ADOPTION AND UTILIZATION OF ICTs BY SAVINGS AND CREDIT COOPERATIVE SOCIETIES IN KENYA: A CASE OF THARAKA NITHI TEACHERS SACCO SOCIETY LTD

BY

HELLEN MUKIRI NDEGWA

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DECLARATION BY CANDIDATE

This Thesis is my original work and has not been presented for a degree in any other university.

NAME OF THE CANDIDATE

HELLEN M. NDEGWA:

Signature …….. **Date ----------**

DECLARATION BY SUPERVISORS

This Thesis has been submitted for examination with our approval as Moi University Supervisors

NAME OF SUPERVISORS

Prof. Joseph Kiplang'at

Department of Library, Records management and Information Studies

School of Information sciences

Moi University, Eldoret

Signature ---------- **Date ----------**

Dr. Gregory Wanyembi

Senior Lecturer, Department of computer science

Masinde Muliro University of Science and Technology

Signature ---------- Date ----------

Dedication

To my sons Brian and Newton

ABSTRACT

Cooperative societies have empowered many communities in Kenya and made their livelihood more sustainable than would have imagined. The development of cooperative societies would be more enhanced if Information and Communication technologies (ICTs) are optimally used for improved service delivery. The primary purpose of this study was to investigate the nature, types and extent to which Tharaka Nithi Teachers SACCO had adopted the use of ICT for its activities. The study was guided by the following objectives: Mapping and auditing ICTs in Tharaka Nithi Teachers SACCO; to find out the extent to which ICTs were used in enhancing service provision and to identify the challenges that the SACCO was experiencing in the adoption and utilization of ICTs. Specifically the study was informed by Rogers's theory of diffusion of innovations. The literature was reviewed in the aspects of applications of ICT in microfinance institutions, their benefits and the challenges experienced. The study used both qualitative and quantitative methods. The sample was drawn from the staff and members of Tharaka Nithi Teachers SACCO. Simple random sampling technique was used to get a sample of SACCO members while purposive sampling was used to identify SACCO staff and officials. Officials from the Ministry of Cooperative Development and Marketing and the Kenya Union of Savings and Credit Societies were also involved as key informants. Data was analyzed using both qualitative and quantitative techniques. The study showed overwhelming evidence that ICT is of immense benefits to the SACCO. It was further found that ICTs were not sufficiently utilized by the SACCO and that the Ministry of Cooperatives Development and Marketing does not have structures to assist rural SACCOs in the adoption and utilization of ICT. It was recommended that the SACCO should acquire open source software that allows customization and networking. The government through the Ministry of Cooperative and Marketing should invest in ICT infrastructure and KUSCCO should extend its advocacy in encouraging SACCOs to adopt ICTs.

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ACRONYMS AND ABBREVIATIONS

ATM	Automated teller machines
BOSA	Back Office SACCO Activity
FOSA	Front Office SACCO Activity
ICT	Information and Communication Technology
IS	Information Systems
KERUSSO	Kenya Rural savings and Credit Societies Union
KUSCCO	Kenya Union of Savings and Credit Cooperatives
MFI	Micro Finance Institution
PDA	Personal Digital Assistant
POS	Point of sale
SACCO	Savings and Credit Cooperative Societies
WOCCU	World Council of Credit Unions
ICA	International Co-operative Alliance
A/C	Account
FSD	Financial Sector deepening
AGM	Annual General Meeting
SASCCO	Swaziland Association of Savings and Credit Cooperatives

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CHAPTER ONE

INTRODUCTION AND BACKGROUND INFORMATION

1.0 Introduction

Johnson, (2004) states that formal credit and savings institutions for the poor have been around for decades providing customers who were traditionally neglected by commercial banks a way to obtain financial services through cooperatives and development finance institutions. The concept of the credit union was developed by Friedrich Wilheim Raiffeisen and his supporters to assist the rural population to break out of their dependence on money lenders and improve their welfare. From 1870, the unions expanded rapidly over a large sector of Rhine province and other regions of the German states. The cooperative movement quickly spread to other countries in Europe and North America. The movement was later supported by the developed countries and donors, and it spread to developing countries (Zeller 2001).

According to Wikipedia (2007) Credit unions are under one global umbrella body called the World Council of Credit Unions (WOCCU). WOCCU was founded in 1971 as the global association for credit unions and creates awareness of credit unions. It is the global meeting place for the exchange of information and works with policy makers to improve the legal and regulatory environment for the credit unions.

What most distinguishes credit unions from other non-bank financial entities that offer microfinance institutions is their ability to mobilize large numbers of small voluntary savings accounts. The goal of a credit union is to provide high quality financial products

and services to its members at competitive prices. Traditionally, the three main groups of credit union products have been savings, loan and insurance.

In the increasingly competitive financial markets of developing countries, modernized credit unions are evolving to provide more sophisticated financial products such as remittance, distribution, automated teller machines, and debit cards. The provision of these traditional and higher end services in a sustainable manner is made possible by the networking of credit unions into a system. Thus ICTs are being viewed as the hope for credit unions to provide more competitive services to their members.

1.1 Background information

According to the Ministry of Cooperative in Kenya (2009), a cooperative is an organization of people who have voluntarily come together in order to solve their social and economic problems. The International Cooperative Alliance (ICA) (2010) defines a cooperative as an autonomous association of persons united voluntarily to meet their common economic, social, and cultural needs and aspirations through a jointly owned and democratically controlled enterprise. Savings and Credit Societies in kenya fall under the Ministry of Cooperative Development and Marketing.

Savings and Credit Cooperative Societies (SACCOs) were first introduced in Kenya in 1964 (Wanyama 2009). Their emergence is traced to cash crop farmers' cooperative movements particularly in coffee growing areas in the 1930's.These cooperatives were used as a medium for channeling to farmers the proceeds for sales of their crops.

There are basically two types of SACCOs: Employer based (usually urban) and cash crop/ agricultural allied activities (usually rural) whose umbrella body is the Kenya Union of Savings and Credit Cooperatives (KUSCCO) and the Kenya Rural Savings and Credit Societies Union (KERUSSO) respectively (Owen 2007). Most of the employer based SACCOs are largely urban with the exception of Mwalimu SACCO and other district based teacher's SACCOs.

1.1.1 Objectives of savings and credit societies

The Kenya Union of Savings and Credit Cooperatives (KUSCCO) says that a Savings and Credit Cooperative Society is a cooperative whose objective is to pool savings for the members and in turn provide them with credit facilities. KUSCCO adds that the specific objectives include:

- Encourage thrift amongst members
- Encourage them on proper management of money
- Advise on proper investment practices
- Education and training
- Research and development

KUSCCO (2007) lists the following principles of savings and credit societies;

- Voluntary and open membership. Cooperatives are voluntary organizations open to all persons able to use their services and willing to accept the responsibility of membership without gender, social/ racial, political or religious discrimination.

- Democratic control. They are democratic organizations controlled by their members who actively participate in setting policies and decision making
- Member economic participation. Members contribute equitably to and democratically control the capital of their cooperative.
- Autonomy and independence. Cooperatives are autonomous, self help organizations controlled by their members.

1.1.2 Challenges faced by Savings and Credit Societies in Kenya

Some of the challenges facing the cooperative movement in Kenya can be traced to Sessional paper no. 6 of 1997 on "cooperatives in a liberalized economic environment". This paper restricted the role of the government to policy formulation and administration of the cooperative Act. This led to the Ministry of Cooperative Development and Marketing being placed under the Ministry of Agriculture and Rural Development as a department. This impacted negatively both in terms of policy and budgetary implications. It was not until 2003 that the government realized the important role of the cooperatives in the economy and re-established the Ministry of Cooperatives. Prior to the re-establishment of this Ministry, the co-operative movement was faced with a lot of challenges with many societies almost collapsing due to mismanagement, anarchy and leadership wrangles (Ministry of Cooperative 2009).

Today Savings and Credit Societies are faced with a number of problems ranging from decreased membership to ultimate closure. Mutua and Oyugi, (2006) outline the following challenges that SACCOs experience.

- Market liberalization whereby currently commercial banks are venturing into fields which before were the exclusive of SACCOs.
- Lack of capacity. This refers to the lack of the necessary resources required for the profitable running of an institution. SACCOs are faced with such problems as limited base capital, unskilled personnel in both technical and management positions and few members who can invest enough and boost the savings of the society.
- Outdated Technology. SACCOs like most Kenyan institutions rely on donations. More so there is no homogenous system for SACCOs. There is a growing tendency to re-tool banking software to be used in SACCOs and this does not give the optimum benefits that technology should give.
- Lack of proper regulatory framework. For SACCOs to grow there is need for a regulatory framework to safeguard their operations and to ensure that the savings of members is safe. Currently in Kenya, the ministry of cooperatives and marketing has already enacted the SACCOs Regulation Act

SACCOs play an important part in the economy of any nation. ICTs are therefore crucial in the achievement of the goals of the SACCOs. The majorities of poor people live in rural areas around the world and lack financial services. The credit unions enable these people to obtain credit which they use to better their lives.

SACCOs in the rural areas face unique problems in relation to the adoption and utilization of ICTs due to several factors. These are outlined by Ahmad (2006) as follows:

1. Poor Internet connectivity. In Kenya most of the Internet facilities are limited to the urban areas and the rural areas are yet to enjoy Internet services.
2. Technology literacy. Most people in the rural areas are technologically challenged and they do not even appreciate the benefits that they can be able to reap from the use of ICT.
3. Lack of funds. As mentioned above, rural SACCOs have limited financial resources which they can use to invest in ICTs
4. Poor electrical power supply. Most rural areas have no electricity and in areas where it exists, it is not reliable as there are blackouts now and then.
5. Poor telecommunications etc. The fact that before telecom Kenya had the sole monopoly of providing telecommunication services has contributed to the poor connectivity of the rural areas. This is set to change as other players have entered in the field.

6. Werner (2004) says that SACCOS can use ICTs to improve their operations in four main areas:

7. Be able to consolidate more savings and be able to move on. ICTs are able to do this because with the introduction of new and unique products and services, the SACCO will be able to win more customers.

8. Expanding their customer base. ICTs can be able to reach customers who before could not be reached. With more use of mobile phones and the Internet they can be able to serve customers in remote places. Saccos should be able to utilize

Point of Sale outlets and even in partnership with mobile phone providers, provide banking to remote areas like Equity and Safaricom's M-kesho service.

9. Establishing secure identities for customers. This involves good record keeping which is available with the use of ICT.

10. Lowering transaction costs. The fact that ICT allows faster and efficient transactions ensures that the cost is reduced in terms of both money and time.

The growth and potential of SACCOs as a provider of financial services is not without challenges. Market liberalization, lack of capacity, out dated technology and lack of proper regulatory framework are some of the reasons why out- reach of SACCOs' financial services is still low in the rural areas (Mutua, 2006). Johnson…et al (2006), states that there is a necessity for microfinance institutions in Kenya to provide innovating ways of lowering their costs of service provision. They add that new developments in information technology offer significant potential to achieve this.

It is against this background that the study sought to find out how rural SACCOs adopt and utilize ICTs in the provision of services to members, using a case of Tharaka Nithi Teachers SACCO.

1.1.3 Tharaka Nithi Teacher's SACCO

Tharaka Nithi Teachers SACCO society limited was started in June 1993. It came after the split of Meru Teachers SACCO Society Limited which operated in the larger Meru district. It is situated in Chuka town in the current Nithi district.

The SACCOs members are drawn from teachers under the Teachers' Service Commission, Office of the President, Ministry of Education, the SACCO staff and the Kenya National Union of Teachers. Currently, it has over four thousand members. The SACCO is staffed by 14 members of staff.

Tharaka Nithi Teachers' SACCO has two departments namely:

- Back Office SACCO Activity (BOSA). This department deals with shareholders who are the owners of the SACCO. It specializes in giving members loans. These loans include Normal/ development loans and Emergency Loans which include school fees and emergency loans.
- Front Office SACCO Activity (FOSA). This department offers members simple banking services. The FOSA serves both members and non members who are employees of the teachers' service commission. It has the following services: Savings Account, Fixed Deposit Account and Salary Advance. Other services include, Society guaranteed cheque, Cooperative Bank Cheque (Bankers Cheque) and cheque collection.

The SACCO has networked its two departments. It uses software called Navision software. It has taken a step further and partnered with the cooperative bank to provide automatic teller machine (ATM) to its customers.

