (Figure 1).

It further provided a summary the research objectives and the interrelationships of the variables of interests in this research which was later translated into the following hypotheses:

H₀1: Financial reports do not have significant effect on operational decisions making in primary agricultural cooperatives in Rwanda.

H₀2: There is no significant effect of financial reports on investment decisions making in primary agricultural cooperatives in Rwanda.

H₀3: Financial reports do not significantly affect financing decisions making in primary agricultural cooperatives in Rwanda.

H₀4: Qualities of financial information do not have significant effect on operating decisions of primary agricultural cooperatives in Rwanda.

H₀5: There is no significant effect of qualities of financial information on investment decisions making in primary agricultural cooperatives in Rwanda.

H₀6: Qualities of financial information do not have significant effect on financing decision making in primary agricultural cooperatives in Rwanda.

H₀7: Financial literacy does not significantly affect operating decisions in primary agricultural cooperatives in Rwanda.

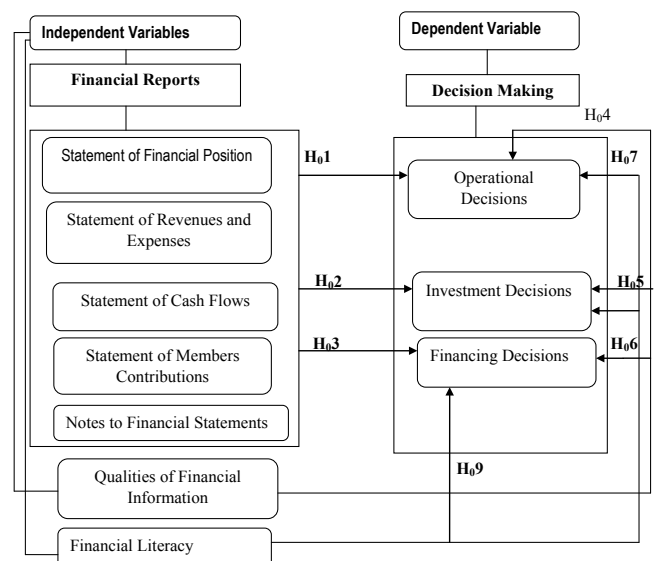


Figure 1. Conceptual Framework.

Source: Consultants (2019)

H₈: There is not significant effect of financial literacy on investment decisions making in primary agricultural cooperatives in Rwanda.

H₉: Financial literacy has no significant effect on financing decisions of primary agricultural cooperatives in Rwanda.

Theoretical framework

This study was anchored on agency and legitimacy theories.

Agency Theory

This theory documented by Mitnick [6] was popularized by Stephen Ross and Barry Mitnick in 1973. The theory posits that there is a relationship which is based on contract between one or more people known as principals, who engage or employ another people known as agent or managers, the latter providing services on behalf of the principals or owners/shareholders. Agents or managers are given, power and authority to work on their behalf of shareholders and make decision as if they are owners of businesses [7]. This theory suggests that a company is viewed as a central part for contracts between managers and capital owners. This is referred to as individuals and principals relationship and there must be a process of reporting stewardship that leads to decision making. This is to say also that there must be a relationship between (a) shareholders and agents or managers (b) or between owners of the debts and stockholders represented by managers. Based on the nature of this theory, such relationships are not always straight forward, thus, the existence of agency conflicts is not avoidable. In most cases, managers are self-driven interest than shareholders' interest. In the case of cooperatives' management, managers and some board of directors can be more motivated by pussuing their interestss at the expense of cooperatives' members's interest, hence leading to poor management reflected in poor preparation and keeping of financial records.

The supporters of this theory posited that the agents should report their level of stewardship to the principals concerning the use of resources entrusted to them [8]. Thus, Budiarmo, Mandey and Karamoy [9], Nikkinen and Sahlström [10], Williams, Ho and Carol [11] argued that financial information provided by managers should be clear and qualitatively prepared and presented in a clear language to all investors especially external users/ investors in the multinationals [12].

In this study, agency theory is adopted since its measures and emphasises the relationship between the managers as agents of the investors or shareholders, considered as principals. It emphasizes that financial reporting system should be able to at least provide and communicate financial information for decision making.

Legitimacy Theory

Legitimacy theory was found by Dowling and Pfeffer [13] who proposed that organizational operational system value has to be in line with the value system of the entire social system in which the organization lives and operates in. Any kind of disparity that may arise between these two systems, a functional or operational threat becomes evident and it becomes a constraint to organizational goal attainment. Therefore, each and every organization should consider social and environmental activities and report to different beneficiaries and stakeholders relevant to their existence and sustainability.

Supporters of the legitimacy theory [14] posited that this theory is a widely used theory that justifies social and environmental disclosures that corporate bodies apply in their social and environmental dealings. This declaration is also made in the work of Campbell, Craven and Shives [15]. This shows that cooperatives' accounting system should encompass social and environmental disclosure in showing their contribution to social groups and environmental conservation activities. Thus, this indicates that company's existence and operational activities should be socially and environmentally demonstrated in the lives of concerned cooperatives.

Deegan, Rankin and Tobin [16] explained that Legitimacy Theory is supported by the idea that the organizational value system must coexist with the social value system in which the entity is established in. The literature provides

evidence that once there is disparity between these two (2) systems, there must raise issues known as threat to the entity and its operations. This is to say that Legitimacy Theory is based on the social contract which exists by force between the company and the society in which it is established and runs its business from [16]. In this case, cooperative members have high expectations that are somehow explicit from the cooperatives and others are implicit and all make social obligations that the established entity must respond to. This is manifested in the way that a cooperative runs its operations in the way that does not violate society's rights.

This theory is used in this study because it is the responsibility of the organization to publish and provide assurance that its activities are not harming social values and must provide information to the society in terms of annual reports, and that accountability must be manifested in relevant, reliable, timely, comparable, understandable and verifiable by all users including the society.

Section Two: Methodological Aspect

Methodology/Strategy of the study

This section deals with methodological aspect that was followed in the conduct of this study.

Design of the study

This study utilized mixed methods, where quantitative and qualitative information were collected using questionnaire interview, and focus group discussions. The design enabled the collection of data through a questionnaire and the use of interview and focus group discussions to triangulate and deeper the interpretation. Financial and management reports as prepared by the cooperatives were reviewed to determine the types of financial reports that were produced and decisions made based on the reports.

Target population of the study

The target population of this study comprised of dairy, maize production and horticulture cooperatives in Rwanda. There were 260 Dairy cooperatives, 105 Maize farming cooperatives and 51 Horticulture cooperatives as registered with Rwanda Cooperative Agency (RCA). Thus, the total population was 416 Cooperatives. This study only considered Cooperatives that were registered with RCA up to December 31st, 2017 in order to use cooperatives that have at least three years of functioning.

Sample size and sampling technique

The agricultural cooperatives were geographically distributed across the districts in Rwanda. For arriving at a sizable and encompassing representation, purposive sampling technique was used by the researchers to select the cooperatives along the districts that have cooperatives with at least two types of agricultural activities (Maize farming, Horticulture farming and/or Dairy). The sample size comprised of 30 Cooperatives; 17 from Eastern Province, 7 from Southern Province, 2 from Western Province, and 4 selected from Northern Province. These cooperatives 12 were from dairy, 12 from maize production, and 6 from horticulture. From each cooperative, the sampled respondents were President, Vice President, Treasurer, Secretary, Advisor, an Auditor, workers of cooperatives and others 4 cooperative members who were randomly selected. The total number of targeted respondents was 330. However only 314 respondents filled properly the copies of questionnaire addressed to them. This means that the response rate is 95.15%.

Data Collection Instruments

Questionnaire was the primary source of data collection. The focus group discussions and interview guide were used to triangulate the collected data. Some key leaders and stakeholders of these cooperatives were interviewed, to get additional qualitative information as related to their role in decision-making of the cooperatives.

Primary data

Under this section, a questionnaire, an interview, and focus group discussion were used to collect data on how cooperatives use financial reports in decision making.

