

## Effects of Integration of Computerized System and Digital Finance Services on Profitability and Client's Satisfaction of Umurenge Sacco Program in Rwanda: A Case Study of Sacco Kanombe (2012-2015)

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### Abstract

The study on Effect of integration of computerized system and digital finance services on profitability and client's satisfaction of Umurenge SACCO program in Rwanda was carried out within the period from 2012 to 2015. The purpose is to know whether the application of Computerized System and digital finance are related to profitability and clients' satisfaction of KANOMBE SACCO. The sample for the study includes 75 employees of KANOMBE SACCO and its customers (149). The researcher used the universal sampling technique for data collection where primary and secondary data were considered. Various research works on computerized system and digital finance were consulted from microfinance journals, textbooks. Data collected were analyzed using descriptive statistics and regression analysis in particular using SPSS. From findings, the study revealed that KANOMBE SACCO has been approached by people from various sectors mainly by farmers, traders who in total represent 71.8% of all clients, while 10.7% are government or private employed people. We also found that there is a positive relationship ( $r=0.926$ ) between profitability indicators and client's perception determinants. The deposits are correlated to net income at 92.6%. KANOMBE SACCO is accessed by low income earners in order to upgrade their standards of living; the integration of computerized system is a necessary condition for achieving Profitability of SACCO and client's satisfaction.

**Keywords:** Computerized system; Digital finance services; Profitability; Client's satisfaction

### Introduction and Background

The new millennium brought with it new possibilities in terms of information access and availability simultaneously, introducing new challenges in protecting sensitive information from intruders while making it available to others. However, modern technology brought into use of computerized system, this technology is the application of science to gathering, recording, processing and communicating of business information by means of electronic media. Most common tool for application is the computer and it involves all the transaction processing system management information system various business support system etc. [1].

Today's business environment is extremely dynamic and experience rapid changes as a result of technological improvement, increased awareness and demands SACCOS and commercial Banks to serve their customers electronically. ACCOS have traditionally been in the forefront of adapting technology to improve their products and services [2]. The Banking industry of the 21st century operates in a complex and competitive environment characterized by these changing conditions and highly unpredictable economic climate. Information and Communication Technology (ICT) is at the center of this global change curve of Digital finance services (DFSs) in Africa today [3,4]. Assert that they have over the time, been using digital finance services and telecommunication networks for delivering a wide range of value added products and services, managers in developing countries especially Rwanda cannot ignore Information Systems because they play a critical impact in current Banking system, they point out that the entire cash flow of most fortune Banks are linked to Information System. The application of computerized system, digital finance services and other communication technology concepts, techniques, policies and implementation strategies to banking services has become a subject of fundamental importance and concerns to all banks and indeed a prerequisite for local and global competitiveness Banking.

The advancement in Digital finance services has played an important role in improving clients' satisfaction and profitability standards. The integration of computerization and digital finance services now allow consumers or clients to carry out banking transactions beyond banking hours. With digital services, individuals can check their account balances and make payments without having to go to the bank hall. This is gradually creating a cashless society where clients no longer have to pay for all their purchases with hard cash hence improving customer satisfaction. For example: bank customers or clients can pay for airline tickets and subscribe to initial public offerings by transferring the money directly from their accounts, or pay for various goods and services by electronic transfers of credit to the sellers account.

As most people now own mobile phones, banks have also introduced mobile banking to provide for customers who are always on the move. Digital finance service allows individuals to check their account balances and make fund transfers using their mobile phones. This was popularized in Rwanda commercial banks and Umurenge SACCO's are trying to conceptualize the integration of computerized system and digital finance services in their daily dealings all over the country; customers can also recharge their mobile phones via SMS. Digital services have made banking transactions easier around the World and it is fast gaining acceptance in Rwanda especially in Umurenge SACCO's. For the purpose of this study the researcher has chosen KANOMBE SACCO in Kicukiro District as a case study

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in order to study the effect of integration of computerized system and digital finance services on profitability and clients' satisfaction of Umurenge SACCO in Rwanda.

According to National bank of Rwanda, there is delay in payment of checks between banks; time wasted in banks as people line in queue waiting for service, errors as a result of manual work and fraud related cases was common. As a result some clients complain of the above, it is upon this that is why the researcher would like to examine the effect of integration of computerized system and digital finance services on profitability and clients satisfaction of Umurenge SACCO in Rwanda because researcher believes that adoption of computerized system and digital finance services will ease banking transactions and sadness of customers basing on experience from other developed countries.

