



## SERVICE QUALITY AND CAPITAL FORMATION FROM SELECTED VILLAGE SAVING AND LOAN ASSOCIATIONS IN RWANDA

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### **Abstract:**

The present study used the SERVQUAL model to assess the quality of services delivered to village savings and loans associations' (VSLAs) members. The service given to members enables them to form capital that is used as social and economic investment. The study entitled service quality and capital formation from selected village saving and loan associations in Rwanda has been undertaken with specific objectives as to study the quality of services given to members along with their VSLAs membership, to ascertain the appreciation level of village saving and loan associations services by members, to assess the extent to which the village saving and loan associations contributed to capital formation within members, to determine the relationship between village saving and loan associations and capital formation. The study employed a cross-sectional design with a mixed-methods (qualitative and quantitative) approach. Primary data were collected from 373 participants representing 5429 VSLAs' members. Data were analysed using descriptive statistics and correlational analysis using IBM SPSS version 20. The findings from this study revealed that 90.1% used the funds in a way that the net gain in the future is guaranteed. To assess the service quality, different dimensions have been used, and those include tangibility, reliability, responsiveness, assurance and empathy. Based on shared information by VSLAs members, the general service quality appreciation level is at a very satisfactory level of 93.0%. The correlation coefficient of 0.353 indicates the positive correlation between the VSLAs services and capital formation. The significant value of 0.000 is less than the Spearman correlation coefficient (0.353), which shows that the correlation between the two variables is statistically significant.

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According to the information about the t value of VSLAs services and the t value of capital formation, the alternative hypothesis stating that there is a highly significant relationship between VSLAs services and capital formation is accepted.

**JEL:** G21; C83; L84; O55; O16; R20

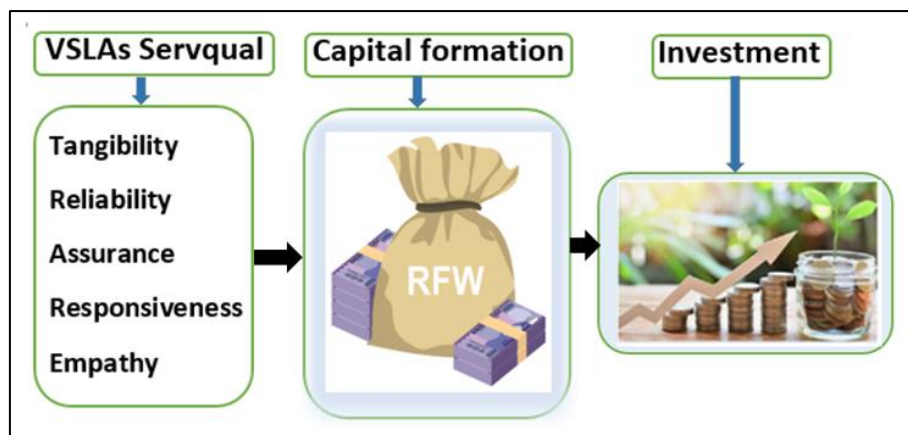
**Keywords:** service quality, village, saving, loan, association, capital formation

## 1. Introduction

### 1.1 Research Highlights

- 1) The findings indicate a positive correlation between the Village Saving and Loan Associations' services and capital formation.
- 2) The null hypothesis is rejected, then the alternative hypothesis stating that there is a highly significant relationship between VSLAs services and capital formation is accepted.
- 3) The service quality appreciation level is at a very satisfactory level, as confirmed by 93.0% of VSLAs members.
- 4) The findings from this study revealed that 90.1% used the funds in a way that the net gain in the future is guaranteed

### 1.2 Graphical Abstract



## 2. Introduction

The existing documentation discusses the ability of the poor to save (Karlan *et al.*, 2016). Active money managers include poor people as they “save up” by keeping a portion of their income for future use or “save down” by borrowing and repaying later from future savings. Many studies allude to the fact that most poor people shy away from formal commercial banks and opt for informal sources of credit, even though the interest rates charged by these sources are often usurious. As indicated by Schmidt, H. A. (2014), the

commercial banks serve those who are credit-worthy and thus profitable to them. On the other hand, the savings preference of poor savers has not been widely researched as compared to the demand for credit.

In some countries like Ghana, the informal financial sector plays an important role in deepening financial inclusion among the rural poor. Ghana has a financial sector that is predominantly dominated by the formal and informal sectors. However, there is no comparability in the required skills to design, develop and roll out products and services that meet the needs of the poor. The integration of the loaning and savings functions is an example in micro-lending. In terms of saving and borrowing, informal financial sources like the Village Savings and Loans Association (VSLA) and the Credit with Education (CwE) microfinance models are the most preferred choices for poor people (Karlan *et al.*, 2016).

The poor's need for microfinance products and services, particularly enterprise loans, was given attention by the development economics literature, due to the fact that most rural dwellers are poor and need outside capital to finance production and investment activities. Rural households are taken as consumers of financial products and services, as well as a potential source of loan funds in the form of savings. Most microfinance institutions working with the rural poor have considered savings mobilization as part of their portfolio due to the fact that poor people have the capacity and willingness to save (Addae-Korankye, 2018).

Poor households are challenged by external shocks, emergencies, and life-cycle events to which they are so victims, so savings is integral to poor households' risk mitigation strategies; they constitute the first line of defense to help; and they play a crucial role in facilitating the poor to take advantage of investing in income generating opportunities (Zinman, 2014).