Questionnaire: A structured questionnaire was designed to collect data on financial reports and decision making in cooperatives. It had three sections:

A= addresses the profile of the respondents,

B= Question items on financial reports and.

C=Statements on types of decision making in cooperatives.

This was answered by the cooperatives' respondents as described in the sample size section.

Interview Guide: An interview guide was structured to assist the researchers on their interactions with key informant during data collection in terms of their perceptions or opinions on how cooperatives use financial reports in decision making process as well as how financial literacy impacted decision making (Table 1).

Key informants were the leaders in different administrative capacities who closely work with cooperatives. Such persons are director in charge of cooperatives at MINICOM, Director General of RCA, 1 cooperative union for Maize farming cooperatives in Rwamagana District, 1 cooperative union for Horticulture in Bugesera District, and 1 Dairy cooperative union located in Nyabihu District. Another apex organization was National Cooperative Confederation of Rwanda (NCCR).

Focus Group Discussion (FGD): The targeted participants as per FGD are composed of the following members per district:

This study considered 8 participants in each selected District. Eastern Province has many cooperatives, Kirehe, Gatsibo, Rwamagana and Bugesera Districts were considered, Southern Province Kamunyi, Ruhango and Nyanza Districts were considered. In Western Province Nyabihu District was part of FGDs sample as Musanze and Gicumbi Districts representing the Northern Province. In total FGDs were organized in ten districts.

Procedures for Data Collection

Different data collectors were involved in this process. The data collectors

were trained on the use of research instruments such as questionnaire, interview and focus group discussions guides. The data collectors were grouped into five teams and were all supervised by team leaders and daily report were collated to monitor progress.

Methods of Data Analysis

This research applied descriptive analysis where frequencies and percentages, means and standard deviation were used to give snapshot view of the collected data. The linear regression method of analysis was used to measure how cooperative financial reports and financial literacy influence decision making (Table 2).

Below is the description of variables and their measurements:

X= Independent Variables;(X1)= Financial Reports with its proxies x_1 = Statement of Financial Position (SFP), x_2 = Statement of Revenues and Expenditures (SRE), x_3 = Statement of Cash Flows (SCF), x_4 =Statement of Members Contributions and x_5 = Notes to financial statements NFS. X2= Qualities of Financial Information QFI, and X3= Financial Literacy (FIL).

Y= Dependent Variable = Decision Making measured by three (3) components y_1 = Operational Decision (OPD), y_2 = Investment Decision (IND) and y_3 = Financing Decision (FID).

On the strength of analysis, the following econometric models were formulated:

$$\text{Model 1: } OPD_1 = \beta_0 + \beta_1 SFP_{it} + \beta_2 SRE_{it} + \beta_3 SCF_{it} + \beta_4 SMC_{it} + \beta_5 NFS_{it} + \mu$$

$$\text{Model 2: } IND_2 = \beta_0 + \beta_1 SFP_{it} + \beta_2 SRE_{it} + \beta_3 SCF_{it} + \beta_4 SMC_{it} + \beta_5 NFS_{it} + \mu$$

$$\text{Model 3: } FID_3 = \beta_0 + \beta_1 SFP_{it} + \beta_2 SRE_{it} + \beta_3 SCF_{it} + \beta_4 SMC_{it} + \beta_5 NFS_{it} + \mu$$

$$\text{Model 4: } OPD_1 = \beta_0 + \beta_1 QFI_{it} + \mu$$

$$\text{Model 5: } IND_2 = \beta_0 + \beta_1 QFI_{it} + \mu$$

$$\text{Model 6: } FID_3 = \beta_0 + \beta_1 QFI_{it} + \mu$$

$$\text{Model 7: } OPD_1 = \beta_0 + \beta_1 FIL_{it} + \mu$$

$$\text{Model 8: } IND_2 = \beta_0 + \beta_1 FIL_{it} + \mu$$

$$\text{Model 9: } FID_3 = \beta_0 + \beta_1 FIL_{it} + \mu$$

Where β_0 = constant; β_1 - β_5 are coefficients of determination and μ = error

Table 1: Key Informants Interviews.

Institution	Position of key informants	Number of Key informants	Reason for Selection
MINICOM	Director of Cooperatives	1	MINICOM monitors and evaluates the cooperatives at national level
RCA	Director General	1	Rwanda Cooperative Agency (RCA) regulates all cooperatives in Rwanda.
Federation APEX	Leaders	4	They receive reports from cooperative unions.
Total		6	

Source: Researchers (2020)

Table 2. Focus Group Discussion (FGD) Participants.

Position	Number
District Cooperative Officers (DCO)	1
Representative of Joint Action Development Forum (JADF) at District level	1
Director of Business and Employment at District level	1
Representative of people with disabilities at District level	1
Youth representative at District level	1
Women representative at District level	1
Veterinary	1
Agronomist	1
Total	8

Source: Researchers (2020)

terms representing other variables that are not captured in the models.

Section Three

Data presentation, analysis and interpretations

This section presents the data outlook the analysis, and interpretation of the findings. It contains respondents' perceptions on each of the variables as well as the results from the regression models analysis for each of the hypotheses.

Respondents' demographic characteristics

This aspect detailed the quality of information obtained from respondents whose characteristics were disaggregated into sex age, level of education, employment category and cooperative main activity. The justification for presenting the aforementioned characteristics was to provide robust insight on the quality of respondents and the robustness of information provided to enable confidence and reliability in the work (Table 3).

The results indicated that the relative representation in terms of sex (61.5% male and 38.5% female). About educational level of the respondents 3.5% no formal education, 47.1% have primary level education, 32.5% have secondary education level, 5.7% did vocational training and 10.5% had university education, 56.9% of the respondents low level of education thus, low level of possibility of understanding financial literacy and reports. It could be inferred that most of the respondents lacks the technical ability to understand, interpret, and use the financial statement to make sound decision.

Differences in Respondents' Perceptions based on Sex and Educational Background

Understanding of financial reports based on sex of the respondents

This section presents results to determine the difference in understanding

Table 3. Respondents' Demographic Characteristics.

Characteristics of Respondents	Frequency	Percent
Sex		
Male	193	61.5
Female	121	38.5
Total	314	100.0
Education		
No formal education	11	3.5
Primary Education	148	47.1
Secondary Education	102	32.5
Vocational training	18	5.7
University	33	10.5
Others	2	0.6
Total	314	100.0

Source: Survey (2020)

Table 4. Understanding of Financial Reports Based on Sex of the Respondents.

		Male	Female	Total
Total	Count	193	121	314
	% within Financial Reports	61.5%	38.5%	100.0%
	% within Sex of the respondents	100.0%	100.0%	100.0%
	% of Total	61.5%	38.5%	100.0%

Source: Survey (2020)

financial reports according to the respondents' sex (Table 4).

The results in Table 4 indicated that men understand financial reports than women at 61.5% against 38.5% respectively. This can be seen graphically presented as follows: (Figure 2)

Understanding financial reports and educational level

This section shows the comparison of financial reports understanding and educational level of the respondents. The results indicated that there is no significant difference in comparing financial reports understanding and educational level. Those that are educated understand financial reports than those with no formal education (Table 5).

From Figure 3 results indicated that there is significant difference in understanding financial reports based on the educational level where those with no formal education and others present the least results of 4.1% in understanding financial reports.