Consequently, public and private sector firms in both developing and developed economies view CIS (Computerized Information System) as a vehicle to ensure effective and efficient information flow in the recording, processing, and analysis of financial data. Effective and efficient information flow enhances managerial decision-making, thereby increasing the firm's profitability to achieve corporate and business strategy objectives. It is common that Umurenge SACCO's can hardly serve without a constant computerized system, the role of computerized and digital finance services remains critical and questionable hence carrying out this study to disclose the effect of integration of computerized system and digital finance services on profitability and clients satisfaction of Umurenge SACCO in Rwanda with the focal case study of KANOMBESACCO sector in Kicukiro District.

The study is focused on the following three objectives:

1. Responsiveness, access, confidentiality and reliability are the determinants of client's perception on integration of computerised system and digital finance services in KANOMBE SACCO.
2. Return on asset, Return on Equity, Net Profit margin, Reliability in Services, Responsiveness, Access and services are the profitability and client's satisfaction indicators of KANOMBE SACCO before and after adoption of e banking system.
3. The profitability and clients satisfaction indicators explain significantly the client's perception determinants on integration of computerized system and digital finance services in KANOMBE SACCO.

## Objectives

The main objective of this study is to examine the effect of integration of computerized system and digital finance services on profitability and client's satisfaction of Umurenge SACCO in Rwanda. Specifically:

- I. To assess the Clients perception determinants on integration of computerized system and digital finance services in KANOMBESACCO.
- II. To analyse the profitability indicators of KANOMBE SACCO before and after adoption of computerised system and digital finance services.
- III. To measure the relationship between the profitability indicators and client's perception determinants integration of computerized system and digital finance services in Kanombe Sacco.

## Literature Review

Computerized system as a system that uses computers to input, process, and store and output information inform of financial reports. Described a computerized accounting system as a method or scheme by which financial information on business transactions are recorded, organized, summarized, analyzed, interpreted and communicated to stakeholders through the use of computers and computer based systems such as accounting packages.

Digital finance is defined as the automated delivery of new and traditional transactional products and services directly to customers through electronic, interactive communication channels. The definition of digital finance varies amongst researches partially because digital finance refers to several types of services through which bank customers can request information and carry out most retail banking services via computer, television or mobile phone. Digital finance can also be defined as a variety of following platforms: (i) Internet (or online banking), (ii) telephone banking, (iii) TV-based banking, (iv) mobile phone banking, and e-banking (or offline banking).

Traditionally, farm profits have been computed by using "accounting profits" To understand accounting profits, think of your income tax return, these are the same items used in calculating accounting profits. However, your tax statement may not give you an accurate picture of profitability due to IRS rapid depreciation and other factors. To compute an accurate picture of profitability you may want to use a more accurate measure of depreciation. From these definitions, profitability can be defined as either accounting profits or economic profits. Accounting Profits (Net Income).

Satisfaction is an overall customer attitude towards a service provider, or an emotional reaction to the difference between what customers anticipate and what they receive, regarding the fulfillment of some need, goal or desire. Satisfaction as a judgment following a consumption experience it is the consumer's judgment that a product provided (or is providing) a pleasurable level of consumption-related fulfillment. Defined satisfaction as a person's feelings of pleasure or disappointment resulting from comparing a product's perceived performance (or outcome) in relation to his or her expectations. Satisfaction can be associated with feelings of acceptance, happiness, relief, excitement, and delight. Most research confirms that the confirmation or disconfirmation of pre-consumption expectations is the essential determinant of satisfaction. This means that customers have a certain predicted product performance in mind prior to consumption. During consumption, customers experience the product performance and compare it to their expected product performance level. Satisfaction judgments are then formed based on this comparison.

According to Berguiga and Adair [5], welfarists are identified as a school of measurement of the poverty, according to which, "an individual is regarded as poor when he (or she) is beneath a given threshold to be well off in terms of economic standards. The concept of well-being is close to that of utility, which is apprehended as the satisfaction of the desire of a person by consumption or possession of goods and services". But, well-being is difficult to observe directly on an individual scale.

Welfarists concentrate on the level of satisfaction of the customers and emphasize the fast improvement of their living conditions, even with a broad recourse to subsidies. Although they insist on rational resources management and do not abstain from having a profitable activity, they do not without the need and the advantages that subsidies bring to MFIs, even on the long run [6].

This approach, which is depends on subsidies, has generated refunding rates below 50% as well as very high operation costs leading to the failure and the disappearance of some MFIs: Such was the case for the microfinance Corposol in Colombia, Caisses Populaires in South central Cameroon, Projet de Promotion du Petit Cr dit Rural (PPPCR) in Burkina Faso and Cr dit. MFIs face the issue of sustainability, the lack of which blocks their development and their capacity to contribute to the satisfaction of the people that they support. Thus, the welfarists' approach has been subject to many criticisms as regards costs and methodological problems.

Microfinance is a tool or a driver of digital finance. In other world, microfinance is a good way of responding to the welfarist theory through digital finance services. The access to digital finance services of microfinance institutions, the usage of those services and the fitting of product to the client's needs changes the life conditions of the poor. The contribution of our topic to the welfarist theory resides on the level of identification of the factors which accelerate computerized system and digital finance services in Rwanda.