A good number of studies indicate the poor's preference for informal sources of finance despite the growth in the number of formal financial institutions providing loanable funds to borrowers (Khalily *et al.*, 2017). On the other hand, studies regarding where poor people choose to save are hard to find. It is a popular perception that many poor people prefer to keep their savings at home due to the small amounts available to save. Two models are observed in practice. In the first, participants make regular contributions to a collector who returns the savings after a given period of time and receives a commission for their services. In the second model, participants deposit equal instalments and the total sum collected at the end of a specified period is given to one member, on a rotational basis. The SUSU model is attractive to poor people, even though it has its challenges, including collectors absconding with monies collected, or some group members do not contribute to others after they have benefited from the group contribution (Rasmussen & Varming, 2016).

The attributes of financial accessibility in rural Rwanda are generally the same around the country and reflect low accessibility to financial services, especially formal finance. Formal financial institutions, especially commercial banks, are typically located in urban areas. There is also the presence of rural banks that provide commercial banking

services to rural dwellers. Financial non-governmental organizations also provide financial services to rural dwellers, albeit on a scale much smaller than that of the formal financial sector in terms of size of credit or savings (Alesane *et al.*, 2019).

Even though Rwanda is progressing in terms of extreme poverty eradication, there are still considerable differences across provinces and between rural and urban areas (World Bank Group, 2019). The research done by NISR (2012) revealed that the poverty rate decreased from 58.9% to 44.9% between 2000 and 2011, respectively; the decrease has also been observed in extreme poverty, which shifted from 40% to 24% during the same period. Whatever has been done in poverty reduction, the Western Province remained the poorest province, with 31% of the population living in extreme poverty. Nyamasheke district, with 15 sectors, is among the districts in Western province with a remarkable percentage (78%) of extremely poor and poor population categories. This deplorable situation is coupled with access to financial resources that has been a problem for the poor and poorest due to the conditions and procedures set by formal financial institutions for borrowers in need of financial services. The conditions as collaterals, high interest rates and complicated repayment procedures are the most challenging, hindering many poor people from having access to financial resources from these financial institutions (NISR, 2012). As a result, most of the rural active population in the agriculture sector (crop producers and livestock keepers), arts and craft makers have limited possibilities to access loans and other financial services (NISR, 2012).

To mitigate this challenge, the government of Rwanda opted for a microfinance strategy with a goal to enhance the economic and social development of the poor population (World Bank Group, 2019). In addition, non-governmental organizations and religious institutions in Rwanda tackled these challenges by initiating and supporting village savings and loan associations (VSLA) in order to improve the socioeconomic status of the members. As an outcome, about 72% of adults (around 4.2 million individuals) adopted informal mechanisms in accessing financial services (Mujeri, 2015). The intention of VSLA is to positively improve the living standard of these less privileged people and raise up their quality of life.

In the context of Rwanda, Saving and Credit Associations are the informal credit and savings groups among the Rwandan population; these are groups made by 7 to 30 members operating under Savings and Loan Associations. A group of 16 members on average meets, save weekly and sets an internal regulation, which governs operations. VSLAs are informal savings and credit institutions that are pervasive in developing countries and among immigrant communities in some developed countries (Kabega, 2017).

The Finance Growth Theory, which was developed by Serrao *et al.* (2012), served as a reference to study the accessibility and impact of financial inclusion. This refers to “being served by the financial sector” as an individual. When an individual does not use financial products or services, this is taken as being “financially excluded” (Mhella & Mhella, 2021). The theory indicates that a lack of access to finance is a critical factor responsible for persistent income inequality and slower growth.

Therefore, access to a safe, easy and affordable source of finance is known as a prerequisite for accelerating growth and reducing income disparities and poverty. As it was applied to this study, the theory holds that independent variables were access to financial services, quality of financial services and usage of financial services to influence or explain the dependent variable expansion of marginalized financial inclusion. Because of affordable interest rates, proximity of access point, wider choice and frequent use of financial services were attractive to members of VSLA for their welfare (Serrao *et al.*, 2012).

Surmont (2017) in his study of CARE's Village Savings and Loan Association (VSLA) in five Traditional Authorities in Kabarore District, with a focus on economic and livelihood improvements as well as socio-economic and gender-related well-being, the results confirmed that VSLAs serve as a model for most other financial institutions. Furthermore, different characteristics that include age, gender, religion, marital status, employment and education, may affect positively or negatively the welfare of the SCA members before or after joining savings programs.

Loans are used invariably, ranging from investment in business, start up its expansion, purchase of properties, payment for services like education, health and so on. SCA members also do the same to varying degrees (Beck, 2012). In her assessment, the AVSLA is an adequate and reliable tool to balance cash flows and accumulate at least small lump sums for the purchase of assets. A good number of caregivers invest part of the funds that are earned by them through the ASCA in their children's well-being. Her assessment revealed a positive impact on nutrition, an overall improvement in school enrolment rates, and VSLA helps to meet a wide range of needs in the household.

Therefore, Beck goes on to clarify how VSLA help industrious and innovative entrepreneurs to expand their business activities through credits and possibly move to the next "step of the ladder" by opening access to formal MFI and banks. In addition, VSLA provide a secure way of saving for more traditional and risk-averse farmers who merely seek to accumulate a large lump sum to cover their socioeconomic needs towards resilience (Beck, 2012).