Financial literacy and sex of agricultural cooperatives' members in Rwanda

The results from Figure 4 indicated that men are more literate than women

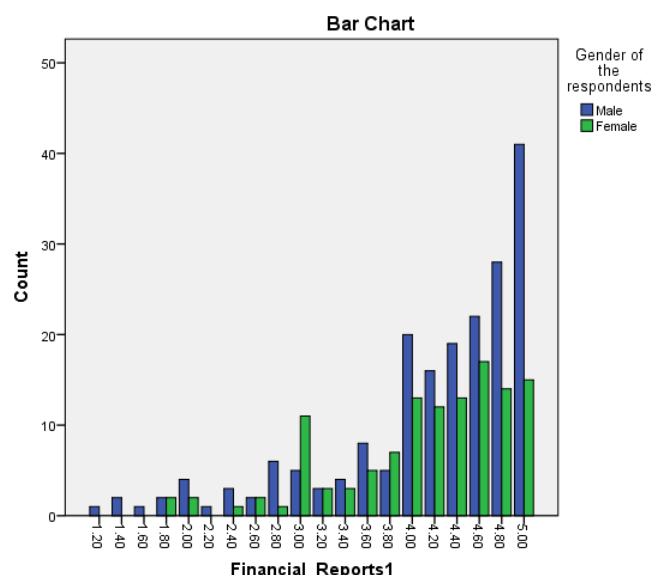


Figure 2. Understanding Financial Reports based on Sex of the Respondents.

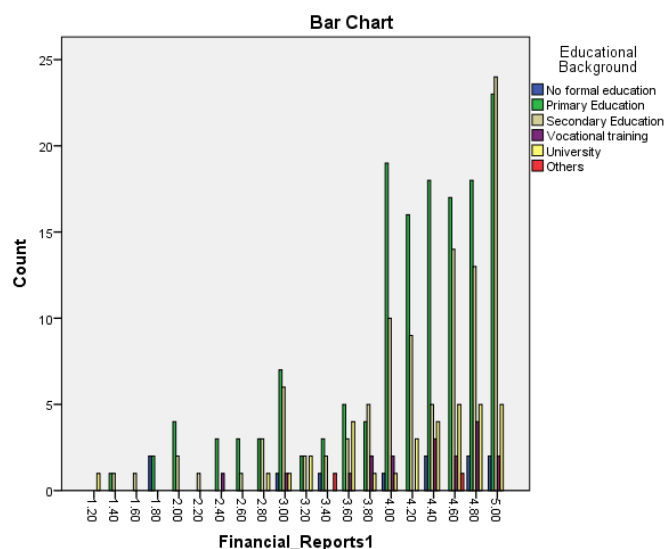


Figure 3. Comparison of Understanding Financial Reports and Level of Education.

Table 5. Understanding Financial Reports based on Educational Level.

		Educational Level						
		No formal education	Primary Education	Secondary Education	Vocational training	University	Others	Total
Financial reports	Count	11	148	102	18	33	2	314
	% within Financial Reports	3.5%	47.1%	32.5%	5.7%	10.5%	0.6%	100.0%
	% within Educational Background	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	% of Total	3.5%	47.1%	32.5%	5.7%	10.5%	0.6%	100.0%

Source: Survey (2020)

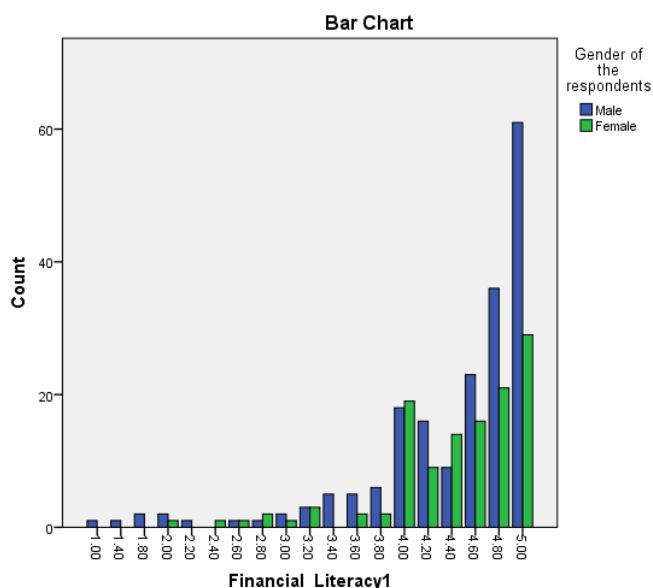


Figure 4. Comparison of Financial Literacy and Sex of the Cooperative Members.

participating in agricultural cooperatives in Rwanda. This is based on the fact than men were more than women in the response rate.

Financial literacy and educational level of agricultural cooperatives’ members

The results in figure 5 indicated that educational level of the cooperative members contributes to their level of financial literacy. They indicated that those that do not have formal education have low level of financial literacy (Figure 5).

Respondents Perceptions on Indicative Variables

The respondents were asked to provide their perspectives on the depth of their understanding on the indicative variables; financial literacy, type and quality of financial reports, operational, investment and financing decisions.

Respondents’ perceptions on financial literacy

Figure 6 represents the respondents’ perception on the financial literacy in the investigated cooperatives. Financial literacy was measured by the level of understanding financial reports and their use in decision making, savings culture and bank loan management, efficient use of money and other resource like working tools and planning of financial transactions.

Figure 6 provided details for five items that were used as indices of financial literacy in the survey of cooperatives. The indices assessed members’ understanding of financial reports, manage bank loan, efficiency in the use of money and other resources, planned financial transactions and access of financial means. In addition, the indices by extension looked at the application of this understanding and knowledge to the management of financial means.

A deconstruct of the indices using percentage rating of each revealed that the

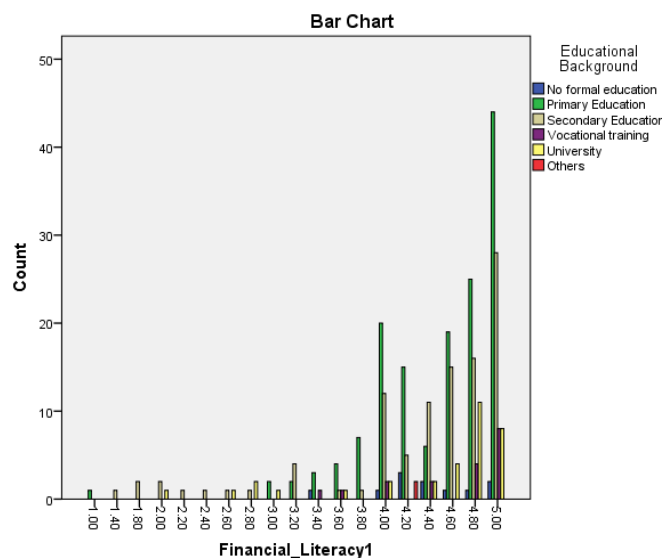


Figure 5. Comparison of Financial Literacy and Level of Education of Cooperative's Members.

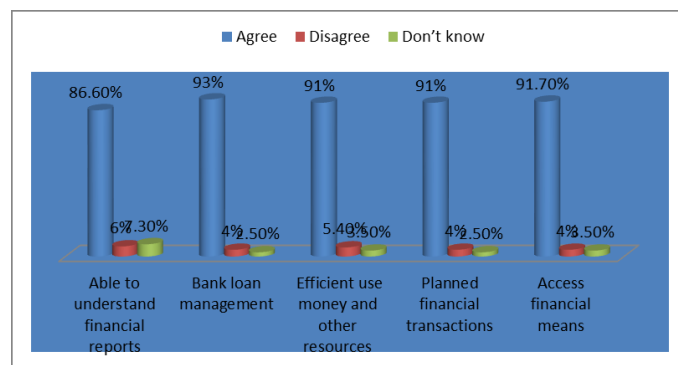


Figure 6. Perceptions of the Respondents on Financial Literacy.

respondents scored 86.6% agreed, 7.3% do not know and 6.1% disagreed on I understand financial report. With reference to managing bank loan, 93.3% of the respondents agreed, 2.5% don't know, and 4.2% disagreed to the ability to manage bank loan. The ability to efficiently use money was rated by the respondents indicated that 91% agreed, 3.5% do not know and 5.4% disagreed to use money efficiently. Also, the scores for planned financial transactions show that 91.4% agreed, 2.5% do not know and 4.1% disagreed to panning their financial transaction and the ability to access financial as measure of financial literacy was rated as 91.7% agreeing to it, 3.5% don't know and 4.8% replying that they disagreed with it.