1.2 Statement of the problem

Providing financial services in the rural areas of Kenya on a sustainable basis remains a challenging goal. Micro Finance Institutions (MFI) have tried to make this possible because commercial banks have neglected these areas for some time. In Kenya, SACCOs

play a great role in the provision of financial services to the rural poor. As of December 2007 savings through SACCOs stood at Ksh. 29 billion and the outstanding loans amounted to Ksh. 22 billion. This demonstrates the effectiveness of the SACCOs as financial intermediaries (KIPPRA, 2001).

Sessional paper on cooperative development policy (2004) indicates that since 1997, the cooperative movement as a whole has been faced with the challenges of liberalization of their economic activities and the emergence of a competitive market economy. It continues to state that the government of Kenya has recognized ICT as an essential tool in present day management of cooperatives. The need for Micro Finance Institutions (MFIs), to lower transaction costs and to expand the scale of the delivery of their financial services to the remote rural poor in regions in Africa makes experimentation with innovative technologies by microfinance organizations attractive. The current utilization of ICTs such as the standard Management Information System (MIS), smart cards, Personal Digital Assistants (PDAs), cell phones, and other technologies allow MFIs to service their clients more efficiently through the reduced amount of paper work, access to information and ability to compute complex analyses. However the rate of ICT adoption and its overall application in both government and the cooperative movement has remained low. Most societies that have managed to automate their activities have done so on an individual basis. This approach has brought in challenges of integration, compatibility and coordination. Furthermore, there is a digital divide between rural and urban cooperative societies with a bias in favor of urban cooperatives. Lack of

networking and inadequate telecommunication networks especially in rural areas has seriously hampered communication and information exchange.

An integrated Management Information System is important to ensure accuracy, timeliness and accessibility of data and information required for the growth and development of SACCOs. Cooperatives in Kenya are facing serious challenges as commercial banks and microfinance institutions like the Equity Bank are threatening to put them out of business. Information and Communication Technologies can be used as a catalyst to overcome some of these challenges by improving efficiency, effectiveness and accountability and also achieve competitive advantage over other financial institutions.

Tharaka Nithi Teachers SACCO has computerized its services and has been able to network its two departments. However, it faces challenges due to inadequate infrastructure and competition from commercial banks. The SACCO has adopted technology with a view providing quality services to its members in an effort to retain them. It is clear that if the SACCO is to survive and sustain its role in community development, it must work harder to encourage its members to borrow from them rather than from other financial institutions. In particular, it must reach out to the local community by identifying their borrowing needs and designing services to meet these needs.

This study was therefore conceived with the aim of investigating the nature, types and the extent to which ICTs are used in improving the efficiency and effectiveness of services to

members Tharaka Nithi Teachers' SACCO. The gaps identified paved way for a framework to be proposed to facilitate the adoption and utilization of ICT by SACCOs.

1.3 Aim

To investigate the types, nature and extent of ICT adoption and utilization by Tharaka Nithi Teachers SACCO in order to identify gaps and propose a framework for the effective adoption and utilization of ICTs

1.4 Objectives

1. To map and audit ICTs in Tharaka Nithi Teachers' SACCO, in order to establish the nature and types of ICTs adopted.
2. To find out the extent to which ICTs are used in the provision of services to the members.
3. To find out policy and guidelines used in supporting the adoption and utilization of ICTs by Tharaka Nithi Teachers SACCO.
4. To identify the challenges experienced by Tharaka Nithi Teachers SACCO in the adoption and utilization of ICTs and if these challenges are in way influenced by age and education of members
5. To find out the role of the Ministry of Cooperative and the Kenya Union of Savings and credit societies in the promotion of ICT use in rural SACCOs
6. To make recommendations and suggest a framework for improving the adoption and use of ICTs by Tharaka Nithi Teachers SACCOs.

1.6 Research Questions

1) Which types of ICTs have been adopted by Tharaka Nithi Teachers SACCO and for what purpose?
2) To what extent does Tharaka Nithi teachers' SACCO use ICT?
3) How can ICTs be used to improve efficiency and effectiveness at Tharaka Nithi Teachers' Sacco?
4) What policy issues have been put in place to support the adoption and utilization of ICT?
5) What challenges are experienced in the adoption and utilization of ICT and what recommendations can be made to improve the situation?
6) Is the age and education level of respondents likely to impact on adoption and utilization of ICTs?
7) What role does KUSCCO play in promoting ICT use in rural SACCOs?
8) What role does and the Ministry of Cooperative and marketing play in promoting ICT use in rural SACCOs?
9) What recommendations and framework can be proposed to improve the adoption and use of ICT by Tharaka Nithi Teacher's SACCO?

1.7 Assumptions of the study

The study is based on the following two assumptions:

- The adoption of ICTs by Tharaka Nithi Teacher's SACCO has facilitated efficiency in service delivery to members.

- The potential of ICT in SACCO activities is underutilized due to poor infrastructure and lack of awareness

1.8 Significance of the Study

As the Kenyan government is recognizing the need to make Kenya the ICT hub in Africa, more information is needed on the adoption and extent to which these ICTs are being used in various institutions. This study will be an eye opener as to the nature, type and applications of ICTs in one important sector of the economy (the SACCO). If adopted, the recommendations will be able to assist SACCOs to utilize ICT to broaden their customer base by reaching the unreached or those that are inaccessibly located or situated. It will also assist them to provide their customers with above average services and be able to introduce new products that will ensure they are above the commercial banks that have encroached in their territory.

Members of the SACCOs will also benefit from the study as they will receive new and better services through the right utilization of ICTs. The framework that may be proposed after identifying any gaps may be used to assist SACCOs in adopting and utilizing ICT

1.9 Scope and limitations

1.9.1 Scope

The study was a case study covering one teachers' savings and credit society (Tharaka Nithi Teachers SACCO) in Nithi District. It involved the members of Tharaka Nithi Teacher's SACCO and the staff. The key informants of the study were drawn from

KUSCCO and the Ministry of Cooperatives and Marketing. They comprised ICT managers and policy makers.

1.9.2 Limitations

The study was limited to the fact that it only covers one SACCO. The study sought to overcome this limitation by choosing a SACCO with a large area of operation (about five districts) and with a large number of members (over four thousand).

There is limited literature available on ICTs and SACCOs in Kenya but the study has tried as much as possible to incorporate literature from other developing countries with an almost similar background to Kenya.

1.11 Definitions of Operational Terms

Information and communication technologies

Martin Peter (2002) refers to ICT as an umbrella term that has been used to mean computing (software and hardware) and telecommunications (mobile, fixed, Internet and broadcast technologies).

For the purpose of this study, ICT was taken to mean a set of activities that facilitate the capture, storage, processing, transmission and display of information by electronic means.

Information and communication Technology Sector

Martin Peter (2002) defines the Information and Communication Sector as a combination of manufacturing services and industries that capture transmit and display data and

information electronically. The ICT sector is complex and is more readily understood in terms of its impact on business, government and individual citizen.

ICT applications

These are hardware and software solutions that utilize ICTs to meet business, public, administration, Social and other needs. Such applications are also sometimes referred to as informatics; a term that conveys ICT as a way of doing things.

Cooperative

A cooperative is an autonomous association of persons united voluntarily to meet their common economic, social, and cultural needs and aspirations through a jointly owned and democratically controlled enterprise

Credit Union

A credit union is a cooperative financial institution that is owned and controlled by its members and operated for the purpose of promoting thrift, providing credit at reasonable rates, and providing other financial services to its members.

Savings and Credit Cooperative Society (SACCO)

Savings and Credit Cooperative Societies are defined as associations for people who pool together their financial and human resources for the purpose of giving loans to each other and using the pool of ideas for the betterment of their members. They are formed under a pre-defined common bond. Loans are used for economic and other worthwhile purposes. The members are owners of the SACCOS and customers at the same time (SASCCO, 2008)

1.12 SUMMARY

This chapter introduced the research topic by briefly describing the history of Savings and Credit cooperative Societies. The aim was discussed and the objectives that will be the focus for the research were given together with research questions. The significance and limitations were also discussed.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter reviews literature on the adoption and utilization of ICTs by microfinance institutions. The first section discusses theories explaining how and why innovations are adopted. The next section examines various ways by which microfinance institutions

have used ICTs, the benefits, the challenges and some possible solutions to these challenges. The topics covered include: The theoretical frameworks, applications of ICT in Microfinance institutions, Benefits of computerized information systems to microfinance institutions, challenges faced by microfinance institutions and the Kenyan ICT environment in General

2.1Theoretical Framework

According to Wikipedia (2009), a theory is the analysis of a set of facts in their relation to another. It can be used as a plausible general principle or body of principles offered to explain a phenomenon.

There are many theories associated with the acceptance and take up of ICT innovations. The acceptance of the ICT is a factor that is crucial to the realization of ICT benefits. In an empirical study of the business condition in a rural area in Sweden it is observed that only a small proportion of the Small Businesses (SBs) in a studied rural area had in fact successfully converted ICT's potential into practice. The SB management's attitude to change is observed to be of relevance in the context. In the study strong relations were found between the ICT-level of the enterprise and both leader and co-worker change competence in small enterprises (Vinberg et al, 1999; Sandberg and Vinberg, 2000; Sandberg, 2000).

The SB management's attitude to the strategic value of ICT investments is also pointed to as relevant in the context. It is observed that most SBs do not view the ICT as key to their business strategy (Levy and Powell, 2002). Consequently, they are not prone to invest

time and money in the ICT in their enterprises. Mehrtens et al (2001) suggest three drivers of SBs' decisions to invest in e-business – that is an aspect of the ICT technology that can be regarded as particularly crucial to SB activities in the rural areas. These drivers are (i) perceived benefits, (ii) organizational readiness and (iii) external pressures. It is also concluded that the perceived benefit is the main driver for ICT adoption with some evidence of external pressure, particularly for those SBs with close relationships with their customers.

Three aspects to perceived benefit are emphasized in literature:

- Improved communication using e-mail (Poon, 2000; Poon, and Swatman, 1999; Chapman et al 2000),
- The ability to gather research and competitor information (Chapman et al 2000),
- A modern image and improved SB promotion (Chapman et al, 2000).

Perry (2006) says that it is possible that some of the principles involved in introducing an innovative service or product will differ in all fields but gives the following principles as applicable to all fields.

1. Adopter characteristics and motives for embracing innovations.
2. The innovation's characteristics, its benefits, costs and associated learning curve
3. Factors in relation to the institution, its culture and services.

Some theories that try to explain how and why innovations are adopted include:

2.1.1 Resource-based theory

Resource-based theory (RBT) explains how firms can gain a sustainable competitive advantage by exploiting and developing resources (such as competencies, assets, know-how and capabilities) that are unique and therefore not imitable by competitors). The resources can be internal to the firm, or firms can access and exploit external resources) from the environment such as trading partners and customers. A number of the small firm adoption factors identified in the literature can be conceptualized as firm resources including owner-manager and employee characteristics. E-business technologies are also resources and e-business adoption is therefore seen to result when firms acquire and use e-business-related resources effectively (Caldeira and Ward, 2003; Rivard… etal 2006).

The strength of RBT is that it highlights the capabilities that any firm, including small ones, must have or acquire to adopt e-business, and it recognizes intangible as well as tangible resources. However, RBT assumes the resources are typically used to their fullest potential, which is often not the case with small firms (Caldeira and Ward, 2003; Rivard et al., 2006). For example, studies applying RBT found that it was proactive firms who performed better with e-business because they used it to support their strategies and leverage competencies, and because they developed internal e-business capabilities (Caldeira and Ward, 2003; Rivard et al., 2006). These studies also found that RBT did not explain adoption decisions of non-entrepreneurial firms, because external factors sometimes resulted in adoption even though these firms did not develop internal e-business capabilities or leverage their competencies (Rivard et al., 2006). For this reason RBT (at least on its own) does not sufficiently explain the e-business adoption processes

of non-entrepreneurial small firms. Since this study sought to find out how external factors such as government integration and competition has influenced adoption then this theory was found inadequate.

2.1.2 Marcu's theoretical model of adoption

Ankem (2004) describes this theory as having been derived from the diffusion of innovation theory and the social learning theory. It highlights the importance of innovative behavior and the phenomenon of others modeling themselves on this. It highlights factors such as associated costs, availability of necessary resources and the value of the innovation as influencing its rate of adoption. The weakness of this theory is that it emphasizes that communication among adopters is not considered as an influential factor in terms of take up of an innovation. Communication between SACCOs in relation to ICT adoption is considered as essential because adopters of an innovation talk among themselves and this influences whether an innovation will be taken up or not.