Inter-American Development Bank (2014) in its research, the results indicated that the amount of money issued by SCA to its members is usually related prior savings contributions; and the group does not exactly function like an insurance policy, but as a way of savings account to refer on to handle emergencies or other specific needs. Also, Nuñez (2011) in this study on the uses of loans has provided a positive assessment of the uses of these loans. It has been revealed that most of the borrowers took the loan as a contributing factor to the well-being of all the household members. They also discovered the positive effects of loans as these have enabled them to satisfy family obligations, perform celebrations and cover basic needs such as food and transport.

Aghion & Durlauf (2005) stated that fund mobilization is an expensive process of pooling capital from scattered savers for investment. Mobilizing savings involves (a) overcoming the transaction costs associated with collecting savings from different individuals and (b) overcoming the informational asymmetries associated with making

savers feel comfortable in relinquishing control of their savings. According to Brannen (2010), being part of the savings program has a general positive impact on household and individual welfare as indicated by asset expenditure levels, the development of income-generating activities (IGAs), education expenses, access to health services, nutritional levels and quality of housing.

Benda (2013) conducted research on Pro-poor Community Rotating Savings and Credit Associations as an agent of well-being from Northern Rwanda. The results indicated that membership generally involves relatively small payments while contributing to positive subjective perception and fostering further human well-being. In addition to that, ROVSLA furthermore warrant appraisal beyond the immediate financial opportunities they generate, because of their production and reproduction of values such as democracy, reciprocity and solidarity.

KOFI, (2020) carried out research on the causes and impact of non-performing loans in Ghana, and the results indicated that the issue is about poor management. The empirical study of Njangiru *et al.* (2014) focused on the analysis of loan repayment and sustainability issues of government micro-credit initiatives in Kenya. The findings clarified that problems of high risk and high cost of borrowing, uncertainty of repayment capacity among the rural borrowers have been reported as an outcome of irregular income streams.

Rutherford (2009) in his research findings showed that the need for financial services is also observed among poor people, but they have smaller, irregular, and often unreliable incomes. The great loans unpackaged, which may be spent as soon as it is received on food, that is, "*from hand to mouth.*" As a result, whenever they want to buy something else or pay back their loans, they realize that they have no balance. From the aforementioned research, that of Benda (2013) is closest to the present study. She studied the potential of ROVSLA as an agent of pro-poor community development and wellbeing in the northern province of Rwanda. However, Benda concentrated her focus on ROVSLA, which constitutes one model of VSLA that was covered in that study.

As the theory of capital formation has been the object of study several times, it is easy to fix the general outlines of the problem. The conception of the subject which helped shape our program was that the process of capital formation involves three distinct, if interdependent, activities. One is saving, the activity by which claims to resources, which might be exercised in favor of current consumption, are set aside and so become available for other purposes. A second is finance, the activity by which claims to resources are either assembled from among those released by domestic saving, or obtained from abroad, or specially created, usually as bank deposits or notes, and then placed in the hands of investors. The third is investment itself, the activity by which resources are actually committed to the production of capital goods. The volume of capital formation depends on the intensity and efficiency with which these activities are carried on (Moses Abramovitz, 1955).

The purpose of this current research is to assess the contribution of village savings and loans associations to capital formation within VSLAs' members in Rwanda.

The current research was guided by specific objectives, and those are as follow:

- 1) To study the quality of services given to members along with their VSLAs membership,
- 2) To ascertain the appreciation level of the village savings and loan associations' services by members,
- 3) To assess the extent to which the village saving and loan associations contributed to capital formation among members,
- 4) To determine the relationship between village savings and loan associations and capital formation within members,

## **2.1 Hypotheses**

From the study, two hypotheses have been developed. Therefore, they have to be tested with the study findings.

## **2.2 Alternative Hypothesis (H1)**

The relationship between VSLAs services and capital formation is significant. This hypothesis stands as a justification for increasing savings and loans as a means of making investments in income-generating activities.

## **2.3 Null Hypothesis (Ho)**

The relationship between VSLAs services and capital formation is not significant. The negation of the alternative hypothesis is known as the null hypothesis, and this indicates that there is no capital formed as a result of VSLAs services.

## **3. Methods**

The results from the 5<sup>th</sup> Rwanda Population and Housing Census (PHC5) indicated that Rwandans were 13,246,394 in 2022, Western Province had 2,896,484 (21.9%), and 434,221 are residents of Nyamasheke district, which represents 15.0% of the total population of Western province (2,896,484 residents). The population of Nyamasheke district is female-dominated, as 229,363 are women, equivalent to 52.8 % of the district's total population (National Institute of Statistics of Rwanda, 2023). Kanjongo (40,341 population) and Kagano (39,994 population) occupy the first two positions and are the most populated sectors. The two sectors represent 9.3% and 9.2% of the total district population, respectively. The female population from the two sectors are 21,100 and 20,947, representing 52.3% and 52.4% respectively.

According to World Vision (2023), 367,628 people joined Saving for Transformation Groups, forming 5,013 groups. This study targeted 5429 members from 215 VSLAs in Kagano sector. Those members were active for the two previous years. The researcher presumed that those members are representatives who will provide the required information.

The sample size for this study is computed using Slovin's formula which is stipulated as follows:

$$n = \frac{N}{1 + Ne^2}$$

Where:

n = the sample size,

N = the total population,

e = the margin of error is 5%.

Given:

N = 5429 Members of VSLAs,

e = the confidence level is 95%.

$$n = \frac{5429}{1 + 5429(0.05)^2} = 373$$

In regard to the sampling techniques, the researcher used cluster sampling where all targeted members from each cell were selected using the probability proportional to sample size (PPSS), and the representative sample was obtained.