A follow-up on the findings though interviews revealed that a profound number (80%) of the Cooperative members and some of the leaders lacked the required level of financial knowledge to be considered financially literate. On this position, it evident that some of the respondents probably judged the indices of financial literacy with laxity and elementary/residual knowledgas to make informed decisions based on the financial reports. Emerging from

this is the evident in the characteristics of respondents which shows that less than 15% had university education and more that 50% have either primary level or no formal education.

The financial literacy shortcoming was highlighted in special interview with the Director General of RCA who in his word said, “In general there is a gap in financial literacy of cooperative members and the gap is exacerbated in light of the low level of formal education”.

In addition, the Focus group discussions conducted in Southern Province revealed that “the financial literacy of the agricultural cooperatives in Rwanda varies from one cooperative to another. The variation is anchored on few members’ basic education on how to read and write and further amplified on how to make deep analysis of financial reports based on the level of literacy. In terms of savings, informal financial groups training have been organized, where they learn how to save small amounts of money. They actually borrow from these saving groups but not in a professional manner. There is lack of financial literacy in terms of keeping the records and make decisions based on the records rather than based on intuition”.

The district officers working with cooperatives, pointed out that “some cooperatives have partners who provide some leadership and management training to executive committees and audit members, these trainees have certain level of understanding on the use of finances and unfortunately this may represent 20% of the total membership. The Districts Officers further admitted that training are basically on basic principles guiding cooperatives, but very few members possessed financial accounting literacy skills. Nevertheless, the managers have good level of financial literacy; from the fact these personnel have a university level of education in management, accounting or finance areas”.

In desk review of the relevant requirements from RCA regulations regarding the submission of cooperative accounting books, it was discovered that many cooperatives have their books available, but were not filled on daily basis. The proportion of the cooperatives with properly prepared financial reports was 20.68%, leaving 79.32% without accounting books and incomplete records (Visited Cooperatives). The observation is possibly an indication of managerial ineptness, weak accounting background and lack competency dexterity in preparing financial reports.

The Focus group discussion with the Local Government Officers from Rwamagana show that “a big number of members doing records and reporting for the Cooperatives do not have accounting background that may help them to do proper recording and reporting. Low level of education was also identified among the cooperative members which invariably prevented them from understanding the report as presented by the mangers and executive members.

It was further revealed that “some cooperative members that have been trained in financial reporting exert a high level of negligence to recording daily transactions and prepare the financial reports that may inspire decisions. The accounting books that are to be filled with information are kept in their offices’ shelves. There is lack of supervision and control about the implementation of financial reporting mechanisms in agricultural cooperatives in Rwanda”. In addition, a situation was painted of “some instances were accounting transactions were not recorded because nobody will come to ask them (cooperatives do not report to any relevant organ that may enforce the accountability”. This came from all the districts in general. It indicates the probability of some executive committees forged or falsifying financial reports knowing that no one will check to discover. Even when discovered no person to pursue accountability.

The interface with an organized focus group discussion with 4 cooperatives members revealed that in some cooperatives “the executive and audit committees may cooperate on what to do and how to use money without getting the general assembly approval”. This often does lead to misappropriation and mismanagement of cooperative resources. The discussion also identified conflicts of interest within the executive member”.

The technical competence of the cooperative management team was discovered to be weak during book review as most of them sometimes rely

deposit and withdraw slips with microfinance institutions (SACCOs) as the only financial documents to keep. The supporting evidences on the use of the money are not professionally kept. In most cases the presidents/leaders of cooperatives do not let members see any financial document.

Extant literature such as Arthur [18] reported that financial literacy impact the decisions of groups among low income earners which Lusardi and Mitchell [19] concurred by stating that “the relationship between financial knowledge and financial decisions is generally significant as far as financial decisions are concerned”.

Respondents’ perception on types of financial reports of cooperatives

The types of financial reports that were assessed are: statement of financial position (balance sheet), statement of profit or loss and other comprehensive income, statement of members’ contribution, statement of cash flows and disclosures /notes to financial statements. The findings presented in Figure 2.

Figure 7 presents five items that were used as proxies of type of financial reports existing within the cooperative as rated by the members. The Statement of Balance Sheet was rated 87% contained in the financial reports, 6% disagree and 7% don’t know. The element of Profit and Loss statement was rated to be present at 81%, 11% disagree and 8% I don’t know of their presence in the Financial reports. Statement of Members’ contribution as part of the financial report was rated by the respondents as 73% agree, 12% disagree, and 14.6% seems not to know.

Cash flows statement recorded 85% present as type of financial report, 8% disagree, and 7% really don’t know it as part of financial report. Disclosure/ Notes to financial statement was rated to be present as type of financial report at 77% agree, 10% disagree and 13% don’t know it as part of financial statement. Outer layers Disagree and I don’t know statements are most likely connected the depth and scope of educational level of the respondents thereby limiting insight, knowledge, judgment, and understanding of elements contained in a financial report.

Interview with some members of the cooperatives indicated that “some cooperatives have a book where they record all cooperatives’ properties, plants and equipment, and this is used to show the picture of the cooperatives’ resources (statement of financial position)”. The assertion reflects improvised informal statement of financial position which does not follow any recognized standard of accounting format or financial report and this practice of financial balance sheet varies from one cooperative to another. The interview further noted that “the statement of financial position is not always available, due to the fact that, they do not record all transactions as they occur rather when the General Assembly meeting approaches (March and October) of each year, the executive committee members meet to remind themselves how they used money and prepare a short report”. This is often done by estimating the expenses and income rather than basing records on documents of actual transactions.

The reviewed documents revealed that for some of the cooperatives, the income statement is the main report prepared especially during the harvest.

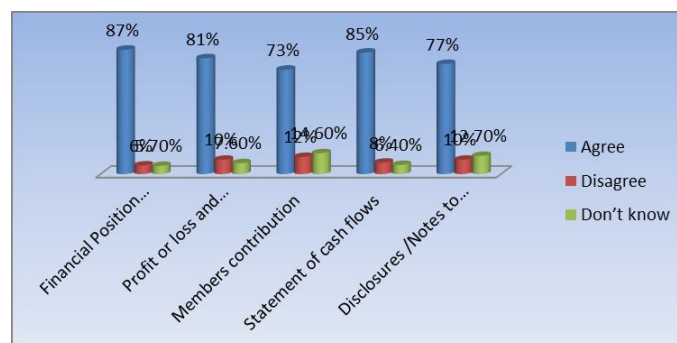


Figure 7. Perceptions of the Respondents on Types of Financial Reports.

The incomes from farm produce are accounted for as income from the harvest or sales of milk and fruits and such is deposited into their bank account. Twelve (12) cooperatives which are 40% of the total surveyed Cooperatives were found keeping the list and evidences of all purchases and payments made for different expenses. This observation affirmed that 60% (18) of the cooperatives are unable to document clear statement of profit or loss and other comprehensive income and other transactions. From the surveyed documents from agricultural cooperatives indicated that Horticulture cooperatives indicated that 20% of cooperatives prepare the receivables and payables reports (debtors and creditors) accounts.

Information captured in financial reports: A review of current financial reports indicated that they capture members' contribution, purchases of different materials for dairy, purchases of milk from farmers, salary of employees, equipment and materials, electricity bills payments, water bills payments, executive committee travel fees and sitting allowances. In addition, books which capture receivables and payables were available. The maize and horticulture producing cooperatives keep records of members' contribution and loans to and from cooperatives in a traditional way. However, some of the financial information was into organized balance sheet, statement of profit or loss, and cash flow so as to inform users of financial information the financial position of the Cooperative. The deviation is suggestive of knowledge gap in accounting and a call for capacity building.

Financial data needed for financing decisions: It was further discovered that decision makers with the Cooperatives do not have basic accounting and financial management knowledge on what type of data to capture, organize and interpret in order to make informed financial decisions. The inability to determine the type of data needed for financial report amplifies training in areas such as accounting principles, finance principles, lending and borrowing decisions, planning and budgeting and expenses report and documenting supporting evidence for all paid expenses.