2.1.3 The Technological Acceptance Model (TAM)

According to Sandberg and Wahlberg (2006), the TAM model is an influential extension of Ajzen and Fishbein's theory of Reasoned Action (TRA). TAM uses TRA as a theoretical basis for specifying the causal linkages between the two key features: perceived usefulness and perceived ease of use, and users' attitudes, intentions and actual computer adoption behavior. TAM is considerably less general than TRA, but it can be readily extended to apply to any type of technology. This model suggests that when users

are presented with, for instance, a new software package, a number of variables influence their decisions about how and when they will use it.

There are two specific variables, perceived usefulness and perceived ease of use, which are hypothesized to be fundamental determinants of user acceptance. The strength of both TAM and TPB are that they are designed to measure and predict action in the immediate future. However they do not capture the complexity in which the actors' perspectives are forged and they take no account of the idiosyncrasies of individual small firms. This is apparent with TAM because it largely ignores the complex relationships between small firm decision-makers and employees, family and external parties. For example, Grandon and Pearson (2004), who used TAM, condensed these issues into just a few Likert statements such as “social factors are important in our decision to adopt electronic commerce”, “our industry is pressuring us to adopt electronic commerce” and “our organization is pressured by the government to adopt electronic commerce”, without acknowledging the complex interplay of these and other issues. The theory assumes that when someone forms an intention to act, that they will be free to act without limitation. In practice constraints such as limited ability, time, environmental or organizational limits, and unconscious habits will limit the freedom to act. Because of this, then the theory was found unsuitable for this study since factors such as financial constraints were perceived as influencing adoption and utilization of ICT by the SACCO.

2.1.4 Roger's theory of diffusion of innovations

This study will be informed by Roger's Theory of Diffusion (DOI) model. His theory of diffusion of innovation is used to study how innovations are adopted by people and organizations.

Rogers (1995) defines diffusion as the process by which an innovation is communicated through certain channels overtime among the members of a social system. Rodgers further defines an innovation as ideas, practice or object that is perceived as new by an individual or other unit of adoption.

This theory has four elements namely: innovation, communication channels, time and social systems.

Rogers' theory can be divided into three components namely:

1. The Innovation decision process: This categorizes the steps an individual takes from awareness of an innovation through formulation of an attitude on the innovation, on to the decision as to whether to implement, and finally confirmation of this approach.
2. Innovation Characteristics: This states that different innovations have different probabilities of adoption and hence different adoption rates. These include relative advantage, compatibility, complexibility, trialability and observability. Relative advantage is the degree to which an innovation is better than the idea it supersedes and may be measured in economic terms though prestige, convenience and satisfaction are also considered. Compatibility is the degree to which an innovation is perceived as being consistent with the existing values, past experiences and needs of

potential adopters. This means that the more compatible the faster the innovation will be adopted since the adopters do not need to adopt a new value system (Kiplang'at…etal, 2005). Complexity means the degree to which an innovation is perceived as difficult to understand and use. This means that the easier an innovation is to understand, the faster it will be adopted. Trialability is the degree to which an innovation may be experimented with on a limited basis.

3. Adopter characteristics: These include social economic, Personality values and communication behavior. From the above literature in can be noted that though there are challenges that SACCOs and other microfinance institutions face in implementing ICTs they also stand to gain a lot by their adoption. It is also good to note that some SACCOs are already making use of these ICTs to provide better and diverse services to their clients.

DOI theory, has the potential to provide an overarching framework for studying small firm e-business adoption because it encompasses innovations (in ICT applications), adopter categories (which acknowledges small firm heterogeneity), adoption decision-making processes and the interpersonal or social context in which adoption occurs. Rural savings and credit cooperatives have unique characteristics that may influence their adoption and use of ICTs. The application of Roger's theory will help advance understanding of the adoption rate of ICT based upon the characteristics of the organization, the managers and the innovation. It provides a familiar framework to determine obstacles that can impede the diffusion of ICT in an organization.

Looi (2004) suggested that Roger's diffusion of innovation theory is perhaps the most frequently cited theory in most research on diffusion of innovation. This theory was found adequate to this study since the organizational characteristics; location and size, and business processes were being studied in relation to ICT adoption. More so the study sought to investigate links between ICT adoption and perceived ICT characteristics (its perceived relative advantage, compatibility, user friendliness and observability). These were the main constructs that were considered for this study. Results indicated low levels of ICT adoption, and the perceived ICT characteristics significantly affecting ICT adoption were; perceived relative advantage and compatibility of ICT.

2.1.4.1 Factors influencing ICT adoption in organizations

The impact of both individual and organizational attributes on the adoption of ICT cannot be under estimated. These attributes are as discussed below:

Individual factors influencing innovation

From the perspective of the individual there are some major issues if the diffusion of ICT is to progress and be used innovatively. First, the practice managers should feel that the onus was on them to deliver much of the data and this means they rely on being up to date with all aspects of the information system pertaining to their area. They have limited budgets for staff training and therefore may undertake on the job training with all staff.

Environmental factors influencing innovation

Some of the environmental factors that influence the adoption and diffusion of an innovation include:

The theory of DOI suggested that competition in the market place of the business will make the firm more likely to adopt IS. In the case of SMEs, competitiveness is an important motivator or inhibitor of IS adoption and use. Customer needs have the highest priority in most of SMEs. For SMEs, customers who purchase large quantities are preferred rather than large numbers of customers with small purchases. They monitor the customers and their individual requirements to keep their loyalty. In the competitive environment they operate, being able to respond to customer's requirements quickly make SMEs valuable.

In order to respond to market effectively, SMEs may utilize information systems (Levy et al. 1998). Small companies gain competitive advantages as they utilize IT: they increase their production speed, they can introduce new production technologies, they may respond to any customer need, easily. As a result of IS adoption, the structure of the industry may change, and this may modify competition rules, create competitive advantages, generate new businesses. Since savings and credit societies face serious competition currently from commercial banks, this is a factor that would be found to be a motivator for the adoption of ICT.

Due to the lack of independent information systems department and internal information systems experts within the SME, external support are needed for implementing and using information systems. Consultants provide IT planning, implementation, problem solving

and maintenance. IS effectiveness is positively related to consultant effectiveness. Therefore, the quality of the consultant is another important parameter. When compared to internal expertise, main disadvantages of external expertise are their higher costs and lack of control over them. However, subcontracting with an external expertise has additional advantages. They lower the start-up costs, provide better service, lower the investment required from the manufacturer, improve the quality and integration of the information, and allow the manufacturer to specialize resources.

Since SACCOs may lack the necessary infrastructure to utilize ICTs then the role of KUSSCO and the ministry of cooperative may be to support them to implement these ICTS.

Innovation factors influencing innovation

Relative advantage is the degree to which using the Information System (IS) is perceived as being better than its precursor (Runge and Lee, 2001). In other words, relative advantage is the expected benefits these technologies will bring to company. A firm may want to improve its outdated accounting systems and save time, whereas the other may want to improve working life by redesigning the tasks. Another firm may want to improve planning and control phases to obtain economic benefits. It is suggested that, if it is believed that IS will increase effectiveness and efficiency, the firm is more likely to adopt IS.

Compatibility of information systems is the degree to which it is perceived as being consistent with the existing vision, past experiences, and needs of the potential

organization (Thong, 1999). Usually, packaged systems are suitable for SMEs since they are affordable and require low IS expertise. When a customized solution is required, external design and programming is needed. These extras are accompanied by system errors, delays, and need for maintenance. Those may slow up the implementation process and discourage the end-users.

Complexity is the degree of difficulty associated with understanding and learning IS applications (Kwon and Zmud, 1987). It is suggested that the IS adoption and usage are inhibited by the difficulty of IS applications. The complexity of an innovation is a significant factor in whether it is adopted by an individual. If the innovation is too difficult to use, then an individual will not likely adopt it.

Trialability is the degree to which one can try an IS application before making an adoption decision. It is suggested that IS adoption is effected by the degree of trialability (Harrison et al. 1997; Lassila and Brancheau, 1999). If a user has a hard time using and trying, an innovation this individual will be less likely to adopt it.

Organizational factors influencing innovation

Flexibility is the degree of how organizations respond quickly to customer requirements. Levy and Powell (1998) studied the interaction between the SME flexibility and IS. They argue that IS and SME get along together since they both have a flexible structure. Flexibility enhances the speed of adoption of IS in SMEs. They argue that the flexibility of small firms depends on the available human resources, organization structure, the characteristics of CEO, and the needs of customer. However, their research resulted that

SMEs show a relative inflexibility. Since they have a narrow product range, the role of IS is to increase efficiency and effectiveness rather than increasing flexibility (Lassila and Brancheau, 1999; Levy and Powell, 2000). Currently the technology bug has hit most of the Kenyans and they are demanding for services in real time. The way Tharaka Nithi Teacher's SACCO is able to accommodate these changes is very important as it dictates how well it will survive the competitions it faces.

Internal expertise discusses the effect of the availability of internal expertise within the firm. In most of the small firms, internal expertise is limited. The main reason for this is that small firms usually cannot afford to hire internal IS specialist. If the employees of companies are knowledgeable about information systems, they may be more willing to adopt and utilize information systems.

Literature suggest that as employees' self efficacy increases, they are more likely to use IS applications (Runge and Lee, 2001; Lee and Baek, 2002). Within small companies, ones who use IS applications may be more prestigious than those who do not.

SMEs may resist investing in IT when they lack financial resources. When a company has excess financial resources, they may tend to change their vision and tend to adopt IS systems applications. Organizations may lower the cost by correct resource allocation like in the example of U.S. West (Bhattacherjee, 1998). They have utilized the existing network, unused machines, and office space to reduce the initial capital for the project.

Small businesses have limited resources and infrastructure to facilitate IS adoption. This condition is called resource poverty (Thong, 1999). Resource poverty results from conditions like being in a very competitive environment, financial constraints, lack of professional expertise, and susceptibility to external forces. As business size increases, barriers to information systems adoption may disappear. It is suggested that business size is positively related with the level of adoption (Kagan et al. 1990; Gupta and Capen, 1996; Thong, 1999).

Companies in different sectors have different information processing needs. Those in more information sensitive sectors are more likely to use IS applications (Kagan et al. 1990, Lassila and Brancheau, 1999; Levy and Powell, 2000; Seyal et al. 2000).

The level of information intensity of the product or service is highly related with the degree to which the information is present in that product or service. Different sectors have different information needs, and those who have more need are more likely to adopt IS (Thong, 1999; Levy and Powell, 2000).

Product innovation is the degree to which a firm's ability to devise new organizational forms enhance its ability to exploit new opportunities internally (Runge and Lee, 2001). It is suggested that if a firm has already utilized an application, then he will be more likely to adopt various forms of IS applications.

2.1.5 Conceptual framework

From Roger's Theory (1995), the following independent valuables influence ICT adoption. These valuables were found to have an influence in this study since the perceived benefits of ICT influenced its adoption. The cost of the innovation also played a major role in ICT utilization since the customization of available software to suit the needs of the SACCO was very costly. SACCOs are pressed by the lack of skilled labor that is necessary to operate ICT. More so the level of ICT competencies that members have also influences the level of ICT adopted and used within the SACCO. External pressure comes from the fact that the SACCO recognizes ICT as having the potential to help them overcome competition from commercial banks and government intervention in form of infrastructure, tax relief and other forms of regulations influence adoption and utilization of ICT by Tharaka Nithi Teachers SACCO.