The following formula was used:

$$n_i = \frac{N_i * n}{N_T}$$

Whereby:

$n_i$  = Sample from each stratum (ranging from 1 up to 5),

$N_i$  = Population of concerned stratum (ranging from 1 up to 5),

n = Total sample calculated,

$N_T$  = Total population targeted by the study.

**Table 1:** Population and Sample Distribution

Cells	Number of VSLAs	Members			Sample		
		Female	Male	Total	Female	Male	Total
Gako	23	436	113	549	30	8	38
Mubumbano	36	756	178	934	52	12	64
Ninzi	26	589	93	682	40	7	47
Rwesero	33	696	94	790	48	6	54
Shara	97	2095	379	2474	144	26	170
<b>Total</b>	<b>215</b>	<b>4572</b>	<b>857</b>	<b>5429</b>	<b>314</b>	<b>59</b>	<b>373</b>

**Source:** Computed based on data from [26].



All members within a stratum had an equal chance to be part of the sample. The questionnaire was used as an instrument for data collection in correlational studies. It has been set by using closed-ended questions and a Likert scale questionnaire, it has been used to collect the data from VSLAs members from the selected sector.

The method used to administer the questionnaire was by person, through face-to-face interviews, where all participants were reached from their respective villages. Within a small introductory meeting, questionnaires were distributed and collected immediately after completion.

To ensure the validity and reliability of questionnaires, the data quality control focused on the accuracy and truthfulness of the information collected. The validity of the research instrument used to collect the data has construct validity in three ways which are homogeneity where each question from questionnaire measures one construct; convergence this was applied by measuring concepts similar to that of other instruments; theory evidence which is evident as behavior is similar to theoretical propositions of the construct measured in the instrument. The reliability of the questionnaire was justified by piloting it. After its conception, it has been distributed to eight members of VSLA to test its reliability. The comments about the comprehension and relevance of the answer provided from this piloting exercise were used to produce the final version, which fits the purpose. The homogeneity, stability and equivalence were tested to ensure the reliability.

The ethical issues were taken with care, participation was voluntary, the confidentiality of the information provided was assured, and the study participants were kept anonymous. The researcher gave assurance that the data collected will be used for this research purpose only.

After data collection, the data analysis was done by using the Statistical Package for Social Sciences (IBM SPSS version 20). This software was used to compute the descriptive and inferential statistics.

## **4. Results**

### **4.1 The VSLAs Members' Profile**

As required by the researcher, some members' profile aspects have been assessed, and those include sex and experience with VSLAs.

#### **4.1 The VSLAs Members' Distribution by Sex**

The VSLAs members are both sexes, but predominantly women are in high proportion compared to men.

**Table 2: VSLAs Members' Distribution by Sex**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	59	15.8	15.8	15.8
	Female	314	84.2	84.2	100.0
	<b>Total</b>	<b>373</b>	<b>100.0</b>	<b>100.0</b>	

As presented in Table 2, females are predominant in VSLAs membership at 84.2% compared to 15.8% of their male counterparts. This indicates the willingness of females to graduate from the poor category through investment done as a result of capital formed via VSLA services.

The members' experience of working with VSLAs was under investigation to validate the relevance of membership and capital formation. Table 2 illustrates the members' experience in working with VSLAs.

**Table 3: Members' Experience with VSLAs**

Range of Years	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2-4	194	52.0	52.0
	5-7	114	30.6	82.6
	8-10	65	17.4	100.0
	<b>Total</b>	<b>373</b>	<b>100.0</b>	

As indicated in Table 3, most of VSLAs membership experience was around two to four years as represented by 52%. This justifies the intensification of effort done by the government and its partners in promoting the saving culture and homegrown solutions. Fewer of the members were into the initiatives of VSLAs membership in 8 to 10 years, as confirmed by 17.4% of study participants.

It has been noticed that all members who have been part of this research had at least two years' experience of working with the nearest savings group, as 100% confirmed the statement made in this regard.

## 4.2 Frequencies in Service Usage

As one of the research aspects, the services provided and the access frequencies are to be assessed to check on the usage and further assessment regarding appreciation and ease of access by VSLAs members.

**Table 4: Services Usage by VSLAs Members**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Saver	159	42.6	42.6	42.6
	Saving and borrowing	214	57.4	57.4	100.0
	<b>Total</b>	<b>373</b>	<b>100.0</b>	<b>100.0</b>	

As revealed by the participants in this study, two categories of service users have been identified: the savers and saver-borrowers. The savers are those who joined the VSLA

with the intention of using it as a way of saving for future investment, and they stand at 42.6%. The second category is made of those who joined the VSLA along with the savings, started borrowing some money for investment, and these are 57.4%. With this, a prominent and mandatory factor to be a member of the VSLA is first saving.

#### 4.3 Quality of Services Given to VSLAs Members

In the process of assessing the quality of services given to members, some aspects have been used as an evaluation basis. Measuring service quality with SERVQUAL five dimensions model has been exploited and those are tangibility, reliability, responsiveness, assurance and empathy. To assess the quality of services, 7-point Likert Scale was used. The considered point in this study is strongly agree, agree, somewhat agree, neutral, somewhat disagree, disagree, and strongly disagree.