Respondents perception on qualities of financial information in cooperatives: Figure 8 provided results in the assessment of quality of financial information in Cooperatives. It covered six indicative areas such as relevancy, faithfulness, understandability, comparability, verifiability and timeliness. Each of the items is intended to restore confidence and reliability in the report and to enable scientific decision making with the financial information.

With respect to respondents' perception on the quality of financial information as examined by relevance (confirmatory and predictive values), faithfulness (completeness and free from errors), understandable, comparable, verifiable and timeliness. As assessment of each parameter shows that relevance was rated by the respondents at 77% agree, 16% disagree and 7% actually don't know. Faithfulness was rated 76% agree, 16% disagree and 8% don't know. Understandability was judged positively at 79% agree, 14% disagree and 7% don't know and Comparability was rated 78% agree, 14% disagree and 8% don't know. Regarding Verifiability, 77% of the respondents rated it agree, 14% disagree and 9% don't know while Timeliness scored 75% agree, 15% disagree and 10% don't know.

From the percentage scores on quality of financial information, it could be

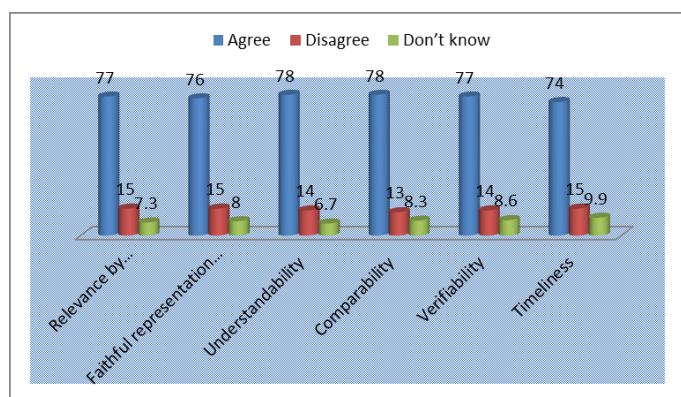


Figure 8. Responses on Qualities of Financial Information in Cooperatives.

deduced that relevance, faithfulness and timeliness were considered as areas of concerns which are inimical to robust dependable quality financial information. As such, interviews were conducted among the Cooperatives to broaden the scope of understanding and deepen knowledge on six indicatives of quality of financial information. One of the key participants reported that "most cooperatives keep records but lack accounting standards if judge along the six parameters, at times incomplete books, due to unqualified staff". In terms of document review, the researchers observed that in some Cooperatives the existing financial report was reflective on the six parameters; some had incomplete information, others were erroneously prepared and then lacked the basis for comparability. The traditional approach to preparing financial report aligned with the education level of the executive members as some Cooperatives with educated members are somehow better off although they did adopt the financial reporting standards.

Literature review in this regard as evident Afrida and Yaeseen demonstrated that the quality of financial report based on expected standard help users to make investment decisions. Also Moore [20] indicated that a sound accounting information system is an important tool in investment decision making in today's world.

Respondents perception on operational decision-making: Figure 9 presents findings of the respondents in terms of perception on operational decision-making within cooperatives. The assessment was based on five items; hiring decision, salary increment decision, staff restructuring decision, daily financial transactions, disseminating information on going-concern.

Most (85%) of the respondents agreed that the Cooperative had or took operational decisions along hiring staff, salaries increase, staff restructuring should the need arise due to financial constraints, daily transactions and alignment with Cooperatives' going-concern. The operational decision on staff hiring was rated 85% agree, 10% disagree and 5% don't know, salaries adjustment scored 82% agree, 12% disagree and 6% don't know. The decision to restructure based on financial position was perceived as 78% agree, 14% disagree and 8% don't know. Regarding daily financial transactions, the respondents rated this 84% agree, 11% disagree and 5% don't know while the power of leadership performance assessment and election was based on operational decision with 82% agreeing, 11% disagree and 7% don't know. The going-concern of the Cooperative was also rated at 85% agree, 8% disagree and 7% don't know.

The homogeneity in respondents view with reference operational decision was further probed organized Focus group discussion which indicated that "Cooperatives do have robust administrative organs but there is lack of knowledge and understanding in terms of how operational decisions are influenced by financial management or financial reports.

The cooperatives with accountants and managers make decisions from financial information especially when the reports show that there are things which did not go well, and then we take a decision to change that situation". With reference to Dairy cooperatives as discussed, we use reports to guide our operational decisions when for example the quantity of milk collected

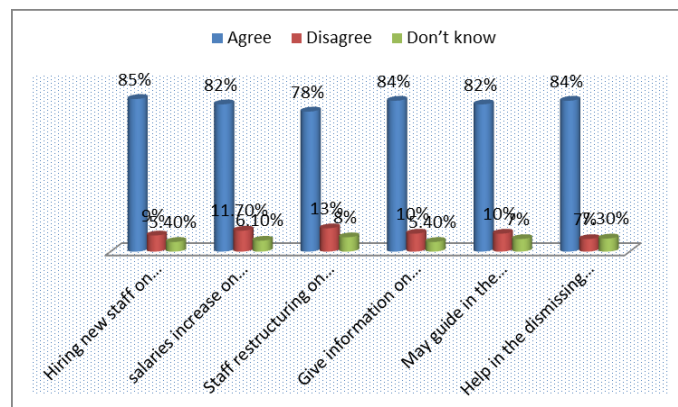


Figure 9. Perceptions of the Respondents on Operational Decisions in Cooperatives.

is not enough, managers make a decision to increase the quantity of milk to purchase from other farmers” and “if for example managers realize that expenses have exceeded income, then they make a decision to reduce those expenses, such as transportation expenses, electricity or generator expenses, communication expenses, salaries among others”.

In terms how operational decision on increase of salary occurs, the group said that “the executive committee makes a decision on that and then obtain approval from the General Assembly meeting” and “when an employee does not perform well based on the score-card, his/her contract can be terminated instead of reducing his/her salary”. It was also noticed from the documents analysed that the years of existence counts, the cooperatives that have many years of experiences seem to know how to guide decisions and their members are well experienced in governance, operating decisions than the young cooperatives.

Focus group discussions with District Officers revealed that “in some Cooperatives consisting of people living with disabilities, communication could be inherited which invariably affects decision making”. In addition, self-interest and not corporate is a problem among elected leaders. For instance, members would like to share any financial support or income obtained from Donors, with recourse supporting the operational use of cooperative activities”.

Respondents’ perception on investment decisions: Figure 10 shows respondents’ perception on investment decisions as assessed through of the decision to acquiring facility/building, renting land acquire means of transportation, acquire important materials/equipment and the need to dispose of physical capital.

The individual scores along the parameters of investment decision shows that acquiring of storage facility/building was rated 84% agree, 12% disagree, and 4% don’t know. Land renting investment decision was rated 80% agree, 15% disagree and 5% don’t know while transportation mean investment decision scored 83% agree, 12% disagree and 5% don’t know. The decision to invest in material and equipment was rated 87% agree, 8% disagree, and 5% and Dispose of physical capital 65% agree, 23% disagree, and 12% don’t know. The ratings across the five parameters were indications that investment decisions were perceived to be driven by robust evident-based reports. However, the decision on dispose of physical capital was rated average which was the least among the items under study.

To deepen insight on the investment decision, a Focus group discussion was held with the District Leaders with observation that “the level of understanding of cooperatives management and executive committees who are not able to interpret, comment and analyse financial reports enables or exposes cooperatives to risk of wrong investment decisions. The results from FGDs revealed that some cooperatives leaders access bank loans that are not in line with investment capacity of the cooperatives. This observation was documented from Gicumbi District, as one of the agricultural cooperative contracted a bank loan from BRD of approximately USD 72,000 to buy tractors intended for use on hilly lands and wherein the tractors cannot be used.