The institutionalist approach considers that the one best way to reach the large majority of the clients without access to financial services is to integrate computerized system and digital finance services in microfinance in the formal financial system [5]. It seeks to encapsulate MFIs within the logic of the "money market", while insisting on the will of the installation of perennial microfinance systems as well as on mass distribution of credit. Each MFI should aim at financial sustainability by maximizing its effectiveness and its productivity, in order to reach financial autonomy.

Institutionalists emphasize the profitability evaluation from the standpoint of the institution rather than from that of the customers: They consider financial autonomy as a criterion which fulfils their social mission as well as possible [7]. The institutionalists' approach faces also some criticisms. Concerning the targeted population, its core customers are micro-entrepreneurs very close to the poverty line, geographically, concentrated, with high-output activities and short production cycle. It requires rather high interest rates from customers in order to ensure financial autonomy within a period of five up to twelve years. However, the goal of digital finance and institutional viability remains out of reach for most MFIs.

Financial performance of Microfinance institutions is important to the institutionalism's theory. To take the decision related to sustainability of a certain microfinance institution is not easy when some financial indicators are not well calculated and not well interpreted. In this research, we analyzed KANOMBE SACCO financially through the financial indicators grouped into five categories: Evolution of some elements of balance sheet, income statement and other information, portfolio quality, profitability and sustainability, efficiency and productivity and financial management.

International Journal of Engineering Research and Development (2012) conducted the research with objective of knowing why the clients are not satisfied with services they receive from microfinance or no access to financial products and services in Tamil Nadu (Chine). After using the structured questionnaire for 1400 samples collected from the vulnerable groups and analysis with SPSS (16) software, the result shown that the first factor was "Absence of digital finance services for easy Access to Financial Services" with four variables (Quick access to your deposit/loan application, Money transaction and handling processes, Availability of ATM for money usage, understanding the technological procedures of bill payment). The

second factor was "Flexible Terms on Savings & Deposits" with three variables (Sanctioning for adequate amount, the costs of making a deposit and liquidating it and Interest rate on savings). The third factor was "Flexible terms of borrowing" with three variables (Sanctioning of adequate amount, Reasonable interest on Bank Loan, Priority on additional loan). The fourth factor was "Access to information about various services" with two variables (Easy access to Financial Services Information (FSI), Availability of range of banking services) and the fifth factor was "Responsibility" is combination of two variables (Confidentiality about account information, Ready to answer the question related to financial services, Attitude of the bank employees, Social Responsibility).

In the book "Financial Literacy: A Step for Clients towards digital finance", state that digital finance is a multidimensional, pro-client concept, encompassing better access, better products and services, and better use. They continued by seeing that without the third element use, the first two are not worth much. Technological innovations are bringing both new customers, potentially including millions of unbanked cell phone owners, and new service providers a diverse array of retail outlets, telecoms and others into the market. Diversification of products and services has already resulted in rich, and complex, choices for consumers, especially compared to the early days of one-size-fits all working capital loans. Yet, increased access and better choices do not automatically translate into effective use. The path from uptake (i.e. opening an account) to usage is still an uncharted course. Effective use is hampered by asymmetries of information and power between financial institutions and poor consumers, an imbalance which grows as customers are less experienced and the products they can choose are more sophisticated, an imbalance which holds real potential for negative outcomes due to institutional abuses or ill-informed client decisions.

According to digital finance is an important tool to address this imbalance and help consumers both accept and use the products to which they increasingly have access. Because it can facilitate effective product use, Digital finance is critical to client's satisfaction. It helps clients to both to develop the skills to compare and select the best products for their needs and empower them to exercise their rights and responsibilities in the consumer protection equation. Properly designed, financial education is tailored to the client's specific context, helping them to understand how financial instruments, formal or informal, can address their daily financial concerns, from the caprices of daily cash flow to risk management. Its power lies in its potential to be relevant to anyone and everyone, from the person who contemplates moving savings from under the mattress to a community savings group, to the saver who tries to compare account choices offered by competing banks. As such it spans the informal and formal financial sectors, supporting clients' access to, and more importantly, use of, diverse financial services.

To conclude, one can say that computerized system and digital finance services have a positive impact on the client's satisfaction. However, the government interventions through implementation of digitalization projects in Sacco's, amending policies and plans for achieving social development goals promote and enhance the satisfaction and social well-being of Sacco clients and other microfinance institutions as whole. The integration of computerized and digital finance services should be properly and more accurately measured, hence the rationale of the current study that aims at assessing impact of integration of computerized system and digital finance services on client's satisfaction and profitability of Kanombe Sacco in Kanombe Sector, Kicukiro District.