#### 4.4 Service Quality Under the Tangibility Dimension

**Table 5:** Service Quality Under the Tangibility Dimension

	Appreciation	Frequency	Percent	Valid Percent	Cumulative Percent
<b>Tools</b>	Valid	Somehow Disagree	4	1.1	1.1
		Somehow Agree	148	39.7	40.8
		Agree	133	35.7	76.4
		Strongly Agree	88	23.6	100.0
<b>Place</b>	Valid	Somehow Agree	182	48.8	48.8
		Agree	54	14.5	63.3
		Strongly Agree	137	36.7	100.0
<b>Manager</b>	Valid	Neutral	10	2.7	2.7
		Somehow Agree	90	24.1	26.8
		Agree	81	21.7	48.5
		Strongly Agree	192	51.5	100.0
<b>Readiness</b>	Valid	Disagree	90	24.1	24.1
		Neutral	2	.5	24.7
		Somehow Agree	168	45.0	69.7
		Agree	73	19.6	89.3
		Strongly Agree	40	10.7	100.0

The tangibility dimension was assessed by considering some aspects like tools and equipment used, accessibility of the place used as a venue for meetings, management committee, readiness and appearance of the venue used for meetings.

In regards to services quality evaluation using the tangibility dimension, the aspect of tools and equipment used 98.9% of participants are on agreeing side that the equipment and tools are well kept, and no records can be lost.

The accessibility of the place as the venue of the meeting, all participants (100%) agreed that the meetings took place in accessible areas, considering their home locations. The strongly agree category occupied 36.7%.

The manager's skills and ability to handle the VSLAs issues have been assessed, and the findings, as confirmed by 97.3% of study participants, are on the agreed-upon side, while 2.7% decided to be on the neutral side.

The readiness of the venue to accommodate the VSLA meetings was appreciated by 75.3% of participants, and 24.1% of participants opposed the idea with a disagreeing position, and 0.5% decided to stand on the neutral side.

Generally, the quality of service considering the tangibility dimension is good, as the minimum appreciation is at 75.3% and 100% appreciation in regards to accessibility of the meeting venue.

#### 4.5 Service Quality Under the Reliability Dimension

The service quality assessment based on the reliability dimension, some aspects were considered, and those are keeping promises, VSLA is sympathetic to problems-solving, trust in the manager, VSLAs promptness in service delivery and accurate record-keeping.

**Table 6:** Service Quality Under the Reliability Dimension

	Appreciation	Frequency	Percent	Valid Percent	Cumulative Percent
<b>Keep Promises</b>	Valid	Neutral	4	1.1	1.1
		Somehow Agree	36	9.7	10.7
		Agree	253	67.8	78.6
		Strongly Agree	80	21.4	100.0
<b>Sympathetic</b>	Valid	Disagree	4	1.1	1.1
		Neutral	6	1.6	2.7
		Somehow Agree	264	70.8	73.5
		Agree	67	18.0	91.4
		Strongly Agree	32	8.6	100.0
<b>Trust</b>	Valid	Somehow Agree	10	2.7	2.7
		Agree	333	89.3	92.0
		Strongly Agree	30	8.0	100.0
<b>Time Respect</b>	Valid	Disagree	10	2.7	2.7
		Somehow Agree	4	1.1	3.8
		Agree	18	4.8	8.6
		Strongly Agree	341	91.4	100.0
<b>Records Keeping</b>	Valid	Neutral	4	1.1	1.1
		Somehow Agree	42	11.3	12.3
		Agree	98	26.3	38.6
		Strongly Agree	229	61.4	100.0

To assess the quality of services based on the reliability dimension, the first point was to check on promise keeping, and 98.9% agree that the promises made with their VSLAs have been honored as set.

The study also assessed whether the VSLA is sympathetic to problems and interested in solving them. The participants expressed their position, with 97.3% on the agreeing side. The remaining 2.7% are on other sides, which include neutral and disagreeing sides.

The trust in the management team was assessed on the side of members, and all the participants revealed that they have trust in their management, as confirmed by 100% on the agreeing side.

The service delivery requires time respect, in this regard, the researcher assessed whether the VSLAs provide services to their members at the time they promised to do

so. The participants represented by 97.3% confirmed that the requested services were given on time, while 2.7% were in disagreement with the statement.

The management of VSLAs requires accurate and regular records to ensure the reliability of the services. In this aspect, the participants representing 98.9% agreed that the records are kept accurately and on a regular basis. The remaining 1.1% stands for the neutral side.

To sum up about the reliability dimension as a basis for evaluating the service quality, 97.3% is the minimum among the assessed aspects, while one of the aspects is at the maximum of 100%.

#### 4.6 Service Quality Under the Responsiveness Dimension

The service quality may be measured using the responsiveness dimension. The responsiveness has been measured using the setting of timeline, the promptness of managers in service delivery, managers' willingness to help the members, and making members' requests a priority.

**Table 7: Service Quality Under the Responsiveness Dimension**

	Appreciation		Frequencies	Percent	Valid Percent	Cumulative Percent
Timeline	Valid	Somehow Agree	8	2.1	2.1	2.1
		Agree	181	48.5	48.5	50.7
		Strongly Agree	184	49.3	49.3	100.0
Manager Promptness	Valid	Disagree	28	7.5	7.5	7.5
		Neutral	50	13.4	13.4	20.9
		Somehow Agree	239	64.1	64.1	85.0
		Agree	11	2.9	2.9	87.9
		Strongly Agree	45	12.1	12.1	100.0
Manager Willingness	Valid	Disagree	6	1.6	1.6	1.6
		Neutral	58	15.5	15.5	17.2
		Somehow Agree	237	63.5	63.5	80.7
		Agree	8	2.1	2.1	82.8
		Strongly Agree	64	17.2	17.2	100.0
Members First	Valid	Neutral	12	3.2	3.2	3.2
		Somehow Agree	4	1.1	1.1	4.3
		Agree	50	13.4	13.4	17.7
		Strongly Agree	307	82.3	82.3	100.0

The service quality measured by the responsiveness dimension is another aspect used by the researcher. Under this dimension, the first aspect was about the timeline setting and respect. The participants in this study are on the same side 100%, as all of them accept that the timeline is set and respected by the managers.