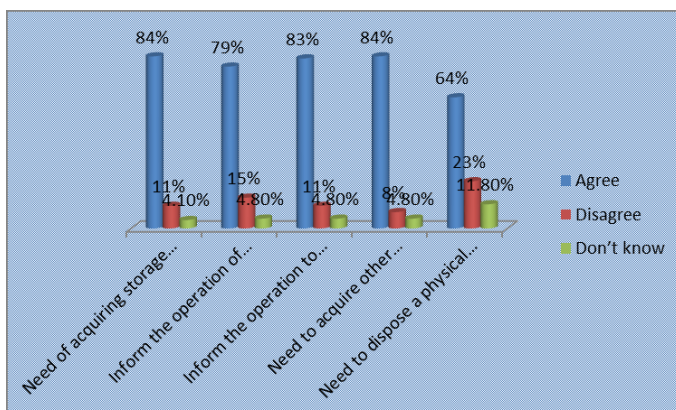


Figure 10. Respondents’ Perception on Investment Decisions.

The aforementioned FGD narratives contradicted the respondents’ perception on investment decisions. According to David [21] financial condition is often considered the single best measure of a firm’s competitive position and overall attractiveness to invest. Determining an organization’s financial strengths and weaknesses is essential to effectively formulating investment strategies. Financial position of a firm in terms of robust liquidity, leverage, working capital, profitability, asset utilization, cash flow and equity can advise in the elimination of investment strategies that are considered not feasible and alternatives taken.

Perceptions of the respondents on financing decisions in cooperatives: This section looks at the respondents’ perception on financing decisions among the Agricultural Cooperatives. The indices for financing decision are borrowing of funds, reimbursement of loan, financial surplus, and investment of financial surplus.

Figure 11 painted a picture of the respondents’ perception as rated by the surveyed agricultural cooperatives financing decision-making. The individual elements in the financing decision were rated as Borrowing funds 85% agree, 10% disagree, and 5% don’t know, reimbursement of loan 83% agree, 10% disagree, and 7% don’t know, financial surplus was rated 81% agree, 12% disagree and 7% don’t know and investment of surplus finance was rated 82% agree, 10% disagree and 8% don’t know. Extant literature are of the position that financing decisions such as long-term borrowing, loan repayment and retained earnings for financing purposes requires a proper analysis of the cash flow statement and the statement of financial position of the organisation. The respondents’ perception was followed up with interviews that revealed inability to interpret, comment and analyse financial reports, in order to get aid financing needs and borrowing capacity.

Hypotheses Testing

This section summarises the evaluation of the contribution of financial reports use on each of the decisions that are taken in agricultural cooperatives surveyed in this study. This is done by using inferential statistics through polynomial regression models which helped in hypotheses testing.

Contribution of financial reports on operational decisions in cooperatives: This sub-section shows the level of contribution of financial statements prepared by the agricultural cooperatives on their operating decisions made on a daily basis.

The results in Table 6 indicate that there is a moderate significant relationship between financial reports and operational decisions made in agricultural cooperatives with $R = 0.564$ and $adjusted\ R^2 = 0.307$, implying that the depth of usage of financial report to operational decision was poor, suggesting a low level of optimality as 69.3% was alternative forgone. It does connote that 69.3% of operational decisions taking across the surveyed Cooperative were not anchored on the financial report of the Cooperatives. The F-statistic of 28.671 with p-value of 0.000 indicated that financial reports have a joint statistical influence on operational decisions at all levels of significance.

On the individual coefficient with their p-value, the statement of profit or

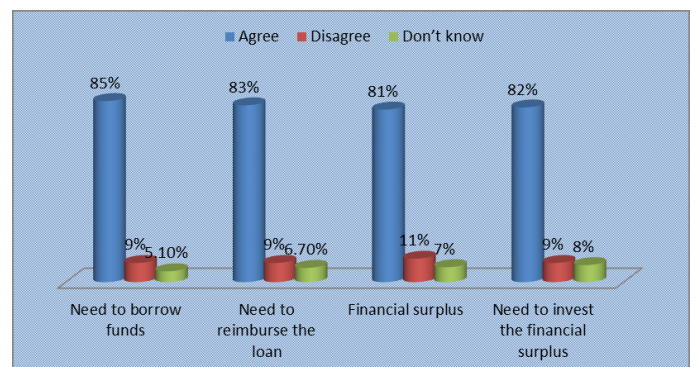


Figure 11. Perceptions of the Respondents on Financing Decisions in Cooperatives.

Table 6. Contribution of Financial Reports on Operational Decisions in Agricultural Cooperatives in Rwanda.

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	2.295	0.182		12.621	0.000
Statement of Financial Position (Balance sheet)	0.011	0.056	0.013	0.190	0.849
Statement of profit or loss and other Comprehensive income	0.115	0.054	0.160	2.128	0.034
Statement of members contribution	0.149	0.040	0.241	3.682	0.000
Statement of cash flows	0.099	0.055	0.128	1.798	0.073
Disclosures /Notes to financial statements	0.087	0.041	0.135	2.128	0.034
R= 0.564 Adjusted R ² = 0.307 F-Statistic = 28.671, Sig.= 0.000					
a. Dependent Variable: Operational decisions b. Predictors: (constants, Statement of Financial Position (Balance sheet), Statement of profit or loss and other Comprehensive income, Statement of members contribution, Statement of cash flows and Disclosures /Notes to financial statements					

Table 7. Estimates of Contribution of Financial Reports on Investment Decisions in Agricultural Cooperatives in Rwanda.

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	2.163	0.187		11.543	0.000
Statement of Financial Position (Balance sheet)	0.064	0.057	0.077	1.115	0.266
Statement of profit or loss and other Comprehensive income	0.097	0.056	0.131	1.745	0.082
Statement of members contribution	0.122	0.042	0.191	2.916	0.004
Statement of cash flows	0.070	0.057	0.088	1.234	0.218
Disclosures /Notes to financial statements	0.130	0.042	0.196	3.080	0.002
R= 0.51 Adjusted R ² = 0.304 F-Statistic =28.313, Sig.= 0.000					
a. Dependent Variable: Investment decisions b. Predictors: (Constants), Statement of Financial Position (Balance sheet), Statement of profit or loss and other Comprehensive income, Statement of members contribution, Statement of cash flows and Disclosures /Notes to financial statements					

loss and other comprehensive income (0.034), statement of members contribution (0.000) and, disclosures (0.034) influenced significantly operational decisions while others elements were not impactful.

Estimated coefficients indicate that for 1 unit increase in statement of profit or loss and other comprehensive income leads to 0.160-unit change in operational decisions of agricultural cooperatives in Rwanda, without considering other variables that may have influence. This suggests for example that if profit/losses and operational expenses are measured in millions of Frwan increase in profit by 1 million of net profit will lead to 0.160*1,000,000 operational expenses increase, which is Frw 160,000 if the salary increase is only influenced by the increase in net profit. Similarly, 1-unit increase in statement of members' contribution leads to 0.241-unit change in operational decisions made in agricultural cooperatives in Rwanda, without considering other variables that may have influence. This implies that by increasing members' contribution in capital by 1 million of Frw the operational expenses are to increase by Frw 241,000 (0.241*1,000,000). Similarly, an increase of 1 million in cash flows will lead to an increase Frw 128,000 in operational expenses 0.128-unit improvement in operational decisions in agricultural cooperatives while a 1-unit improvement in notes to financial reports leads to 0.135-unit change in operational expenses in agricultural cooperatives in Rwanda, without considering other variables that may have influence.

Financial reports on investment decisions in cooperatives: This sub-section evaluated the contribution of financial reports prepared by agricultural cooperatives in Rwanda on their investment decisions.

Table 7 indicates a relationship between financial reports and investment decisions with $R = 0.51$, and $Adjusted R^2 = 0.304$. This indicates that the agricultural cooperatives made use of financial reports for investment decision making. F-statistic of 28.313 with a p-value of 0.000, implies that financial reports significantly impacted investment decisions. However, this was only at 30.4% indicating that the level of usage was unimpressive as 69.56% of investment decisions were not strategically guided by financial reports. This findings bear resemblance or reflective of respondents' educational background as this should have enhanced and strengthened their application of knowledge and understanding to investment decisions as outcome of financial report.