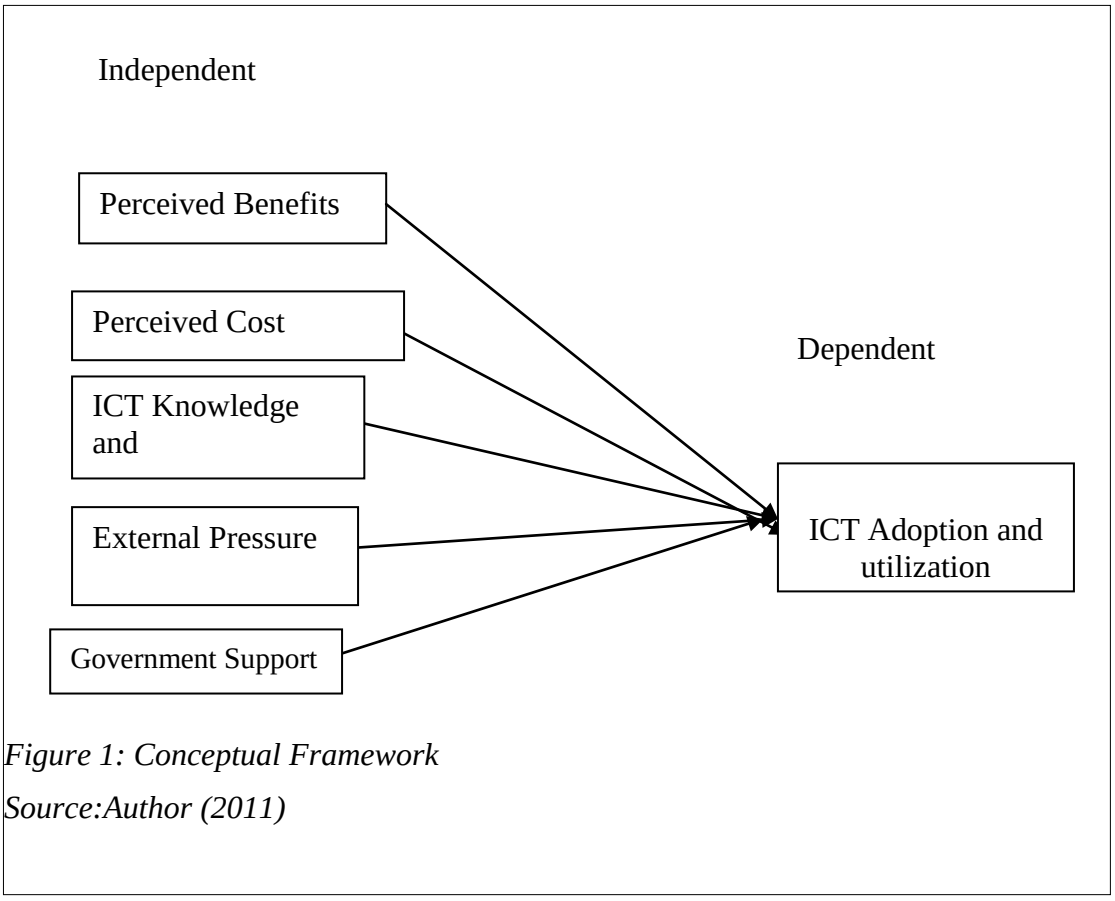


Figure 1: Conceptual Framework

Source:Author (2011)

2.2 Applications of ICT in microfinance institutions

Various studies have identified different applications of ICT in microfinance institutions. Use of ICT in commercial sector is irregular. Often, computers only seem to be found in manager's offices; they are rarely integrated throughout all levels of an organization. This means that application of ICT in some cases is inadequate.

Priti (2004) is of the opinion that Africa has achieved very little on the application of ICTs but rather it depends on emulating progress made in the developed world. Because of this there is a scarcity of in-depth knowledge related to an African context. Due to this

then, some areas in which ICT has the potential to change the economy and society in general have not been identified.

The ICT needs of microfinance institutions mainly focus on three objectives: (1) exchanging information with remote clients, (2) processing and managing data at the institutional level, both at central offices and in remote locations, and (3) reducing the potential for loss during monetary transactions (collection/delivery) in remote areas. Management Information System (MIS) that addresses the needs of MFIs consists of different components, including hardware components (desktop and server computers, hand-held devices, mobile phones, etc.), network components and protocols and software components (user interfaces, databases, etc.), Augsburg and Schmidt (2006).

According to a study carried out by Dieter and George (2006), much attention has been given over the years to the successful adoption and use of ICT in large organizations. It is commonly accepted that ICT provides potential benefits to organizations so as to make them more efficient, effective and competitive. They however say that unlike extensive research on ICT Practices in large organizations, the small and medium sized sector has been under-researched.

In their study, Dieter and George (2006) found out that:

- ICT infusion in small business is low for the micro and small enterprise but higher in medium enterprise.

- For the micro enterprise ICT is only emerging and in the form of systems that have potential to facilitate interactions with the outside.
- Small enterprises rely heavily on personal interactions which they supplement with the use of ICT. However, ICT infusion does not go beyond organizational boundaries since it is not used to facilitate links with the environment affiliations. This means that ICT is only used in housekeeping activities.

According to the World Bank Group (2002), Information and communication technologies provide a foundation for building up and applying knowledge in the private and public sectors. Countries and organizations with pervasive information infrastructure that use innovative information technology applications, posses' advantages for sustained economic growth and social development.

These include;

1. Are a key input for economic development and growth

2. Offer opportunities for global integration while retaining the identity of traditional societies.

3. Can increase the economic and social well-being of poor people, and empower individuals and communities

4. Enhance the effectiveness, efficiency, and transparency of the public sector including the delivery of social services.

Hariprsad and Srikrishman (2006) carried out a study in India on how financial services can be delivered in the rural areas. They identified a need for ICT to be incorporated in the provision of financial services to the rural areas with a view to alleviating poverty and

providing overall development or empowerment opportunities to the lower strata of society. The two look at different models of providing financial services to the rural areas through ICT and evaluate their effectiveness, sustainability and viability.

Shobha and Natasha (2008) identify about three applications of ICT in the rural areas to include:

- Mobile phone-enabled banking. This can be equated to Safaricom's M-pesa service where a client can send or receive money through their mobile phones
- Producer price information. This is mostly used in the agricultural sector to assist farmers know the prices of products through their mobile phone to avoid exploitation by middlemen.
- Land information systems. This is a geographic information system for cadastral and land-use mapping, typically used by local governments
- According to Shobha and Natasha (2008) clients used Mobile Banking to Perform: deposits, Savings, Loans, Remittance payments, Purchases and Bill payments
- The study also found that mobile banking had the following benefits for the client:
- Reduction in travel time and cost. For example in Papua New Guinea, teachers had to travel for two days by rough road or boat to withdraw their salaries.
- Reduction in transaction costs for remittances.

- Reduced opportunities for fraud, counterfeit and theft by providing a secure electronic mode for transferring funds as opposed to the traveling of long distances to transfer cash.

The service provider received the following benefits from mobile banking.

1) Reduced direct costs for the delivery of the products.
2) Reduced errors and increased transparency in the transfer and recording of loan disbursements and even savings deposits.
3) Easier record keeping on each client through computerization of transactions by mobile phones thus making it easier for the financial institutions to tailor their products and services for the segments within their pool of small customers.

Jessup and Valacich (2005) list ways in which financial institutions can make use of ICT in their work. These include:

Electronic Fund Transfer: This involves transferring funds from one financial account to another. Instead of a client withdrawing money and depositing it to another account this can be done electronically. For example, SACCOs may use this application to help clients pay school fees for their children in schools with accounts in different banks.

Electronic Mail: Since e-mail can be received today using mobile phones, institutions can send mail to a list of clients to inform them of changes in service provision, inform them of loan balances and even call members for an AG.M very fast.

Gasco (2006), states that information and communication technologies help MFIs make appropriate policy decisions and manage information more effectively and efficiently. Edit scoring allows an MFI to analyze a client's historical data, while providing links between a client's characteristics and behavior with the assumption that those links will predict how clients might act in the future. Scoring technology can assist MFIs to analyze past behaviors of clients to better assess loan applications, develop more effective loan-collection methods, create more effective target marketing strategies, and increase client retention.

SACCOs can benefit in using ICTs such as:

Personal Digital Assistant (PDAs): These are small handheld devices that field officers can use to do financial calculations and manage both client and MFI information. With data electronically stored, loan officers can readily gain access to client information, which assists them in activities such as loan processing, reviewing clients' historical data, and monitoring loan portfolios (Hishigsuren 2006).

Smart cards: They are small plastic cards that can easily fit into a wallet. They have an embedded microchip that processes information or stores data and works like an electronic passbook to facilitate savings, deposits, and money transfers (Hishigsuren 2006).

Point of Sale (POS): This is a device or system that is located at a physical location often remote from a main branch such as in a retail outlet. It is able to perform some of the financial transactions normally associated with branch banking such as the transfer of funds from one account to another or from a customer to a retailer. (Hishigsuren 2006)

Mobile phones: Allow clients to use a cell phone to call into an automated system to conduct business transactions and to access and request information. They also allow clients to charge others for use of their mobiles, especially in regions without a regular telecommunications infrastructure. (Hishigsuren 2006)

An ATM is a machine that facilitates banking transactions that would otherwise be serviced by staff. It provides account information, accepts deposits, and aids cash disbursement and balance transfers. (Hishigsuren 2006)

Biometrics technology measures an individual's unique physical or behavioral characteristics such as fingerprints and voice patterns to recognize and confirm identity. This technology is used in association with ATMs and POS.

Interactive voice response (IVR) technology allows clients to access an automated system through standard or mobile telephones to do banking transactions and get other information such as office hours and branch locations. Internet banking allows clients to perform transactions similar to telephone banking, which include verifying account information, making bill payments and money transfers, and accessing new product information. (Hishigsuren 2006)

2.3 Benefits of computerized Information systems

Ahmad (2006) gives the following benefits of computerized information systems in microfinance institutions in India:

- They provide easy access to accurate and up-to date information. For example loan officers get more information on loans that they need to follow up, managers can monitor daily progress of the institution. Customers can also get quick information on their accounts, payments and balances.
- Detailed information is captured on customers and their activities that can then be used to assess client business to assess impact. It is also important in tracking historical information of clients.
- Activities, such as disbursements, repayments, deposits, withdraws and money transfers are completed faster, better controlled and with minimum opportunity errors.
- Information is produced in user required formats, which facilitates better understanding, setting, priorities, objectives and strategy.
- Key performance indicators provide an overview of the organization's performance, efficiency and effectiveness of business procedures so that timely adjustments can be made.
- Use of ICT helps make MFI services more interactive, accessible and transparent.
- In terms of innovation, ICT provides full flexibility to structure products and services to the needs of its target group.
- Efficiency and productivity of staff is increased, as they are able to manage more products, customers and transactions in less time.
- To meet target market needs, introduction of new products and setting procedures is easy and can be applied throughout the organization.
- It can also provide the flexibility to integrate with other applications and delivery mechanism.

2.4 Challenges faced by MFIs in the adoption of ICT

Rural areas face unique challenges when it comes to the adoption of ICT. Subba Rao (2004) in a study carried out in India found out that some of these challenges include but not limited to the following:

1. Poor infrastructure. This involves both the electricity infrastructure and the telecommunication infrastructure. Most rural areas have no access to electricity and in cases where there is connectivity; it cannot be relied upon as blackouts are the order of the day.
2. Finance. ICTs are very expensive to implement and most of the time they are beyond the reach of most rural institutions.
3. Skilled personnel. Most institutions in the rural areas are not endowed with skilled manpower to manage the ICTs as these mostly prefer to work in the urban areas where there are better opportunities.
4. Leadership styles, culture and bureaucracy. This involves leaders who are conservative to change and the fact that before a decision is made there is a lot of bureaucracy leading to wastage of time before an idea is adopted.
5. In terms of Internet access, rural areas have no connectivity. This hampers full adoption of ICT and most institutions are limited to using computers for in-house activities only.

2.5 Suggested best practices in the adoption of ICT

Oyeyinka (2006) states that organizations have to practice best practices for ICT and gives the following guidelines

1. Do not underestimate the complex environment in which ICT programs evolve. ICT projects are too often believed to have a technology focus.
2. Always select a project that is expected to demonstrate the greatest benefit for your target group
3. Re-skill the staff to anticipate the changes that accompany an ICT structure and new roles
4. Make a decision on how an organizational structure fits your technology.
5. Not to under-estimate the total cost of ownership of an ICT project.

The ministry of information and communication has launched a national ICT strategy with the vision "A prosperous ICT drove Kenyan society" and a mission "To improve the livelihoods of Kenyans by ensuring the availability of accessible, efficient, reliable and affordable ICT services.

To prove its seriousness the government has set up an ICT parastatal (The Kenya ICT Board) to spearhead ICT development in the country.

According to Johnson…etal (2006) the following characteristics define the Kenyan ICT environment currently:

1. Most ICT projects are initially donor funded

2. Some donations are made without prior consultations or without carrying out a needs assessment by the recipient organization.

3. A lack of an ICT policy and master plans to guide investments on ICT.

4. A focus on ICT applications that support traditional administration and functional transactions rather than an effective information processing and distribution within and without departments

5. Unstable ICT resources.

2.6 ICT adoption and utilization by rural SACCOs

The Ministry of Cooperative Development and Marketing strategic plan reveals that the use of ICTs in cooperative movements is limited to housekeeping activities.

However some SACCOs have gone ahead and introduced automatic teller machines to allow their members to withdraw money from any cooperative bank anywhere in the country.