## Methodology

The research is exploratory and explanatory in nature. The methodology regarding this study is based on different method, qualitative and quantitative methods, among which various sources of information on computerized system and digital finance services and profitability and client's satisfaction of Umurenge SACCO were compared and analyzed. Both primary and secondary data were collected and then analyzed through SPSS. To assess the effect of integration of computerized system and digital finance services, the researcher used frequency calculation and tabulation for the evaluation of the profitability. A structured questionnaire was designed for 149 from 3036 total population under this study.

### Data collection and analysis

Data were collected from using primary and secondary data collection techniques. The study made a use of questionnaire, the tool SPI and administered interviews for primary data while secondary source of data came from published articles, KANOMBE SACCO reports and Government reports, books, journals, thesis and related studies, newspapers and internet sources. For primary data, the researcher used different techniques of data analysis. The statistical, comparative and correlative methods have been used for this purpose. The data collected have been checked for any errors and omissions. After the checking, the data have been coded and analyzed using SPSS and MFI Factsheet.

### Instruments and models

The verification of the first hypothesis has been based on the result provided by SPSS through frequency calculation and tabulation where determinants of client's perception were identified. The profitability indicators of KANOMBE SACCO have been based of the interpretation of different financial performance indicators provided automatically by MFI Factsheet in figures or in graphic. Those indicators are grouped into six categories: Profitability, sustainability (return on Equity and return on assets, efficiency & productivity (portfolio size, portfolio quality, Financial structure (gross loan portfolio, solvency ratio and each category of indicator have sub indicators named ratio).

The processing of treatment of data in order to measure the relationship between determinants of client's perception and profitability indicators, the tool SPSS has been used. The correlation matrix was extracted using SPSS 16.0 to show the correlation between determinants of client's perception and profitability indicators of KANOMBE SACCO. A set of models has been run using the OLS to determine the statistical inference between variables.

## Results and Findings

### The clients perception determinants on integration of computerized system and digital finance services in KANOMBE SACCO

The views on determinants of client's perceptions on integration of computerized system and digital finance shows that 27% of the respondents have showed Responsiveness as the determinant of client satisfaction where clients are measured due to their responsiveness to the services that are offered to them from SACCO, 26% of the respondents have indicated that the clients perception is determined by reliability on services, 20% of them have indicated the quality of services as the determinant to which they base when measuring clients perception and 27% of the respondents have indicated that

clients perception is determined by access of services. According to Romney and Stein, [8] effective digital finance system is essential to any organizations long run success and he further explained that the implementation of computerized system will be measured due to the responsiveness of the clients be it in speed and timeliness of service delivery. When the services are clear clients will be reliable to predict the profitability of invested resources [8].

As identified in the findings the quality of services as a way of attaining client satisfaction. Indeed, 20.8% of the respondents that is Sacco management have indicated that they use courtesy or friendliness of personnel as away acquiring good services to their clients, 32.2% of the respondents have indicated that they use relations cooperation between clients and personnel, 9.4% of the respondents have indicated that they keep security or confidentiality to their customers in order to attain their satisfaction, 25.5% of the respondents have indicated that they use competence or skilled and knowledgeable personnel to maximize the quality of the services they offer to their customers in order to attain client needs, and 12.1% of the respondents have indicated that KANOMBE SACCO have and will always have the management which is capable of implementing the discussed solutions to the detected problems. The above shows that better quality services of microfinance like Sacco Kanombe will meet and attain client's satisfaction.

As referred by, the satisfaction is defined as a judgment following a consumption experience it is the consumer's judgment that a product provided (or is providing) a pleasurable level of consumption-related fulfillment. Defined satisfaction as a person's feelings of pleasure, Sacco Kanombe gives its clients loans several times as a way of attaining client satisfaction 32.2% have got loans once; 25.5% have got loans from KANOMBE SACCO three times, 12.1% have got loans four times and above, and 20.8% never received loans from KANOMBE SACCO, while 9.4% of respondents have received loans twice. As 79.2% of respondents have got a loan at least once, this means that the clients of KANOMBE SACCO have improved their needs for socio economic development such as: assets ownership, increasing income, education and medical care and food accessibility through the received loans. This has made the clients of Sacco believe in the operations and services of KANOMBE SACCO which has led to satisfaction of clients hence profitability of KANOMBE SACCO.

Beier [9] stated that Electronic fund transfer (EFT) is a components of digital service uses computer and electronic technology as a substitute for checks and other paper transactions, the respondents view on what role will be played by computerized system in KANOMBE SACCO, Where 27% of the respondents have indicated that it helps in detection and prevention of errors, 20% of them have showed it will help them in Express an opinion about financial statement services, 13% of them have indicated that it helps in providing true and fair view on financial services, 20% of them have indicated that computerized system will help in establishment the degree of reliability of annual statement of accounts, 20% of the respondents have identified that computerized system will help KANOMBE SACCO in issuing of reports to shareholders. This indicates that the majority of the respondents have indicated that 27% of the respondents have indicated that computerized system and digital finance services will help KANOMBE SACCO in detection and prevention of errors.