Taking into account individual coefficients with their p-values, the statement of profit or loss and other comprehensive income (0.082), statement of members contribution (0.004) and, disclosures (0.002) influenced significantly investment decisions while others elements were not having a significant influence on investment decisions.

The positions emerging from the interviews conducted indicated that the agricultural cooperatives members, leaders and managers' knowledge, understanding, and interpretation of financial reports and subsequently applying same to investment decisions had been relatively weak.

Financial Reports and Financing Decision Making in Cooperatives: This sub-section evaluated how financial reports influenced or impacted Financing decisions.

Table 8 indicates the outlook of how financial reports impacted cooperatives'

Table 8. Estimates of Financial Reports impact on Investment Decisions in Agricultural Cooperatives in Rwanda.

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
	(Constant)	2.218	0.201		11.060	0.000
	Statement of Financial Position (Balance sheet)	0.006	0.061	0.007	0.097	0.923
	Statement of profit or loss and other Comprehensive income	0.040	0.060	0.052	0.672	0.502
	Statement of members contribution	0.127	0.045	0.191	2.849	0.005
	Statement of cash flows	0.209	0.061	0.252	3.448	0.001
	Disclosures /Notes to financial statements	0.090	0.045	0.130	1.998	0.047
R = 0.529 Adjusted R ² = 0.268 F-Statistic = 23.90, Sig.= 0.000						
a. Dependent Variable: Financing decisions b. Predictors: (Constants), Statement of Financial Position (Balance sheet), Statement of profit or loss and other Comprehensive income, Statement of members contribution, Statement of cash flows and Disclosures /Notes to financial statements						

Source: Survey (2020).

Table 9. Estimates of Qualities of Financial Information on Operational Decisions in Agricultural Cooperatives.

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
	(Constant)	2.036	0.157		13.007	0.000
	Qualities of financial reports	0.530	0.039	0.615	13.759	0.000
R = 0.615 R ² = 0.378 F-Statistic = 189.316, Sig.= 0.000						
a. Dependent Variable: Operational decision b. Predictors: (Constants), Qualities of financial reports						
Source: Survey (2020)						

investment decisions with a moderate relationship of $R = 0.529$, F-statistic of 23.90 with a p-value of 0.000. This implies that financial reports had positive and significant effect on financing decisions of agricultural cooperatives and the **Adjusted R² = 0.268** denoted that the financial reports were utilized at 26.8% for financing decision making. The 73.2% financing decision made among the surveyed cooperatives were not based or anchored on the financial reports. From the financial management perspective, any financing option decision is a derivative of the financial position of the organization, otherwise administrative and going-concern of the organization could be compromised.

From the proxies of financial report, statement of members contribution with p-value 0.005, and statement of cash flows p-value =0.047 and disclosure with a p-value = 0.001 were the element in the financial reports that influenced the 26.8% financing decisions made.

The statistical finding was triangulated with focus group discussions and sustained interviews which largely revealed that financial illiteracy contributed profoundly to financing decisions made that were not informed by financial reports. The position of the interviews contradicted the respondents' perception on their level of financial literacy and the instrumental role of this to financing decision. The contradiction could have emerged from the technical and operational differences in articulating on what should be vis-à-vis what is being practised among the surveyed Cooperatives.

Qualities of Financial Information and Operational Decisions in Cooperatives: This sub-section deepened insight on how qualities of financial information influenced operational decisions. Quality of financial information was investigated along the parameters of relevance, faithfulness (reliability), understandability, verifiability, timeliness, and consistency to operational decisions. The results in Table 9 indicated a correlation coefficient is 0.615 with R²= 0.378. The F-Statistic = 189.316, with a p-value = 0.000

implying that quality of financial information impacted operational decision. The strength and direction of impact were judged from the R²= 0.378 which was 37.8%, indicating an under-utilization of financial information to make operational decisions. The low dependability on financial information to make operational decision could be attributed to elements of poor faithfulness in recording, oversight in reliability, understanding, timeliness, consistency, and verifiability. The result further shows that 1 unit change in the quality of financial information will translate into 61.5% transformation in making operational decision.

Qualities of financial information on investment decisions: The sub-section addresses qualities of financial information to influence or impact the investment decisions made by the Cooperatives.

Evidences from the statistical results as presented in Table 10, show as moderate correlation coefficient of 0.572 with R²= 0.327, and F-Statistic = 151.879, and significant p-value= 0.000. The results indicated positive significant relationship between qualities of financial information and investment decisions. The dependability on quality of financial information to make investment decision was relatively weak as the usage of the financial information for investment decision was minimal 32.7%. While a number of endogenous and exogenous factors could have been responsible, the 67.3% of investment decisions made were not anchored on or informed by the quality of financial information.

The estimated coefficient of 0.572 is an indication that a 1-unit improvement and dependability on qualities of financial information will lead to 0.572 unit change in investment decisions holding other factors constant. The result is not in isolation as extant literature demonstrated that financial reporting qualities (relevance, faithful representation, comparability, verifiability, timeliness and understand ability) often lead to better investment decision [22].

Qualities of financial information and financing decisions: This looks at qualities of financial information to financing decisions made by the Cooperatives.

Table 11 results show a correlation coefficient of 0.532 with $R^2 = 0.283$, and overall F-statistic of 122.961 with a p-value = 0.000. The coefficient of determination (0.532) denotes a relationship between quality of financial information and financing decision and the F-stat indicates that the relationship was significant at 1%. The R^2 (0.283) indicates the strength and direction of impact, which was positive but moderate. The 28.2% derived from the R^2 implies that the qualities of financial information usage contributed 28.3% to financing decisions making. Subsequently, the 71.1% decisions taken by the Cooperative members were not driven or informed by the quality of financial information as documented in the financial reports.

The recorded 28.3% further revealed that dependability on evidences or financial figures to inform strategic financing decision making was less utilized, as such financing decision could have been based on sentiment or arm-chair speculations. Hence, a 1-unit dependability on qualities of financial information leads to 0.532-unit improvement or change in financing decisions making without considering other variables that may have influence while not included in this research. Intuitively, the low level of educational background, scope of financial management experiences of the respondents could have contributed to the poor dependability and

usage of quality of financial information to make financing decisions by the members. This is compounded by the no adherence to accounting standard policy by the Accountants and Executive members which indirectly makes financing decisions emotional judgment. On the part of the Accountants, lack of accounting competencies and managerial dexterity could have instigated the decision to depend and use less of financial information for financing decisions.

Financial Literacy and Operational Decisions: The investigated respondents' financial literacy and operational decisions towards deepening insight on whom financial literacy impact operational decisions of the cooperative.

From Table 12 results, it is evident a correlation coefficient of 0.585 was registered, indicating that a positive and moderate relationship exist between financial literacy and operational decisions and the F-Statistic of 161.92 was Significant at 1%. An R^2 of 0.342, result revealed that respondents' financial literacy contributed by 34.2% to operational decision making. Contrary to the high rating of financial literacy by the respondents, the application of knowledge, skills and ability with reference to loan, understanding of financial statement and resources management show a disconnect with operational decisions. From the R^2 of 0.342, result, it is evident that 65.8% of operational decisions were not driven by financial literacy.

An improvement is possible as the findings indicate that a 1-unit increase

Table 10. Qualities of Financial Information and Investment Decisions.

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
	(Constant)	2.089	0.167		12.489	0.000
	Qualities of financial reports	0.508	0.041	0.572	12.324	0.000
R = 0.572 $R^2 = 0.327$ F-Statistic = 151.879, Sig. = 0.000 a. Dependent Variable: Investment decision b. Predictors: (Constants), Qualities of financial reports Source: Survey (2020)						

Table 11. Qualities of Financial Information and financing Decisions.