The cooperative bank has also launched a SACCO link (cooperative switch project). This has seen members of SACCOs operating the front office savings account being issued with a SACCO link debit card. This allows SACCOs front office account holders to get real, online banking connectivity to the cooperative bank allowing members to access their money.

The SACCO link card is also visa based meaning that a SACCO member can enjoy convenience of using the card to buy goods and services at any shopping outlet that accept visa cards worldwide.

Some SACCOs have also developed their websites and even some have web portals. Most have an email address and this shows that they are making an effort to embrace ICT fully.

2.7 Implications from literature review

This review indicates a rapid expansion of research into ICT use in microfinance institutions in general but did not show the nature of ICTs and the extent to which ICTs had been adopted by SACCOs in particular. This research hoped to cover this gap. All in all overall, the literature reviewed identified that: ICT application in microfinance institutions and in particular the SACCO was inadequate and was limited to only housekeeping activities, Microfinance institutions in developing countries are face almost similar challenges in their effort to adopt ICTs, an ICT policy is very important for successful adoption of ICTs and that ICT have a wide range of application in microfinance institutions.

2.8 Summary

From the literature review, it is clear that ICT has the potential to transform rural microfinance institutions if fully adopted. It is also clear that these rural microfinance institutions exhibit characteristics which influence the rate and extent to which they adopt and utilize ICTs. Because of this the Roger's diffusion of innovations theory was adopted because it helps explain how the innovation itself, business size, location, business and even the management influence the adoption of an innovation.

CHAPTER THREE

RESEARCH METHODOLOGY

3.0 Introduction

This chapter examines research methodology applied in this study and explains the reason for employing the research techniques to carry out this study. Mugenda and Mugenda (1999) define methodology as the procedures that have been followed in conducting a study. It involves research techniques and methods used in a study. It provides an explanation as to why certain methods were chosen and not others.

3.1Research Design

The study utilized the case study method and integrated a survey within it.

3.1.1 Case study

Powell and Connawy (2004) describe a case study as a specific field or qualitative research method. It is also an investigation of phenomena as they occur without any significant intervention of the investigators. Powell continues to say that a case study is used when:

a) A large variety of factors and relationships are included.

b) When no basic laws exist to determine which factors and relationships are important.

c) When the factors and relationships can be directly observed.

Yin (1984) defines a case study as an empirical inquiry that:

a) Investigates a contemporary phenomenon within its real life context.

b) When the boundaries between phenomenon and context are not clearly evident and in which:

c) Uses multiple sources of evidence.

A case study therefore is type of qualitative research in which in depth data are gathered relative to a single individual program, or event for the purpose of learning more about an unknown or poorly learning understood situation. Powell and Connawy (2004) continued to say that case studies involve intensive analysis of a small number of subjects rather than gathering data from a large sample or population.

Tharaka Nithi teachers SACCO was chosen as a case study for this research. This methodology was chosen because there are many rural savings and credit societies in Kenya and all of them could not be effectively covered. More so, since all SACCOs are involved in the same business of savings and credit, it was felt that the case study may yield findings that could facilitate the search and discovery process when examining other situations. Valsiner (1986), claims that the study of individual cases has always been the major (albeit often unrecognized) strategy in the advancement of knowledge about human beings.

Bromley (1986) maintains that the individual case study or situation analysis is the bed-rock of scientific investigation. The design was chosen to allow indepth investigation into the use of ICTs by Tharaka Nithi Teacher's SACCO.

3.1.2 Survey research

Loraine (2006) defines a social survey as a type of research strategy. This means that it involves an overall decision (a strategic decision) about the way to set about gathering and analyzing data. The strategy involved in a survey is that the same information is collected about all the cases in a sample. Usually, the cases are individual people, and among other things they are all asked the same questions. Standardization lies at the heart of survey research, and the whole point is to get consistent answers to consistent questions.

This study utilized the survey research design to gather information from members. A questionnaire was sent to 400 members.

Advantages surveys

1. With an appropriate sample, surveys may aim at representation and provide generalized results.
2. Surveys can be relatively easy to administer, and need not require any fieldwork.
3. Surveys may be repeated in the future or in different settings to allow comparisons to be made.
4. With a good response rate, surveys can provide a lot of data relatively quickly.

Disadvantages of surveys

1. The data, in the form of tables, pie charts and statistics, become the main focus of the research report, with a loss of linkage to wider theories and issues.

2. The data provide snapshots of points in time rather than a focus on the underlying processes and changes.

3. The researcher is often not in a position to check first hand the understandings of the respondents to the questions asked. Issues of truthfulness and accuracy are thereby raised.

4. The survey relies on breadth rather than depth for its validity. This is a crucial issue for small-scale researchers.

Survey research design was chosen for the members because they were many and the researcher wanted to use many of them as respondents to increase the reliability and validity of the research

3.2 Research strategy

Mugenda and Mugenda (1999) define a research strategy as the manner in which a proposed strategy would be implemented. This study adopted both qualitative and quantitative approaches. The qualitative paradigm allows the researcher to have a detailed understanding of the perspectives of those involved in events. It tends to limit the scope of the data collecting process. Interview schedules were used to collect qualitative data. The following aspects were covered by the interview schedules: Availability of ICT policy, Types of ICTs available at Tharaka Nithi Teachers SACCO, challenges and benefits. Other aspects covered included role of government and KUSCCO in promoting ICT use in SACCOs.

Powell and Connawy (2004) defines quantitative research methods as involving a problem solving approach that is highly structured in nature and that it relies on the quantification of concepts where possible for the purposes of measurement and evaluation. A questionnaire was used to cover aspects such as: Gender and education level of respondents, extent to which ICT was used to provide services to members, suggested recommendations for maximum utilization of ICTs, Level of ICT literacy and benefits to members from ICT usage.

This study used a triangulation of research instruments approach as it allowed the researcher to address different aspects of the same research extending the breadth of the research. Also by employing different research paradigms, the researcher was able to compensate for the inherent weaknesses in each approach.

3.3 Study population

Population refers to the total units that conform to a particular criterion or set of study. Since this was a case study the population involved all members and staff of Tharaka Nithi Teachers SACCO, officials of Tharaka Nithi Teachers SACCO and ICT officials from Ministry of Cooperative and Marketing in Kenya and KUSCCO.

3.4 Sample Design

A sample design can be said to be a definite plan for obtaining a sample from a given population. It is the procedure or technique the researcher will adopt in selecting items for the sample. This study adopted a mixture of both probability and non-probability

techniques. Stratified sampling was used to divide the SACCO population into two strata. These were: the staff and the members of the SACCO.

Purposive sampling was used to select all members of staff. This is a technique where the researcher chooses a particular unit as a respondent purposely because he/she could be better placed to provide the required information. The technique was also used to pick ICT managers from the Ministry of Cooperative and KUSCCO. The SACCO Chairman was also chosen using purposive sampling since he was critical to any decisions that the SACCO makes in relation to the purchases of ICT. Among the members simple random technique was used where the table of random numbers was used to select respondent's number of units. Since the sample size for the SACCO members was 400, it meant that the member selected would be within a group of items 1-10. A table of random numbers was generated using this information. The researcher settled on a sample of 400 members after choosing a confidence level of 95% and assuming that 50% of the population will choose a particular answer.

The following formula adopted from Israel (2009) was used to calculate the sample size. A confidence interval of $^{+}$.4.9 was desired.

$$ss = \frac{Z^2 * (p) * (1-p)}{c^2}$$

$$ss = Z^2 * (p) * (1-p) / c^2$$

Where:

Z = Z value (e.g. 1.96 for 95% confidence level)

p = percentage picking a choice, expressed as decimal

(.5 used for sample size needed)

c = confidence interval, expressed as decimal

(e.g., .04 = ±4) (university of Florida, 2008)

Thus for this study the sample will be

$(1.96^2*.5*(1-.5)/0.049^2)$ giving a sample size of 400.

3.5 Sample Population

A total of 417 (four hundred and seventeen) respondents were involved in the study. They included all the 14 (fourteen) members of staff in the SACCO, 1 (one) SACCO official, 400 (four hundred) SACCO members out of 4000(Four Thousand) and 1 (one) official from the Ministry of Cooperative Development and Marketing and 1 (one) more from KUSCCO.

Table 1: Sample distribution

Target population name	Target population size	Sample size	percentage
SACCO members	4000	400	10%
SACCO staff	14	14	100%

In addition to the above three key informants were drawn each from the Ministry of cooperative Development and Marketing, KUSCCO and the Chairman of Tharaka Nithi Teachers SACCO.

3.6 Data Collection Methods

This study utilized both secondary data and primary data. Since this study was both qualitative and quantitative, questionnaires, interview schedules and documentary sources were used.

3.7 Data collection instruments

The following are the data collection instruments that were used for this study.

3.7.1 Interview Schedules

The researcher used interviews for the SACCO staff and officials of both KUSCCO and the ministry. This enabled the researcher to collect in-depth information and to ask probing questions to clarify and issues that come up as the interview progresses. The fact that interviews have a very high response rate was an added advantage.

3.7.2 Questionnaires

A combination of both open ended and closed ended questions were used in the development of the questionnaire. The questionnaires were used to collect data from members of the SACCO since using interview to collect data from them was not viable the members were scattered over large distances.

Powell and Connawy (2004) define a questionnaire as a set of questions for submission to a number of persons to get data. The questionnaire was tested for validity and reliability by pilot testing to find out whether it was inappropriate or too complicated. This was

done by administering the questionnaire to pilot subjects in exactly the same way as it was administered in the main study getting the feedback and revising on the questionnaire again where necessary.

3.7.3 Document Analysis

This involved the study of society brochures, annual reports, sales receipts and newspaper and magazine articles. Information on some of the challenges in relation to ICT and new products was got from the society's annual general meeting minutes. The History of the SACCO was got from the society's news letter and newspapers.

3.8 Data analysis

Data was analyzed by both qualitative and quantitative. Qualitative data was analyzed by categorizing and recognizing relationships between units of data. The statistical package SPSS was used in the analysis of quantitative data. The data is represented in bar graphs, tables and pie charts.

3.9 Ethical issues

Since financial information is very sensitive any information gathered will be given the utmost level of secrecy befitting it. The identity of respondents was kept anonymous and the data and information collected was used solely for academic purposes.

3.10 Summary

The research utilized a triangulation of methods approach where questionnaires, interviews and document analysis were applied for data collection. Both probability and non- probability methods were used in sampling design. A sample of four hundred and seventeen was involved in the study with four hundred being members of SACCO. Fourteen were SACCO staff while key informative staff included SACCO chairman one official from KUSSCO and one official from Ministry of Cooperative development and marketing.

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION AND INTERPRETATION

4.0 INTRODUCTION

This chapter gives a detailed account of data collected from the study. It provides an analysis of the results and presents data in percentages, tables, pie charts and bar graphs. The data presented is further interpreted and discussed.

4.1 Questionnaire Results

4.1.1 Response rate

A total of 417(Four Hundred and Seventeen) respondents were sampled. Four Hundred questionnaires were administered to SACCO members and 14 (fourteen) SACCO staff, one SACCO official and one official each from the Ministry of Cooperative Development and Marketing and KUSCCO were interviewed.Three hundred and eighty questionnaires out of a total of four hundred were returned. Out of these two were incomplete. Thus the response rate for the questionnaires was 95%. All the respondents for the interviews were available giving a 100% response rate. This shows that the response rate was high and adequate for the study.

4.1.2 Characteristics of respondents

The research sought to find out the gender, age and education level of respondents and the responses were as stated below.

4.1.2.1 Gender of the respondent

Of the respondents 46% were male while 54 % were female. The pie chart below shows the distribution of the respondents by gender.

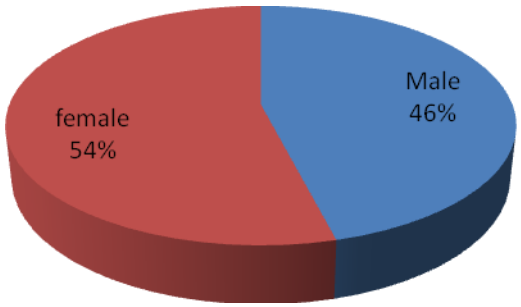


Figure 2: Gender constitution

Although the information above showed that the SACCO had more female members than male, the difference was not much to have any effect on its operations and management.

4.1.2.2 Age of respondents

The respondents were to indicate their age. This was to determine whether the SACCO was getting any young members for continuity purposes.

The age of the respondents was divided into 20-30 years, 31-40years, 41-50 years and above 50 years. In the bracket of 20-30, there were thirty eight respondents, one hundred and fourteen in the 31-40 bracket, one hundred and seventy five in the 41-50 bracket and fifty three respondents in the above 50 bracket. This is summarized in the figure below.