Beier [9], identified that Electronic fund transfer (EFT) is a components of digital service uses computer and electronic technology as a substitute for checks and other paper transactions. EFTs is initiated through devices like cards or codes that let you, or those you

authorize, access your account, According to the information provided by respondents in their responses shows that the main issues that application of computerized system will solve in KANOMBE SACCO. 40% of them said that integration of computerized system and digital finance services will verify the financial accounts if were properly prepared, 33% of the respondents said it will provide the relevant financial information to the users, while 27% of the respondents have said it will detect and prevent frauds and errors. Indeed, the majority of the respondents equivalent to 40% indicate that integration of computerized system and digital finance services will help KANOMBE SACCO to verify the financial accounts if were properly prepared and 33% of them have indicated that it will help them provision of the relevant financial information to the users. This gives the researcher a clear mind that the application of computerized system and digital finance services will have a great contribution to the client's satisfaction hence the profitability of the organization.

A well designed as can make easier to share knowledge and expertise, perhaps there by improving operations and even providing a competitive advantage. Well-designed CAS can also help an organizational profit by improving the efficiency and effectiveness of its supply chain, based on the results in findings, 34% of respondents replied that the functions of computerized system in KANOMBE SACCO will help in good management of the management of the business, where 19% of the respondents have indicated that it will help in management of policies. Furthermore, 13% of them have indicated that it helped KANOMBE SACCO to safeguard the assets, while 27% of them have showed that integration of computerized system and digital finance services will help Kanombe Sacco to secure completeness and accuracy of records. This has given the clear mind to the researcher to conclude that integration of computerized system has an effective function in SACCO where it serves in good for the business.

### **The profitability indicators of KANOMBE SACCO before computerization and expected result after adoption of computerized system and digital finance services**

This section depicts the profitability indicators of KANOMBE SACCO before and after computerised system through the net margin ratio, interest margin ratio, operating margin ratio, net financial margin ratio and cost of funds ratio.

**The profitability indicators before computerization in KANOMBE SACCO:** According to the profitability of a firm is the ability of firms to generate earnings. As cited by profitability is the net result of various policies and managerial decisions, and the profitability rates represent the net operating result of the combined effects of liquidity, asset management and debt management. According to the information obtained through the research's findings indicates Net Margin (Net income/ as a total financial income which measure the percentage of financial income remained after payment of all expenses). Net margin In 2012 KANOMBE SACCO had high net margin ratio of 244.2% because it received the donation from government of Rwanda for financing personal expenses reason, in 2013 the donation from government had stopped that's the reason why the ratio decreased to 120.4%. From 2014 to 2015 they started to operate without government support and some of the borrower member delayed to pay their loan accordingly which influenced the decreasing SACCO's income those are the main of the decreasing of the net margin ratio from 97.6% to 84.4%. Concerning the cost ratio which is equal to zero (0%) during the period analyzed from 2012 to 2015. The SACCO KANOMBE had not borrowed from other institutions [10].

Profitability is the primary goal of all business ventures. Without Profitability the business will not survive in the long run. So measuring current and past profitability, projecting future profitability is very important. 2017 Umurenge SACCO will be starting paying its pay you earn tax, this will reduce net income during projection period, consequently the net margin ratio also decreased comparatively with period before computerization, in 2017 projection show that net margin will be 35.9% and increased up to 43,3% in 2020. This is a good position. Computerization has a good impact in SACCO development because it reduces operation margin ratio before computerization, this ratio varied between 85.4% in 2015 and 94.7 % in 2012 after computerization operating margin ratio will be varied to 52.4% in 2017 and 61.7% in 2020. Computerization is one measure of efficiency management, good service delivery (rapidity in delivering services), it reduces operating cost which has good impact in profitability and it increase customers loyalty.

### **Sustainability of KANOMBE SACCO**

**Return on Equity (ROE):** The management of the business is realized from shareholders' equity and shows how effectively ordinary shareholders' funds are being utilized by management of the institutions. During period analyzed government stopped to support financially SACCO KANOMBE since 2014, that's the reason why return on equity ratio equal return on equity excluding donation. Obtained results shown the income government donation had high effect in profitability of KANOMBE SACCO explained by ROE ratio without donation and ROE ratio with donation. In 2013 Return on equity with donation was 60.7% while Return on Equity excluding donation was 45.6%. Return on equity ratio (ROE) decreased from 68.4% in 2014 to 48.7% in 2015 due accumulation of retained earnings and SACCOs saved enough money on current account instead to be invested in loan or saved on term deposit account that generate income. Those dormant fund reduce the income, the researcher recommended KANOMBE SACCO to invest its resources into loan for more productive in order to achieve its goals for disbursing loan to its members.