The managers' promptness regarding members' requests, some members are on the disagreeing side and neutral side, as both count 20.9%. On the other side, 79.1% are on the agreeing side, confirming that the managers promptly react to members' requests.

On the side of managers' willingness to help members, some of those members are still neutral and disagreeing, as both sides count 17.2%, those members judged the

managers as those with an unwillingness to support them. The agreeing side remains with 82.8% as revealed by the participants.

The researcher wanted to know if the VSLAs applied the members' first approach. In this matter, some members represented by 3.2% are on the neutral side. The opposing side is the agreeing one, with 96.8% of participants, including 82.3% who strongly agree. To summarize this responsiveness dimension, many aspects under this dimension are weighted over 79.1% as minimum and 100% as maximum to one aspect, which is timeline setting and respect.

#### 4.7 Service Quality Under the Assurance Dimension

In the process of evaluating the quality of service, the current focus is on the assurance dimension. Under this dimension, the measurements were about the trust in managers, Confidentiality of managers, to be respected as members, support their managers and provide individual attention.

**Table 8: Service Quality Under the Assurance Dimension**

	Appreciation	Frequency	Percent	Valid Percent	Cumulative Percent
<b>Trust Managers</b>	Valid	Disagree	4	1.1	1.1
		Neutral	14	3.8	4.8
		Somehow Agree	26	7.0	11.8
		Agree	48	12.9	24.7
		Strongly Agree	281	75.3	100.0
<b>Confidentiality</b>	Valid	Neutral	24	6.4	6.4
		Somehow Agree	22	5.9	12.3
		Agree	82	22.0	34.3
		Strongly Agree	245	65.7	100.0
<b>To Be Respected</b>	Valid	Neutral	2	.5	.5
		Somehow Agree	6	1.6	2.1
		Agree	110	29.5	31.6
		Strongly Agree	255	68.4	100.0
<b>Support Managers</b>	Valid	Neutral	2	.5	.5
		Somehow Agree	8	2.1	2.7
		Agree	62	16.6	19.3
		Strongly Agree	301	80.7	100.0
<b>Individual Attention</b>	Valid	Disagree	8	2.1	2.1
		Neutral	6	1.6	3.8
		Somehow Agree	4	1.1	4.8
		Agree	151	40.5	45.3
		Strongly Agree	204	54.7	100.0

The service quality under the assurance dimension has been assessed. The first aspect was about the trust in managers. Among the study participants, 4.9% are on both neutral and disagreeing sides. 95.1% of participants are on the agreeing side, and this confirms the trust that members had in their managers.

The confidentiality regarding the services given to members matters a lot. Unfortunately, some members, 6.4%, didn't reveal their position and decided to be neutral, while on the agreeing side, the participants are at 93.6%.

To be respected as members is one of the points indicating the quality of service under the assurance dimension. About this dimension, some participants (0.5%) revealed that they are neutral, contrary to 99.5% who stand on the agreeing side. This indicates that the members are respected and ensure the quality of services.

To get the expected results, the VSLAs may work as a concert and mutually support. In this line, the managers need to be supported too. The participants were asked whether they support their managers for the success of their VSLAs. The findings revealed that 0.5% are on the neutral side and a big number of 99.5% on agreeing side. This is a good indicator that there is mutual support between members and the VSLAs managers.

In the management of members, individual attention is needed. This increases the assurance dimension as the basis for the service quality. In this regard, some of the study participants, as represented by 2.1%, are on the disagreeing side and 1.6% are on the neutral side, which makes up 3.8%. The remaining ones are 96.2% of the participants who agree that individual attention is given to them once needed, and that is good for service quality.

#### 4.8 Service Quality Under the Empathy Dimension

The empathy dimension that validates the service quality was assessed and measured the personal attention given by the managers, the managers' understanding of members' specific needs, the managers' use of a first approach and having a convenient time and place.

**Table 9: Service Quality Under the Empathy Dimension**

	Appreciation	Frequency	Percent	Valid Percent	Cumulative Percent
<b>Personal Attention</b>	Valid	Disagree	6	1.6	1.6
		Neutral	8	2.1	3.8
		Somehow Agree	8	2.1	5.9
		Agree	148	39.7	45.6
		Strongly Agree	203	54.4	100.0
<b>Understand The Specific Needs</b>	Valid	Disagree	4	1.1	1.1
		Neutral	2	.5	1.6
		Somehow Agree	4	1.1	2.7
		Agree	156	41.8	44.5
		Strongly Agree	207	55.5	100.0
<b>Members First Approach</b>	Valid	Disagree	2	.5	.5
		Neutral	6	1.6	2.1
		Somehow Agree	2	.5	2.7
		Agree	20	5.4	8.0
		Strongly Agree	343	92.0	100.0
<b>Convenient Time and Place</b>	Valid	Somehow Agree	4	1.1	1.1
		Agree	22	5.9	7.0
		Strongly Agree	347	93.0	100.0

Under the empathy dimension to validate the service quality, the first concern is about the personal attention given by the manager. In this regard, the study participants

represented by 1.6% are on the disagreeing side, and 2.1% are on the neutral side. The participants, represented by 96.3%, are a compilation of agreeing sides.