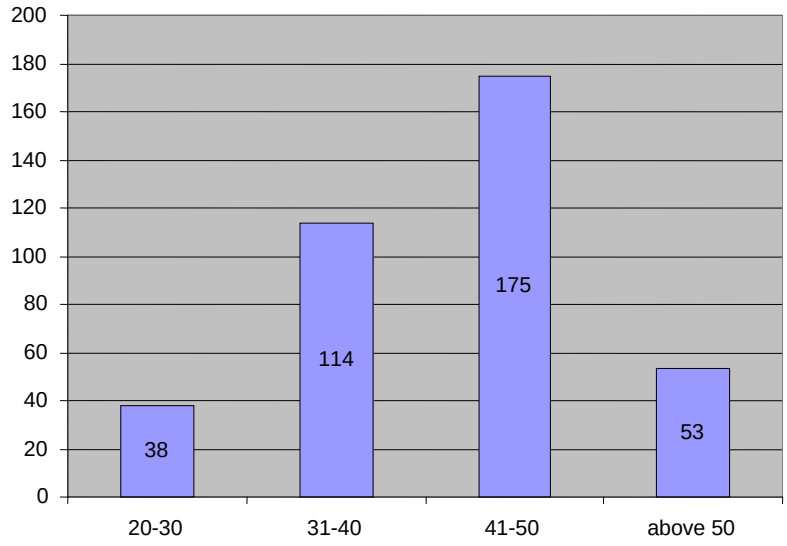


Figure 3: Respondents by age

The results showed that most of the members were above the age of 30 years. This meant that the SACCO was not getting any young members and this could be detrimental in the long run. It is possible that the products that the SACCO was offering were not attractive to the young people.

As for the SACCO staff, responses showed that 10 (ten) were between 30-40 years while the other 4 (four) were between 41-50 years. The fact that majority were still young could have been responsible to the enthusiasm with which they were willing the SACCO to embrace more aggressive technology.

4.1.2.3 Level of education of respondents

On the level of education 177 (one hundred and seventy seven) members had a p1 certificate, 104 (one hundred and four) were degree holders and 96(ninety six) were diploma holders.

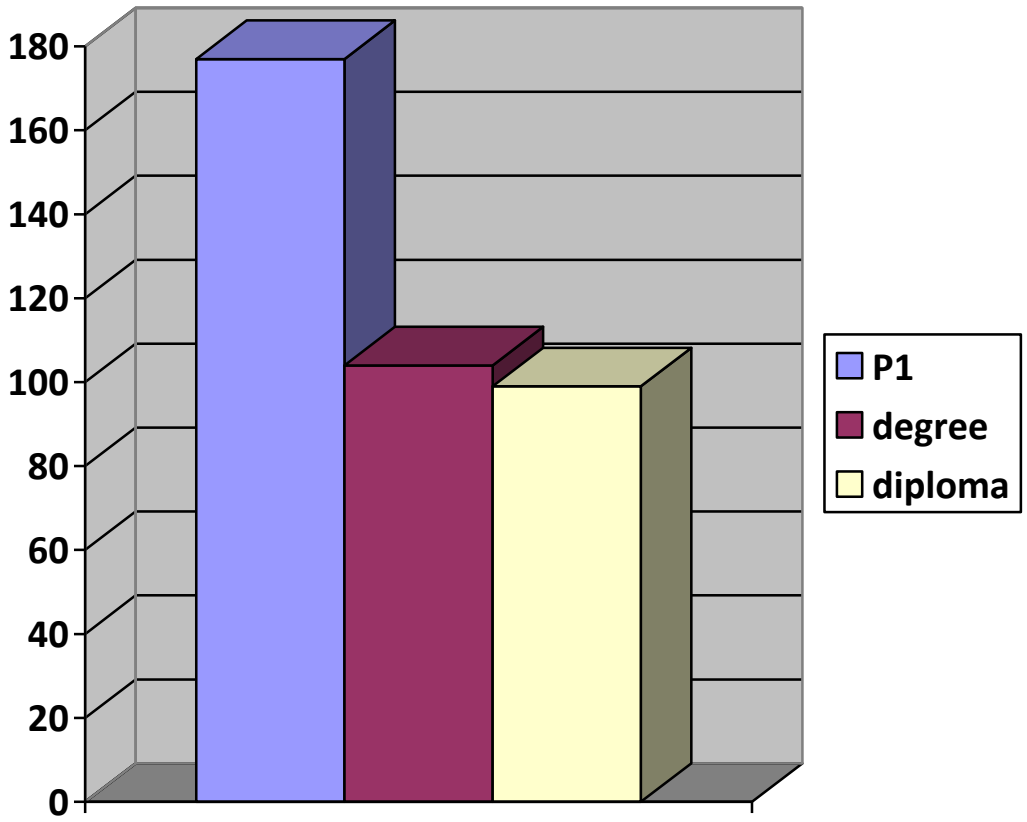


Figure 4: Level of education

From the figure above it is deduced that more than half (273/378) of the respondents were at the diploma and below level. This could be one of the contributing factors as to why the SACCO has been slow to adopt Internet based services since its customers have not had basic knowledge of the Internet. Pressure from Customers and employees has been found to be a major factor that has contributed to the adoption and utilization of ICTs by organizations (Thompson and Costello, 2004).

4.1.2.4 Number of years at SACCO (n=378/400)

Sixty one respondents had been members of the SACCO for 1-5 years, ninety nine for about 6-10 years, thirty eight for 11-15 and one hundred and eighty two for more than 15 years. This is summarized in the figure below

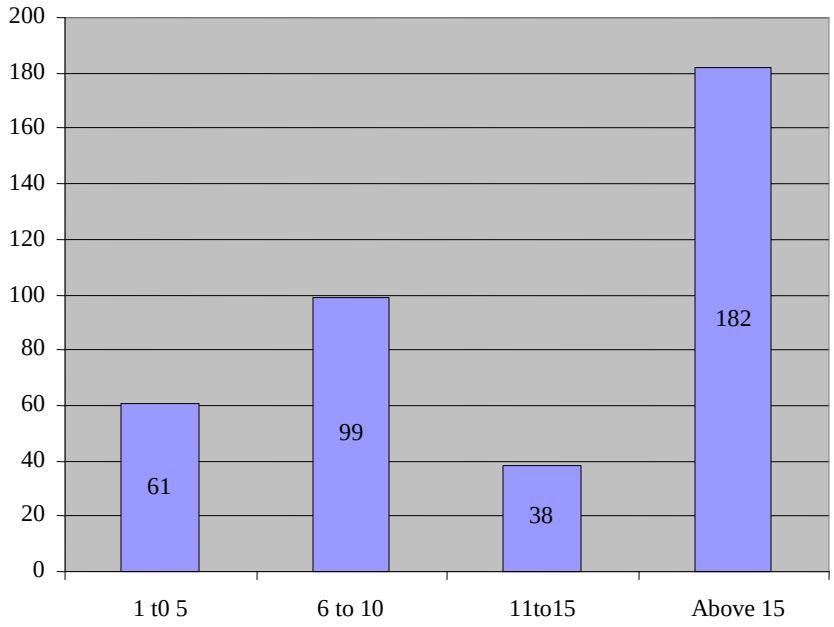


Figure 5: No. of years at SACCO

The above findings were an indication that the rate of enrolment for new members was slow and that the SACCO had to find new ways of enticing new members either by service development or by diversifying to include members from non-teaching domains.

4.1.3 Services from the SACCO

A question to identify the services that the SACCO provided was asked and the following were identified; Salary processing, members received their salaries through a savings account that the SACCO operates. This service is provided by the SACCO's FOSA

department and it was also responsible for providing another salary related service called salary advance. Other services offered by this department included: Clearance of third party cheques, channelling BOSA loans to respective accounts, maintaining savings account, fixed deposits accounts, ATM services accessible all over the country and a safe, serene banking environment provided with seats. The ATMs were provided through the cooperative bank since the SACCO did not have an ATM of its own. The BOSA Department offered the following services: Development Loans; currently the maximum lending rate was three times one's savings. The loan was repayable within 48 months. The rate of interest was one% per month on reducing balance, emergency loans, and school fees loans.

4.1.4 Efficiency of the SACCO in providing services

Sixty one respondents felt that the efficiency of the SACCO was very satisfactory; Two Hundred and Fifty Four said it was satisfactory, Twenty Three did not know while Twenty One felt that the efficiency level was not satisfactory. The implication here was that members felt that ICTs had brought about some efficiency. The fact that only few (61/378) felt the services were very efficient meant that there was still some room for improvement. This showed the members appreciated the fact that ICTs had achieved some form of sanity in terms of efficiency in service provision as shown in the figure below.

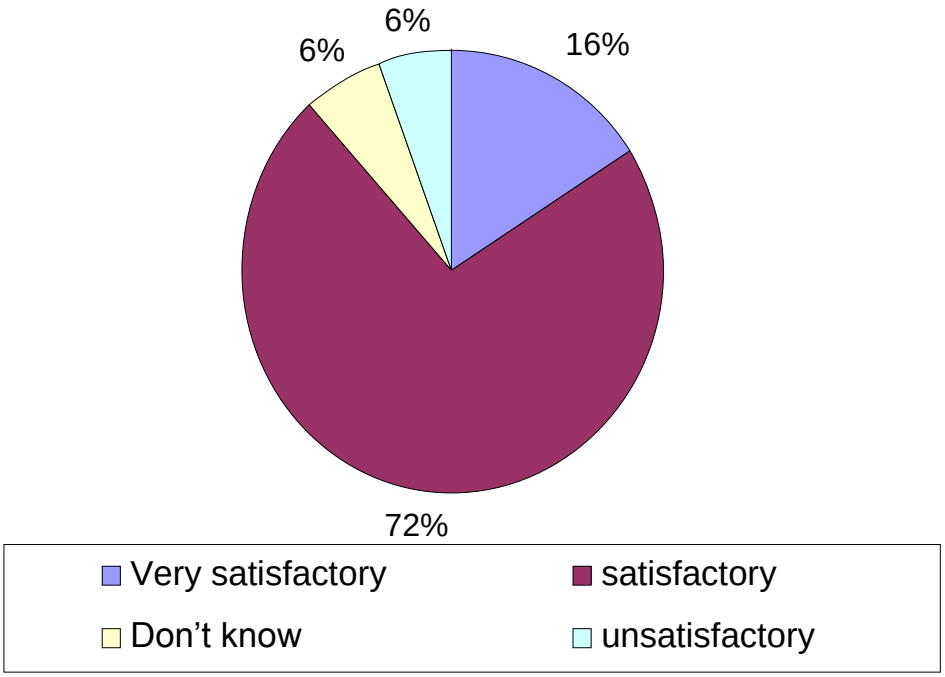


Figure 6: General efficiency levels

4.1.5 Computerization and efficiency

As to which services had become more efficient with the introduction of computerization, 91.8% said salary processing, 92.4% advance processing, 95.3% loan processing, 91.3% Teller services, 96.8% balance enquiry and 97.9% ATM services. These results are shown in the bar graph below.

From the above it can be said that the members have been able to achieve customer satisfaction from computerization of SACCO services and it can also be deduced that the SACCO has found itself loyal customers due to increased customer satisfaction.