The management is realizing from shareholders' equity and shows how effectively ordinary shareholders fund are being utilized by management, when the funds are used well in resource allocation then a company will fairly perform well. According to the information generated in the return on equity after adopting computerized system the return on equity will increase by 20.4% in 2018 when the organization will no longer use manual system the return on equity will increase instantly as where in 2018 the ROE will be 20.4%, 19.2% in 2019 and 16.8% in 2020. This indicates that by 2020 the SACCO KANOMBE after the government decentralizes the financial management operations to the locals they have cut donation subscription that the management should operate in the financial competitive field like other microfinance institutions. This indicates to them the momentum to integrate computerized system in order to perform well and to give the customers satisfaction while they maximize profitability.

**Return on Assets (ROA):** The ROA for 100 Frw invested in KANOMBE SACCO' assets generated the income of 11.2% in 2013, 16.6% in 2014, and 14.2 in 2015. Expected 2013 where Kanombe Sacco received donation from government of Rwanda, in the year of 2014 and 2015 and ROA ratio excluding donation remain the same because Sacco Kanombe doesn't received any donation.

After computerization KANOMBE SACCO doesn't expected to receive any donation from outside and therefore, it indicates that the return on asset ratio will be 7.8% in 2018, increased up to 8.9%

in 2019 and 9.2% in 2020. These figures prove that the return on asset will improve when they will integrate the computerized system. Furthermore, ratio will increase especially in return on asset, as a result SACCO will realized more profit in figure compared before computerization.

**Financial Structure:** The financial information obtained during data collection and analysis illustrated that the financial structure of KANOMBE SACCO from 2013 to 2015 does not have a good structure because loan disbursed to members has low level comparatively with the Level stipulated in Microfinance regulation where the maximum of this ratio is 80%, but SACCO KANOMBE present in 2012 a ratio of 40%, the ration increased to 52% in 2014, decreased in 2015 to 38% then after increased to 40%. Thus this institution must strive to increase this ratio until around the maximum required. When we compare the ratio gross loan portfolio /total assets with Non-earning assets/total assets, we see that this last ratio has been increased from 10% in 2012 to 4% in 2015. It means that in this year 2012 KANOMBE SACCO, invested 10% in Non-earning assets set instead of to invest in loan portfolio and invest 4% in Non-earning assets (Figure 1).

As show in Figure 1 above in 2017 and 2018 total asset are financed at high portion by members saving, 62.4% in 2017 and 57.3% in 2018 while in same years equity financed total asset to portion of 35.2% and 40.5%. In 2019 and 2020 total Asset will be financed at high portion by equity due to accumulation of retained earnings. This ratio will be equal to 51.4% in 2019 and 57.8% in 2020 while the total asset financed by member's savings will be equal to 46.7% and 40.7% respectively. This situation is very benefit to this institution because normally the deposits are not very expensive in comparison with others external funds like borrowers [10]. But the ratio short term liabilities/Total liabilities show that KANOMBE SACCO had the problem of mobilization of long external funds because in all liabilities, short term were above 84% except in 2012 where this ratio was 61%. That's why they need to integrate computerized system.

**Efficiency and productivity:** Portfolio yield before computerization: the responses given by the respondents shown that the 100 Frw invested in loan portfolio generated the profit of 18 Frw in 2013, in 2014 profit increased up to 36.2 Frw and in 2015 for 100 Frw invested in loan portfolio generate a profit of 35.7 Frw. As we know this ratio must be analyzed with the operating expense ratio RCA [10]. Thus, even if the analysis of this ratio is reserved to the point 4.2.4.2 of the present document, let us show, graphically, the comparison between those two ratios.

According to the report of Rwanda corporative agency [10]. As we

see on this graphic, Kanombe SACCO funding its loan portfolios by using members saving which consume only administrative expenses, and in others hand it generate income for 100Frw invested in loan portfolio generate 18 Frw in 2013,36 Frw in 2014 and 35.7 Frw in 2015 (Figure 2).

After computerization, the loan portfolio will efficiently manage. This is the reason why the portfolio will be increased because the loan will be analyzed efficiently even in recovery and this performs income from loan portfolio. In projection SACCO KANOMBE will mobilize its members to open saving account and term deposit account even members who deposit its security saving will be remunerated. RCA [10] in this context SACCO will spend for resources For 100 Frw invested in loan portfolio will generate 40.2 Frw in 2018; 44.4frw in 2019 and 46.6 Frw in 2020; reason why for financing a loan 100 Frw KANOMBE SACCO spend 15 Frw for resource fund in 2014, 13 Frw in 2019 and 14 Frw in 2020 (Figure 3).