Along with the VSLAs management, the managers must understand the specific needs of each member. In this regard, the study participants represented by 1.1% are on the disagreeing side and 0.5% on the neutral side. The agreeing side is made up of 98.4%, which stands as a positive indicator to prove the understanding of specific needs. The agreeing side includes itself with 55.5% of strongly agree.

The priority accorded to members is the basis for judging if the VSLAs use a first approach. In this regard, the participants represented by 1.6% stand on the neutral side and 0.5% on the disagreeing side. The agreeing side is represented by 97.9% who confirm the usage of the first approach.

Each VSLA sets a convenient time and place to ease the operations. In this matter, the findings revealed that 100% of participants confirmed that the time and place were set and respected.

The general view about the service quality under the empathy dimension is that the minimum is represented by 96.3% for the personal attention, as agreed upon by participants and the maximum of 100% for convenient time and place, as confirmed by the study participants.

## **5. Services Appreciation Level**

The research objectives included the service appreciation level by the VSLAs members. In this regard, the members were requested to express the satisfaction level of services in general and specifically the management of their shares, the professional competence of managers, the quickness of the services and managers' behavior. The ranking was based on very dissatisfied, dissatisfied, somewhat satisfied, satisfied and very satisfied. The summary is presented in Table 10.

Based on shared information by VSLAs members, the service appreciation level is at a very satisfactory level of 93.0%. The management of members' shares is very appreciated as 80.2% are very satisfied with it, and the professional competence of the managers is very satisfactory at 71.0%. The quickness of the services offered to members makes them to be very satisfied at 85.5%, while the managers' behavior is very satisfactory, as confirmed by 90.3% of VSLAs members.



**Table 10: Appreciation of VSLAs Services**

	Appreciation		Frequency	Percent	Valid Percent	Cumulative Percent
VSLAs Services	Valid	Dissatisfied	2	.5	.5	.5
		Somehow Satisfied	8	2.1	2.1	2.7
		Satisfied	16	4.3	4.3	7.0
		Very Satisfied	347	93.0	93.0	100.0
VSLAs Management	Valid	Dissatisfied	4	1.1	1.1	1.1
		Somehow Satisfied	4	1.1	1.1	2.1
		Satisfied	66	17.7	17.7	19.8
		Very Satisfied	299	80.2	80.2	100.0
Professional Competence	Valid	Somehow Satisfied	6	1.6	1.6	1.6
		Satisfied	102	27.3	27.3	29.0
		Very Satisfied	265	71.0	71.0	100.0
Quick Services	Valid	Dissatisfied	10	2.7	2.7	2.7
		Somehow Satisfied	4	1.1	1.1	3.8
		Satisfied	40	10.7	10.7	14.5
		Very Satisfied	319	85.5	85.5	100.0
Managers Behavior	Valid	Dissatisfied	2	.5	.5	.5
		Somehow Satisfied	12	3.2	3.2	3.8
		Satisfied	22	5.9	5.9	9.7
		Very Satisfied	337	90.3	90.3	100.0

### 5.1 VSLAs Services and Capital Formation

The usefulness of funds gained from VSLAs is different based on members' priorities. The assessment in this matter is concerned with the capital formed as a way of income-generating activities or any other use, as revealed by the study participants.

**Table 11: Usefulness of Capital**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Initiating Farming Business	271	72.7	72.7	72.7
	Starting Goods Trading Business	23	6.2	6.2	78.8
	Starting Services Trading Business	3	.8	.8	79.6
	Buy An Asset	39	10.5	10.5	90.1
	Invested In Social Life	31	8.3	8.3	98.4
	Lost	2	.5	.5	98.9
	Not Yet Used	4	1.1	1.1	100.0
	<b>Total</b>	<b>373</b>	<b>100.0</b>	<b>100.0</b>	

At the time of this study, most of VSLAs members used the funds for different purposes. The most predominant business is farming, where 72.7% were engaged in that business. The confusion in the use of funds is that 1.1% still keep funds for themselves, and 0.5% lose the funds. According to the findings, as given by participants, 90.1% used the funds in a way that the net gain in the future is guaranteed.

## 5.2 Capital Formation

This study targeted the VSLAs members who have been members for at least two years. The two-year period and more were considered as the basis for forming the capital. table ten illustrates the amount of capital formed by members in their journey with VSLAs.

**Table 12: Capital Formed**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	25,000-50000	2	.5	.5	.5
	50001-75000	17	4.6	4.6	5.1
	75001-100000	72	19.3	19.3	24.4
	100001-125000	8	2.1	2.1	26.5
	125001-150000	1	.3	.3	26.8
	150001-175000	147	39.4	39.4	66.2
	175001-200000	123	33.0	33.0	99.2
	>200000	3	.8	.8	100.0
	<b>Total</b>	<b>373</b>	<b>100.0</b>	<b>100.0</b>	

As revealed by participants in this study, the capital formed ranged from 25000 up to more than 200000. The majority of members who formed a big capital are those in 150001-175000, represented by 39.4%. The second one is of 175001-200000 with 33.0%, the two form 72.4%, which indicates the positive change brought by VSLAs.

## 5.3 Correlation Between VSLAs Services and Capital Formation

To assess the relationship between the VSLAs services and capital formed, the correlation was computed. The Spearman's rho correlation was used in this matter.