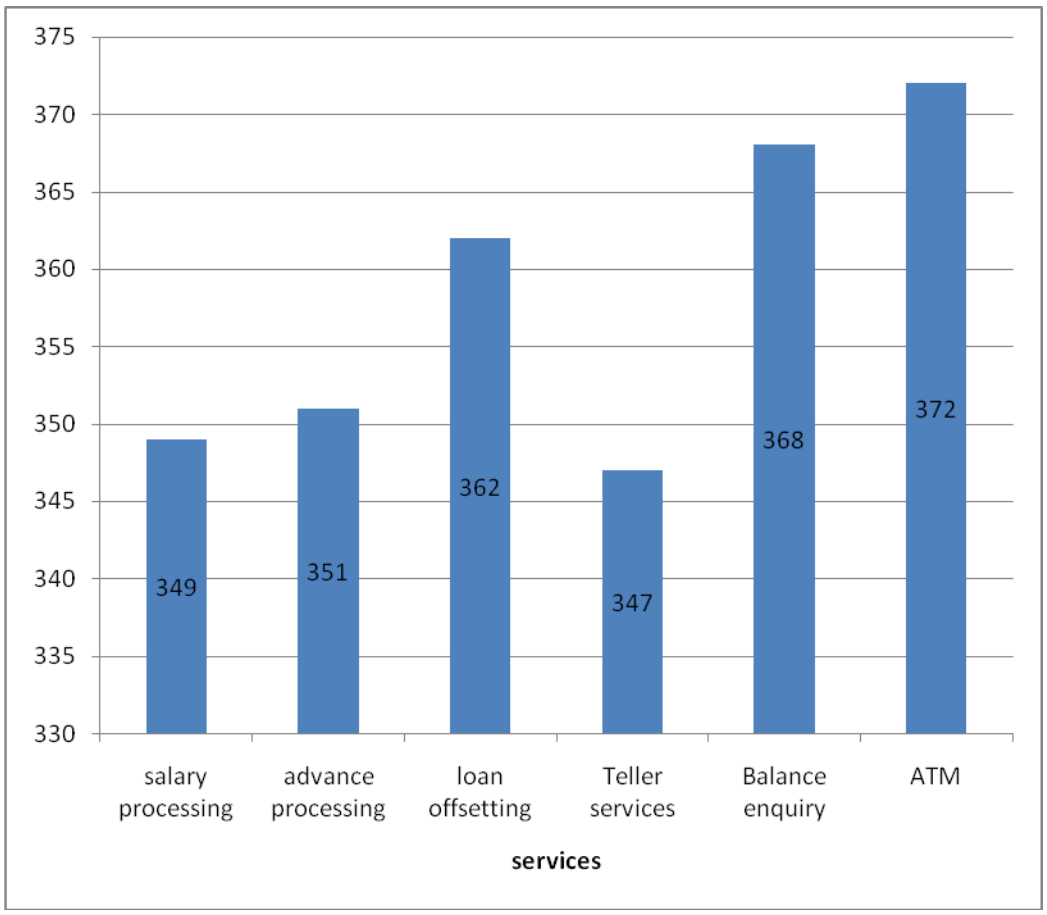


Figure 7: Enhanced efficiency levels

N.B Multiple responses

4.1.6 Measures for service improvement

In terms of what needed to be done to improve services, 85.3 % vouched for a reduction in the time the SACCO took to start deductions for loan taken, 95.3% suggested use of the mobile phone to update members of their various accounts, 57.6% suggested increased transparency, 72.4% wanted computers in the waiting room, 30.3% wanted adequate warning before the SACCO withdrew services, 96.8% wanted a reduction in the loan processing period, 93.7% requested the SACCO to introduce mobile banking, 95.3% suggested that the SACCO should introduce email communication and 60.8% requested

for the opening of other branches as shown below. These findings indicated reduced turn around times was very important to the members and the introduction of mobile technology would go along way to increasing customer satisfaction.

Table 2: Measures to improve service

Action to be taken	No. Of respondents	percentage
Immediate loan deduction	324	85.3%
Updating members on their various accounts by phone	362	95.3%
Transparency	219	57.6%
Computers in waiting room for members	275	72.4%
Adequate warning before withdrawing services	115	30.3%
Reduction of loan processing period	368	96.8%
Introduce mobile banking	356	93.7%
Introduce email communication	362	95.3%
Open other branches	231	60.8%

N.B Multiple responses

It is clear from these responses that although ICTs had been able to assist the SACCO in achieving efficiency and effectiveness still a lot needs to be done since the current system is failing to give reports when a loan is due for deductions.

4.1.7 Ratings of various services by members

Members were asked to rate different services using the parameters that were provided and the responses were as follows;

Better financial control: majority of the members felt that with computerization there was better financial control in the SACCO since 67.9% felt it was satisfactory. 12.1% felt it was very satisfactory. Only 7.9% felt that financial control was unsatisfactory while 12.1% did not know.

In terms of better communication, 62.2 % felt communication was above satisfactory compared to before the SACCO computerized its services as shown in the figure below.

In relation to better quality of work majority (75 for strongly agreed and 163 for agreed) felt that ICT had resulted to an improvement in the quality of work. The responses are as shown below.

Most of the members (288) agreed that work in the SACCO was done more quickly with ICT unlike before.

10% felt that the SACCO had been very efficient with the sharing of information when compared to before there were computers. 55% said that it was efficient, 23.6% inefficient and 10% did not know.

In regard to faster access to information 36 (thirty six) strongly agreed that ICT had made access to information faster, 163 (one hundred and sixty three) agreed while 90 (ninety) disagreed. 72(seventy two) did not Know.

In terms of staff reduction, 25.8% strongly agreed that the SACCO had been able to achieve some benefits in terms of staff reduction, 33.9% agreed while 14.2% disagreed.

27.9% did not know whether the SACCO had witnessed any reduction in staff as a result of ICT.

On whether the SACCO had been efficient in the handling of large amounts of data, majority 258 (two hundred and fifty eight) felt that ICT had increased efficiency in handling large volumes of data while only 23 (twenty three) felt that it had not improved on efficiency. 99(ninety nine) did not know.

On the question of whether ICT had increase efficiency generally 72 (seventy two) strongly agreed, 218 (two hundred and eighteen) agreed and 72 (seventy two) disagreed. Only 18 (eighteen) did not know what to say. This information has been consolidated together in the table below.

Table 3: Ratings of various services by members

Better financial control	**Very satisfactory**	**Satisfactory**	**Don't know**	**Unsatisfactory**	**Very Unsatisfactory**
Response rate	46	258	46	30	0
better communications	Very satisfactory	Satisfactory	Don't Know	Unsatisfactory	Very Unsatisfactory
Response rate	76	160	91	53	0
better quality of work	Strongly agree	Agree	Don't Know	disagree	Strongly disagree
Response rate	75	163	91	51	0
work done more quickly	Strongly agree	Agree	Don't Know	disagree	Strongly disagree
Response rate	129	159	0	92	0
sharing information	Very effective	Effective	Don't know	Ineffective	Very ineffective
Response rate	38	209	38	98	0
faster access to information	Strongly agree	Agree	Don't know	Disagree	Strongly disagree
Response rate	38	163	72	90	10
reduction of staff	Strongly agree	Agree	Don't Know	Disagree	Strongly disagree
Response rate	91	129	106	54	0
handling large volumes of data	Very effective	Effective	Don't know	Ineffective	Very ineffective
Response rate	68	190	99	23	0
enhance effectiveness	Strongly agree	Agree	Don't Know	disagree	Strongly disagree
Response rate	72	218	18	72	0
customer satisfaction	Very satisfactory	Satisfactory	Don't Know	Unsatisfactory	Very Unsatisfactory
Response rate	84	194	24	56	20

From the above data it can be said that majority of the members were in agreement that ICTs had helped the SACCO in achieving efficiency, effectiveness and even cost reduction unlike before when the SACCO utilized manual systems.

4.1.8 Timeliness in loan processing

The study sought to establish the amount of time the SACCO took to process a loan. According to members, 9.7% said that it took one week, 23.6% two weeks, 4.7% three weeks, 47.7% four weeks and 14.2% more than four weeks. This shows that although the SACCO had been able to achieve efficiency in most of its activities, more was expected in terms of turnaround time for loan processing. The figure below summarizes these responses.

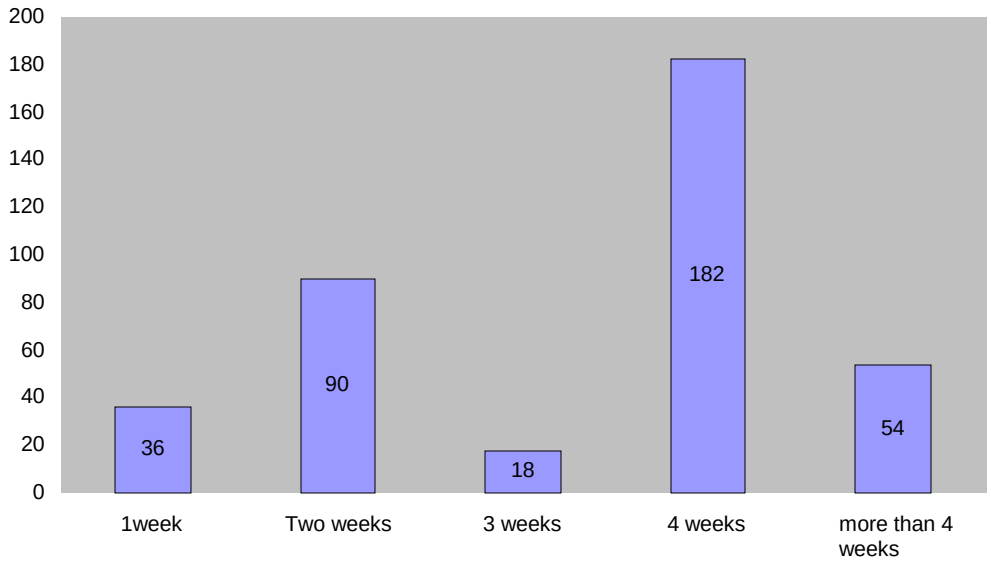


Figure 8: Loan processing time

Members were asked if they were comfortable with the loan processing period and 100% of the respondents said that they were not comfortable with the time taken to process the loans.

On what mode of communication members used between themselves and the SACCO, the response was that they either travelled to the SACCO or used a mobile phone to communicate with the SACCO.

4.1.8 Suggestion to improve service

Respondents were asked to suggest measures to be taken to make service provision better. The responses are summarized in the table below.

Table 4: Suggestions to improve service

Action	No. of respondents	percentage
Government to provide a with computers	241	63.4%
Educate members on ICT use	301	79.2%
Use mobile to deliver services	372	97.8%
Provide organization email for service delivery	332	87.4%
Develop website for communication	292	76.8%
Provide members with emails for communication	362	95.3%
Provide pcs in the waiting area for members	309	81.3%
Partner with retailers to provide point of sale services	206	54.2%

N.B Multiple responses

The above information shows that more than half (63.4%) felt that the government should chip in to help the SACCO acquire computers. Use of mobile phones, emails and the development of a website were also found to be of necessity by the SACCO customers

4.1.10 ICT competency

It was found that Seventy percent of the respondents are computer literate as compared to Thirty percent who were not literate. This information is shown in the pie chart below.

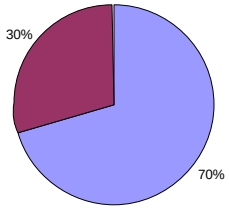


Figure 9: Computer literacy

Although 70% of the members were computer literate, none of them had an email nor did the SACCO provide any services through the Internet. Because of this then respondents could not say anything about the services provided over the Internet.

For the staff, the IT manager had a degree in information technology. All the others had some basic computer training a condition which made it difficult for the SACCO to maximally utilize ICTs.

4.1.11 Use of mobile phone

All the respondents had mobile phones which they used to communicate with the SACCO while the SACCO did not use the mobile phone to communicate with the members.

In relation to the services that members wished could be provided via mobile phone, the table below shows the responses given.

Table 5: Mobile phone use

SERVICE	NO. OF RESPONDENTS	PERCENTAGE
Salary payment notification	380	100%
Loan allocation notification	369	97%
Meeting dates	352	92.6%
Savings account balances	362	95%
Mpesa services	371	97.6%
Loan balance enquiries	348	91.5%
purchases	240	63%
communication	365	96%

It can be deduced from the above information that members rated the mobile phone highly in being able to provide faster and economical services to them.

4.1.12 Member suggestions on services to improve

SACCO members felt that the SACCO could make an improvement of the following services with the help of ICT. 97.3% felt that payment via phone was necessary, 98.7% account balances via phone was necessary, 77.1% felt that the SACCO needed to take services closer to the people in one way or other, 71.6% required the SACCO to utilize ICTs to reduce end month congestions. Other suggestions included: 93.9% who vouched

for a reduced loan processing period, 82% for the introduction of email communications, 98.8% suggested that the SACCO needed improve on information access, 65% wished the SACCO would reduce double deductions for loan repayments and 95% felt the SACCO needed to work on its public relations aspects. Only a mere 26.8% felt that the SACCO could do well if it introduced a new service in the form of unsecured loans like the commercial banks. These are loans that are not pegged on member contributions but on the members pay slips.

This information is shown on the bar graph below.