Fund mobilized from Sacco's members is cheapest resources for financing SACCO's Asset; computerization will help SACCO to manage saving account, term deposit account. As shown in graphic above for 100 Frw of loan financing by members fund, SACCO KANOMBE will spend 15.1 Frw in 2018, 13.9 Frw in 2019 and 14 Frw in 2020 while the same portfolio generate respectively, 40.2 Frw, 44.4 Frw and 46.6 Frw. When you compare expenses and income for portfolio yield SACCO KANOMBE has a good position [10].

### Relationship between the profitability indicators and clients perception determinants on integration of computerized system and digital finance services in KANOMBE SACCO

According to diversification of products and services has already resulted in rich, and complex, choices for consumers, especially compared to the early days of one-size-fits all working capital, the Correlation between profitability indicators and client's perception determinants on integration of computerized system will increased access and better choices to the customers hence satisfaction.

From the obtained results in this study, the researcher found that  $r=0.926$ . The  $r$  is positive and closer to +1. There is a positive correlation between profitability indicators and client's perception determinants. The deposits are correlated to net income at 92.6%.

## Conclusion and Recommendation

### Conclusions

Achieving high and sustainable rates of client's satisfaction of members of SACCO, it has long been the goal of SACCOs in Rwanda.

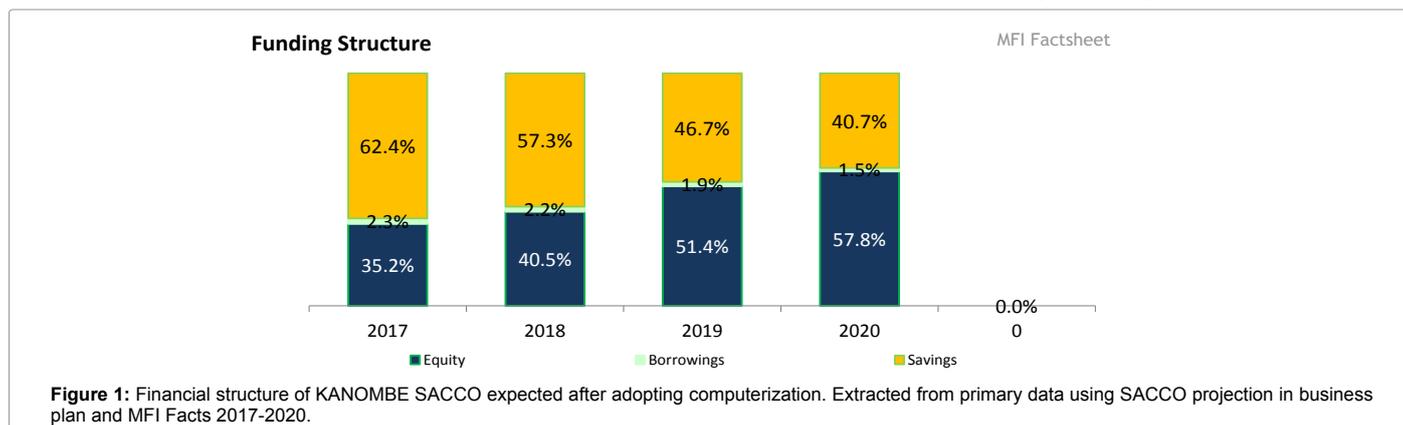


Figure 1: Financial structure of KANOMBE SACCO expected after adopting computerization. Extracted from primary data using SACCO projection in business plan and MFI Facts 2017-2020.