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
	(Constant)	2.181	0.180		12.094	0.000
	Qualities_of_financial_reports	0.492	0.044	0.532	11.089	0.000
R = 0.532 $R^2 = 0.283$ F-Statistic = 122.961, Sig. = 0.000 a. Dependent Variable: Financing decision b. Predictors: (Constants), Qualities of financial reports Source: Survey (2020)						

Table 12. Financial Literacy and Operational Decisions Results.

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
	(Constant)	1.142	0.238		4.805	0.000
	Financial_Literacy	0.678	0.053	0.585	12.725	0.000
R = 0.532 $R^2 = 0.283$ F-Statistic = 161.923, Sig. = 0.000 a. Dependent Variable: Operational decisions b. Predictors: (Constants), Financial literacy						

in the utilization of respondents' financial literacy power will lead to 0.585/unit change or transformation in operational decisions making. In light of this, the study of Lusardi [23] had provided a robust position that the rapid environment change imposes a duty on managers to use their financial literacy to address operational activities and financing options. A deviation most often leads to organizational disbandment or inability to achievement set goals and objectives.

Financial Literacy on Investment decisions: The analysis further examined the role and use of financial literacy in t making investment decisions by the Cooperative members.

Table 13 results show evident of a moderate relationship with a correlation coefficient of 0.553 between financial literacy and investment decisions, and overall F-statistic of 137.369 with p-value of 0.000. The R² was 0.283 denoting the contribution of financial literacy to investment decisions. The R² of 0.283 translates into 28.3% utilization of financial literacy to investment decision making among the surveyed cooperatives. From the percentage score (28.3%), it is obvious that the level of use and reliability on members' financial literacy power to make evident-based investment decision was weak.

As such, investment decisions that were made somehow were at sub-optimal level with about 71.7% based on feelings and unscientific utilization or dependence on financial literacy. However, a 1-unit dependence on financial literacy will bring about a corresponding increase 0.553-unit change in investment decisions, without considering other variables that may have influence but not included in this research.

Contribution of financial literacy on financing decisions in cooperatives: This sub-section shows the level of financial literacy in agricultural cooperatives on their financing decisions made on a daily basis.

From Table 14, the results show that the coefficient of determination was 0.498, R²= 0.248 and F-statistic = 102.999 with a p-value of 0.000. The R = 0.498 indicated a weak relationship among the two variables, and F-Stat denoted the significant degree at 1% and the R² revealed depth of financial literacy to financing decision with results indicating that it was applied to financing decision at the lowest point (24.8%). This implies that 75.8% financing decision made were not within the parameters of financial

literacy which otherwise impacted the quality and strength of the decision made. Comparatively, financial literacy to operational decision was 34.2%, investment decision was 28.3% and financing recorded 24.8% which indicates that on the aggregate, financial literacy did not exhibit profound impact on the decisions of the cooperatives.

Section Four: Summary, Conclusion and Recommendations

This section presents the summary of findings, conclusion and recommendations based on the analysed data and findings of this study.

Summary of Findings

The main objective of this research was to assess how agricultural cooperatives members do understand financial reports and make use of them in decision making. The study was motivated by the continuous assertion by various government officials through their speeches that there is lack of the use of financial reports by management and stakeholders of cooperatives. It has been revealed that there is no profound mean difference in the perception of the agricultural cooperative members considering the respondent's sex and the level of education in relation to financial literacy, financial reporting, quality of financial information, operating decisions, financing decisions and investment decisions.

According to the perceptions of respondents it has been noted that they claim to understand financial report and their use in decision making related to operations, investment and financing of the agricultural cooperatives. However basing on the findings from focus groups discussions and interviews, it has been established that the knowledge of agricultural cooperatives members, leaders and managers it is not as good as to allow them to deeply understand financial reports and their use in decision making.

Results indicated that there is significant difference in understanding financial reports based on the educational level where those with no formal education and others present the least results of 4.1% in understanding financial reports. Quality of financial reports, agricultural cooperatives are not also at

Table 13. Financial Literacy and Investment Decisions.

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	1.188	0.251		4.735	0.000
Financial Literacy	0.660	0.056	0.553	11.720	0.000
R = 0.553 R ² = 0.283 F-Statistic = 137.369, Sig.= 0.000					
a. Dependent Variable: Investment decision b. Predictors: (Constants), Financial literacy					

Source: Survey (2020)

Table 14. Financial Literacy and Financing Decisions.

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	1.392	0.273		5.108	0.000
Financial_Literacy	0.621	0.061	0.498	10.149	0.000
R = 0.498 R ² = 0.248 F-Statistic = 102.999, Sig.= 0.000					
a. Dependent Variable: Financing decision b. Predictors: (Constants), Financial literacy					

Source: Survey (2020)

the same level and do not have the same characteristics. Some 29.5% are smart at preparing financial reports and use them correctly in operational, investment and financing decisions while others 70.5% do not prepare them at all. Many cooperatives have accounting books but lack the capacity to fill them out, while few others fill them out incorrectly.

The major findings have shown a moderate significant relationship between financial reports and operational decisions with correlation coefficient of 0.564 and significant contribution of financial reports on operational decisions (**Adjusted $R^2 = 0.307$**). Financial reports and investment decisions made in agricultural cooperatives were found statistically significant with (**$R = 0.51$**) and **Adjusted $R^2 = 0.304$** . Financial reports and financing choices made in agricultural cooperatives were also moderately related and as $R = 0.529$ and **Adjusted $R^2 = 0.268$** .

The results indicated that quality of financial information had positive significant relationship with operational decisions with $R = 0.615$ and $R^2 = 0.378$. In addition, qualities of financial information and investment decisions recorded coefficients of $R = 0.572$ for relationship and $R^2 = 0.327$ for contribution. Qualities of financial information had a positive significant relationship with financing decisions with $R^2 = 0.283$. Also financial literacy and operational decisions registered a significant relationship with $R^2 = 0.342$ investment decisions $R^2 = 0.283$ and financing decisions $R^2 = 0.248$.

Conclusion

Based on the findings of the study, it was concluded that financial illiteracy among agricultural cooperatives members' affected the quality, scope and depth of understanding and use of financial reports in decision making. In addition, weakness in financial documentation implied the quality of financial information and invariably led to decisions that were initiated and taken without robust evident-based approach. The cooperatives' leaders and managers do seldom rely on financial reports in making operational, investment and financing decisions.

The findings revealed that financial literacy of the agricultural cooperatives members in Rwanda varies from one cooperative to another. Many members have basic education about how to write and read, but their knowledge does not allow them to make a deep analysis of financial reports. Concerning the quality of financial reports, agricultural cooperatives are not also at the same level and do not present the same characteristics. Some are smart in preparation of financial reports and properly use them in operational, investment and financing decisions while other do not prepare them. Many cooperatives have accounting books but do not have the capacity to fill them while few others fill them erroneously.

In relation of the use of financial reports in decision making, findings indicated that the cooperatives do not highly rely on financial statements. Empirical evidence from econometric models revealed that financial reports are used at a low level when making operational, investment and financing decisions in agricultural cooperatives. This suggests that leaders and managers of cooperative base on other factors more than financial reports when making operational, investment and financing decisions.

This study concludes that financial reporting in agricultural cooperatives is still at low level and cannot provide useful and quality based financial information, as a result cooperatives operational, investing and financing decisions are rarely based on financial reports.

Recommendations

Based on the findings of the study in line with the conclusions, the following recommendations are suggested:

1. There is need for continuous capacity building in accounting, financial reporting, and financial management for agricultural cooperatives managers and leaders to uplift their understanding and preparation of customized quality financial reports for effective decisions.

2. Recruitment of eligible and qualified accounting graduates is needed in order to restore confidence and transparency in financial reports from agricultural cooperatives in Rwanda.

3. Government officers in charge of cooperatives (RCA) should frequently audit the records of the cooperatives in order to ensure that financial documents and financial reports are in line with required accounting standards and RCA template of reporting requirements.

Classifying the cooperatives reporting framework through expected upcoming new cooperative law by RCA and empower the local government entities to supervise what the cooperatives do on a regular basis, to avoid embezzlement of financial and other cooperatives' resources by their leaders and managers.

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