**Table 13: Spearman's Rho Correlation**

			VSLAs services	Capital Formed
Spearman's rho	VSLAs Services	Correlation Coefficient	1.000	.353**
		Sig. (2-tailed)	.	.000
		N	373	373
	Capital Formed	Correlation Coefficient	.353**	1.000
		Sig. (2-tailed)	.000	.
		N	373	373

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

According to the information provided in Table 11, the correlation coefficient is 0.353, which indicates a positive correlation between the two variables, which are VSLAs services and Capital formation. The significant value of 0.000 is less than the Spearman correlation coefficient (0.353), which shows that the correlation between the two variables is statistically significant.

## 6. Hypothesis Testing

In this study, two hypotheses were set. The null hypothesis and alternative hypothesis, the testing is based on computing sample statistics and the T-test as presented in Tables 12 and 13.

**Table 14:** One-sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
VSLAs Services	373	4.90	.409	.021
Capital Formed	373	5.51	1.679	.087

The results presented in table 12, indicated that the standard deviation for the VSLAs services (0.409) means that there is no big difference between population mean and sample mean contrary to standard deviation of the capital formed (1.679) there is no difference between population mean and sample mean as this indicates the normal distribution.

**Table 15:** One-sample T-test

	Test Value = 2					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
VSLAs Services	136.961	372	.000	2.898	2.86	2.94
Capital Formed	40.389	372	.000	3.512	3.34	3.68

The information in Table 13 indicates that the t-value of VSLAs services is  $t(373) = 136.961$   $p = 0.000 < 0.05$  and the t value of capital formation is  $t(373) = 40.389$   $p = 0.000 < 0.05$ . Thus, implies that the null hypothesis is rejected, and the alternative hypothesis is accepted. The accepted hypothesis states that there is a highly significant relationship between VSLAs services and capital formation.

## 7. Discussion

The study conducted by Brannen (2010) revealed that the average number of Income Generating Activities (IGAs) per household is between 1 and 2, the size of the coefficient may be considered practically significant as it suggests that membership in the VSLA increases the number of IGAs of households of male members by 0.368. The findings are not contradictory with the ones from this study, whereby 90.1% used the funds in a way that the net gain in the future is guaranteed.

To assess the service quality under the tangibility dimension, the accessibility of the place as the venue of the meeting, all participants (100%) agreed that the meetings took place in accessible areas, considering their home locations. The strongly agree category occupied 36.7%.

According to the research done by Pakurár *et al.* (2019), the results reveal that tangibility has a positive and significant effect on customer satisfaction. The results indicated that the physical appearance of the service providers, such as employees' neat appearance, modern-looking equipment, and the materials associated with the service, and that they found it easy to use, satisfied customers of the Jordanian bank.

Shahraki (2014) finds that there is a significant relationship between the tangible factors of the bank and the customers' satisfaction. Based on the findings of the study, 98 persons (43%) of the sample population answered these hypothesis questions by options including moderate, high and very high. Thus, there is a direct and positive relationship between the tangible factors in the bank and the customers' satisfaction.

In regard to the Reliability Dimension, the participants represented by 97.3% confirmed that the requested services were given on time, while 2.7% were in disagreement with the statement.

The research done by Lam (2002) ranked reliability as the first item in the dimensions of the service quality model. The study done by Peng & Moghavvemi (2015) revealed that the results support the study's hypotheses and confirm that the dimension of reliability has a positive and significant effect on perceived value. The results demonstrate that perceived value strongly influences customer satisfaction.

The service quality under the responsiveness dimension, many aspects under this dimension are weighted between 79.1% as minimum and 100% as maximum, with agreement to the aspect that is timeline setting and respect.

Findings from the research done by Pakurár *et al.* (2019) indicated that employees were willing to help customers, bank employees were able to respond to requests and that they had the confidence to tell customers when services would be performed.

The Assurance Dimension is one to assess the service quality. 95.1% of participants are on the agreeing side, and this confirms the trust that members had in their managers.

Based on the findings in research done by Munusamy *et al.* (2010), the assurance has a positive relationship with Customer Satisfaction, but without a significant effect. Assurance means being safe. The responses state that the customers do not feel that assurance is being important as part of the service quality that should be included.

Empathy Dimension is one of the aspects to measure the service quality. The priority accorded to members is the basis of judging if the VSLAs use member first approach. In this regard, the participants representing the agreeing side are represented by 97.9% who confirm the usage of member first approach.

Empathy proved to be significantly related to customer satisfaction. With good communication and an understanding of customer needs and friendly behavior, empathy is automatically achieved (Ennew *et al.*, 2013).

Based on shared information by VSLAs members, the service quality general appreciation level is at a very satisfactory level of 93.0%.

## 7.2 Hypothesis Testing

The correlation coefficient is 0.353, which indicates a positive correlation between the two variables, which are VSLAs services and Capital formation. The significant value of 0.000 is less than the Spearman correlation coefficient (0.353), which shows that the correlation between the two variables is statistically significant.

According to the presented findings, the  $t$  value of VSLAs services is  $t(373) = 136.961$   $p = 0.000 < 0.05$  and the  $t$  value of capital formation is  $t(373) = 40.389$   $p = 0.000 < 0.05$ . This implies that the null hypothesis is rejected, and the alternative hypothesis is accepted. The accepted hypothesis states that there is a highly significant relationship between VSLAs services and capital formation.

## Acknowledgements

The authors express gratitude to VSLAs members from Nyamasheke district as well as the World Vision staff for facilitating the research activities and providing the preliminary data. The motivation and support from Kibogora Polytechnic are highly appreciated. The editors who contributed to the fineness of the manuscript in order to fit it into the scientific requirements of this journal are greatly acknowledged.

## Conflict of Interest Statement

The authors declare no conflicts of interest.

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