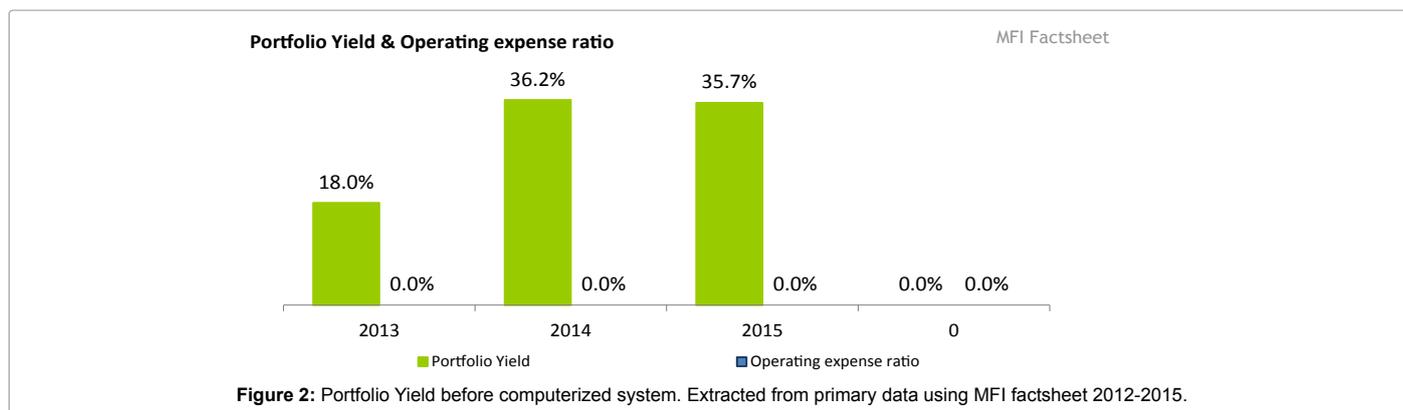


Figure 2: Portfolio Yield before computerized system. Extracted from primary data using MFI factsheet 2012-2015.

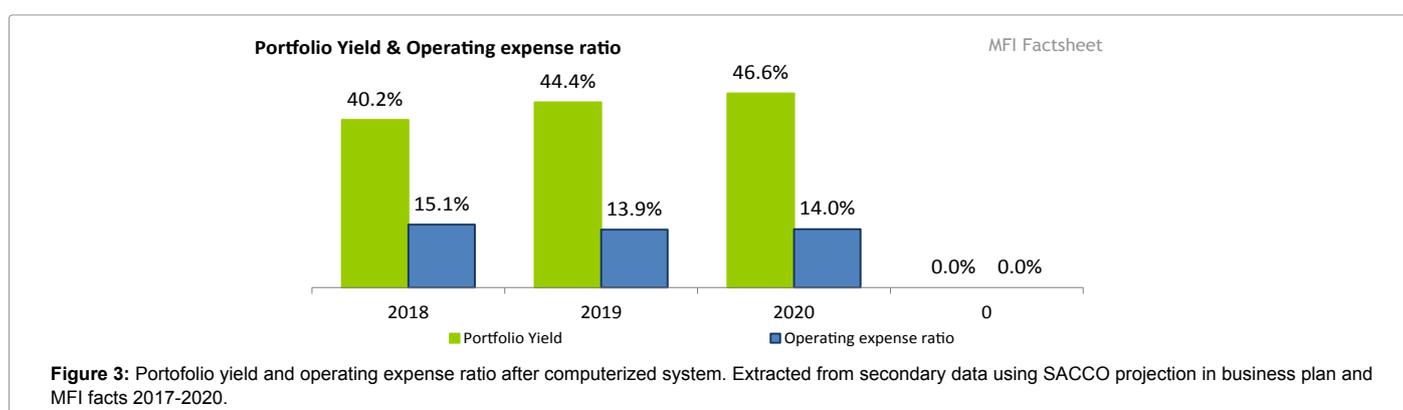


Figure 3: Portfolio yield and operating expense ratio after computerized system. Extracted from secondary data using SACCO projection in business plan and MFI facts 2017-2020.

KANOMBE SACCO increases an effort to promote its member's satisfaction by learning carefully the integration of computerized system and digital finance services and several policies have been initiated by governments to raise the computerized system and digital finance services to their population so as to rid poverty. However, the promotion of members of SACCOs needs a sufficient amount of capital stock and profitable investment that guarantees a sustainable growth in the economy where technology advancement will help SACCO's to boost their potential in the market place against their competitors. In recent years, policies to improve digital finance services has increasingly been suggested as appropriate since digital finance services and computerized system can affect client's satisfaction through financing productive investment. Therefore, the integration of computerized system is a necessary condition for achieving Profitability of SACCO and client's satisfaction.

### Recommendations

Based on the analysis of the study, the researcher wishes to make the following recommendations:

**To the policy makers:** 1) On the basis of these findings, it is recommended that the government should provide adequate policies to microfinance institution of Rwanda to implement the use of computerized system and digital finance services. 2) Further, it is recommended that for effective computerized system of SACCO to its members the government could increase its control on the implementation of digital finance services and how effective to the members in the community hence profitability.

**To KANOMBE SACCO:** 1) This study recommends that KANOMBE SACCO should put on place adequate internal policies to promote computerized system and digital finance services of its

members. 2) It is recommended that KANOMBE SACCO should increase the advertisement and marketing to encourage citizens to save within the SACCOs using electronic banking and use of digital finance services as the one way of computerized system in Microfinance. 3) KANOMBE SACCO should increase its electronic banking as the one way of competitive advantage of Sacco's in the world hence Clients satisfaction and loyalty. 4) I recommend KANOMBE SACCO authorities to mobilize members for special contribution for constructing its office in order to maintain high level of profitability.

**Suggestions to further researchers:** The future researchers have to make research on the following topics;

a) The role of computerized system on SACCOs economic growth of Rwanda;

The contribution of computerized system and digital finance services on improvement of standard of living of people in SACCOs.

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