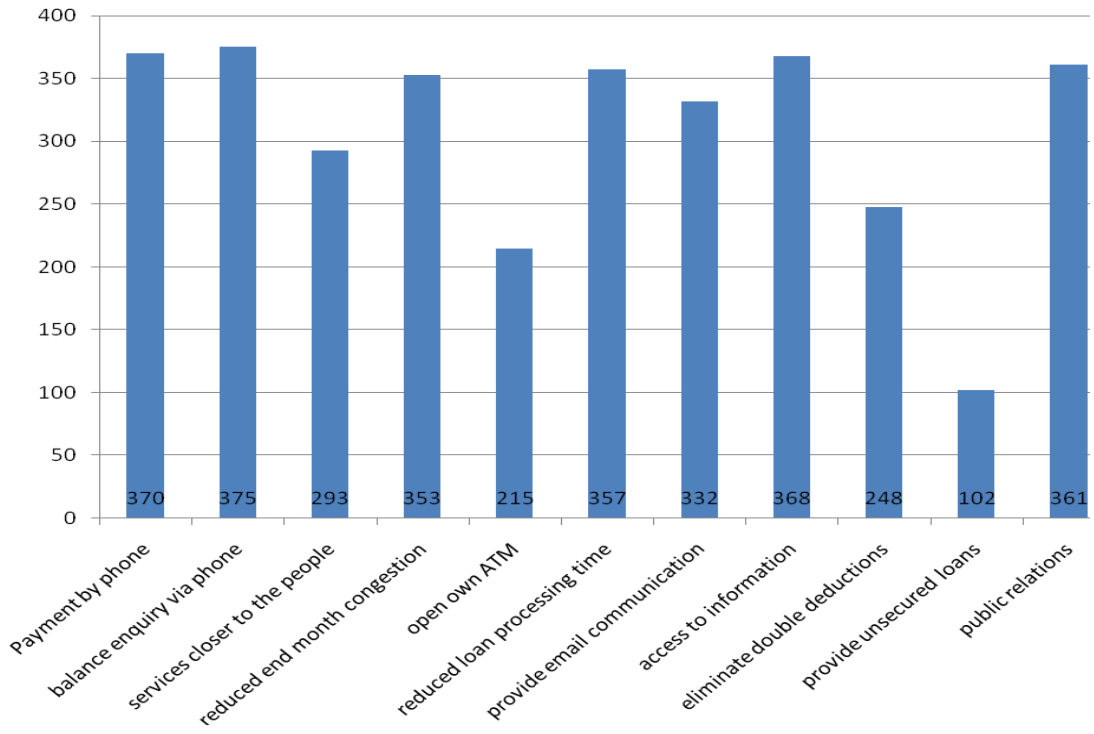


Figure 10: Service areas to improve

Members are in agreement that, the SACCO need to adopt a more drastic approach to ICT adoption and utilization. The fact that the mobile phone features more in these responses shows that the SACCO should be ready to embrace mobile technology in the provision of its services. If the SACCO had utilized the mobile phone, email and

websites, the communication to and from members will be improved and even members will not be complaining about poor access to information

4.2 Interviews results

4.2.1 ICT tools and equipment

A question that sought to establish the nature and types of ICT available at the SACCO found that Tharaka Nithi Teachers SACCO has a local area network, two office phones and one laser printer. It has 17 personal computers (HP) Branded Compaq. Navision software on a windows flat form was used for its operations. This software is designed by Microsoft for microfinance institutions. It provides a single fully integrated solution for deposits and withdraws tracking through a complete banking module. The software can support: Branch banking, Banking transaction management including support for wireless transaction terminal, smartcards and ATMs, Customer data analysis and management, Loan and credit management, financial management with emphasis on costing operations, SMS (mobile phone) banking. From the responses, it is clear that the SACCO does not fully utilize the software available as it does not have its own ATMs but rather relies on ATMs from the cooperative bank (SACCO Link). By Using SACCO Link members were able to withdraw money from any of the Cooperative Bank ATMs country wide. The society had an email that was used for office communication.

Tharaka Nithi Teachers SACCO was in the process of developing a website which it was hoped would be a big step in the improvement of communication and information access.

From these responses it can be said that the status of ICT in the SACCO was low as basically the ICTs available were used only for housekeeping purposes.

4.2.2 Reasons for adopting ICT

In respect to what prompted the SACCO to adopt ICT, the management felt that they had not been prompted by any external forces to adopt and utilize ICTs but it had been motivated by the urge to improve service delivery to its customers, improve efficiency and accuracy and to reduce operation cost by reducing on the number of staff. All the same there was a general feeling that ICTs were recognised as necessary factor in ensuring that the SACCO stayed ahead of the other SACCOs.

4.2.3 Benefits of ICT to the SACCO

All the staff felt that ICTs had helped them be more efficient as one could do more work faster, increased accuracy as mistakes could be detected more easily and faster than before. The SACCO and experienced a reduction in operating cost due to fewer staff employed and the fact that ICT increased effectiveness.

Due to these benefits the SACCO was able to be a point above the others in the area as it held the 1st position in the district as the best managed SACCO and also number one in dividend payment on Ushirika day of 2009.

It is clear from their responses that the SACCO enjoyed immense benefits from ICT in terms of increases efficiency, effectiveness and cost reduction but does not enjoy the

benefits ICT can bring in terms of introduction of new products, marketing and communication to both its members and the outside world.

4.2.4 Changes to maximise adoption and use of ICT

The study sought to find out the feelings of Staff on what types of ICTs the SACCO needed to adopt for competitive and the following views were given:

- Adopt electronic means of money transfer
- Develop an organization website
- Collaborate with mobile phone companies to promote mobile phone banking.
- Training all the personnel to have state of the art skills
- Upgrading the system to cope with the new challenges.
- Cooperation among SACCOs in the country so that they are networked together

4.2.5 Challenges of adopting and utilizing ICTs

In regard to the challenges experienced by the SACCO, cost of installation was the most prominent. The fact that ICTs are expensive means that only basic ICTs were available at the SACCO. This meant that costs play a very important role in the level of adoption of ICTs.

Another challenge was the need for skilled ICT manpower. For the SACCO to experience maximum benefits from ICT user skills match the sophistication of ICTs to be used. This skilled manpower is what the SACCO lacks and retraining of staff is also very expensive. Sustaining the systems; maintenance and support of the system was expensive and at times the SACCO was not able to upgrade the system to the most current version due to

expenses involve. The fact that they have to renew licences every year also compounds the problem

Introducing new products to the system: The system available is not able to handle the required customization due to complexity of diverse products and lending methodologies. Currently the software available cannot make it possible to perform various tasks online, such as members viewing their statements, applying for loans and even querying online, thereby bringing the management and members closer to each other.

Weak connections between the SACCO and the cooperative bank slowed down on operations. The SACCO Liaised with the Cooperative Bank, the Teacher's Service Commission and Cortec Systems and Solutions who are the vendors of the software that the SACCO used.

4.2.6 Role of the government in adoption and utilization of ICT by SACCOs

The role of any government is to lead. In other words, it should work out the national strategy and policy, enforce the rules, and undertake advocacy work. The government has several regulations that govern SACCOs such as the cooperative act and the SACCO regulations act. ICT in Kenya is covered through: Kenya vision 2030,
Poverty reduction strategy 2003 -2007, National ICT policy, National development plan and Infrastructure development.

This research found out that the government through the ministry of cooperatives was in the process of preparing a standardization manual for ICT application and processes for

societies. Standards are the ‘universal language’ that drives competitiveness by helping organizations optimize their efficiency, effectiveness, responsiveness and innovation.

The government has not put any measures in place to ease SACCOs ICT manpower problems. Despite the fact that there is a cooperative college in Kenya, the lack of application of cooperative theories and techniques at all levels in the country results in poor understanding and comprehension of the cooperatives concept. In order to address this problem and other related shortfalls, cooperative theory and practice would be taught and encouraged in schools, technical colleges as well as at university level.

The ministry of cooperative had developed an agricultural society’s management information system called coopworks in collaboration with FAO. This software is open source. However, the ministry has not extended the same to other SACCOs.

The government does not set aside any budget for the promotion of ICT in the cooperative societies. Financial support to assist SACCOs in the acquisition of ICTs would be very welcome since acquisition and maintenance of ICT is a major challenge.

There are no tax reliefs even for those SACCOs that have tried to acquire the ICTs by themselves.

4.2.7 Role of KUSCCO in adoption and utilization of ICT by SACCOs

The Kenya Union of Savings and Credit Cooperatives (KUSCCO) bring together 3,520 active SACCOs, with a membership of over four million individual cooperators. KUSCCO is the most active cooperative union in Kenya. It has 125 employees stationed in 14 offices, distributed in all provinces of Kenya. KUSCCO provides a range of

services to members, which have seen it increase its membership base. Though its core mandate is to represent the interests of SACCOs in the policy-making and legislative processes, KUSCCO also provided common shared services, including:

- education and training;
- business development, consultancy and research;
- risk management;
- credit for SACCOs through the Central Finance Programme;
- a mortgage facility for SACCOs through the KUSCCO Housing Fund

The study found that KUSSCO was not directly involved on how individual SACCOs adopted ICT. KUSCCO is quite vibrant in advocating for the interests of SACCOs, especially in policy formulation and legislation. Its activities are quite visible, as evidenced by its role in the formulation and enactment of the SACCO Societies Act, 2008.It has not utilized this role to advocate for the formation of ICT cooperatives which can assist SACCOs in acquiring ICT tools and equipment and even the right staff.

Currently it is working with WOCCU to establish servers that SACCOs can use to store backups in case of data loss. KUSCCO has no programme to assist individual SACCOs to adopt and maximise ICT usage.

4.3 Summary

The discussions above shows that research objectives were conclusively covered and all the research questions covered. The objectives included establishing the types and extent of ICT adoption by Tharaka Nithi Teacher's Sacco, The role of both the ministry of cooperatives development and marketing and Kuscco in promoting ICT in Rural SACCOs and the challenges the SACCO faced in adopting and utilizing ICTs.

The members listed the following as the services that they received from the SACCO: Salary processing, Offsetting of loans, Automatic teller services, savings and withdrawal, checking balances and Mpesa.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.0 Introduction

This chapter looks at the summary of findings, discusses the findings, draws conclusions from the findings and gives recommendations based on the conclusions drawn.

5.1 Discussion of findings.

Objective 1: to map and audit ICTs in Tharaka Nithi Teachers' SACCO

The SACCO had a local area network with 14 computers and one printer. It had a landline and a mobile phone for communication. Other forms of ICT such as scanners and fax machines were not available resulting to an inadequate status of ICT. This shows that information and communication technologies available at the SACCO were few and inadequate. These findings agreed with Ssewanyana (2009) who found that microfinance institutions in rural areas have few ICT basically for in-house activities.

The study found that the SACCO benefited immensely from the use of ICT. This is supported by the earlier research findings by Ssewanyana (2009), Shett and Beschorner (2008) and Pichal and Ganesan (2006) who found that ICT helped MFIs to bring down transaction costs, increased membership outreach for the organization, reduced staff needs, increased efficiency and improved customer satisfaction.

The study also found that ICTs helped the SACCO achieve a competitive edge over the others as shown by the fact that the SACCO was able to achieve position one as the best managed SACCO in the district. This was partly attributed to the use of ICT as they helped increase accountability and transparency in all the activities that management undertook. This is in agreement with Gasco (2006) who found that information and communication technologies help MFIs make appropriate decisions and manage information more effectively and efficiently.

The study found out that certain aspects of ICT needed to be adopted for maximization of ICT adoption and utilization. These areas included: Adoption of electronic means of fund transfer: This was in agreement with Jessup and Valacich (2005) who found that the use of electronic fund transfer would save a lot of time for members especially those in remote areas as they would transfer funds to other accounts automatically. For example clients who wish to pay school fees can transfer money electronically from their account to the schools' account.

Development of an organizational website: This is necessary because the site can be updated quickly and regularly, keeping product offerings and prices accurate without the costs associated with updating traditional printed literature and the delays of printing, publishing and distribution. It is a more environmentally friendly solution than traditional paper-based literature and without the distribution costs. The website also helps to increase customer base as it is accessible to many people acts as a form of marketing. More benefits of a website include: Reach a new audience; many people like to find out

more about a company and their services before they contact them and a web site can give the SACCO the edge over a competitor who doesn't have a web site.

Many regular Internet users now prefer to search for a service, product or organization on the Internet rather than through a more traditional method like the Yellow Pages. New methods of communication; Not only can The SACCO communicate to its customers through its web site, but they can also contact the SACCO through it. Its customers will have new ways to contact the SACCO. Online e-mail facilities allow people to e-mail their needs easily. Online forms produce more specific communications and feedback. The SACCO can also encourage communications by setting up online quizzes, competitions and interactive questionnaires - valuable methods of collecting client satisfaction indexes. Streamline its processes; the web site can save the SACCO time and money. Information such as company news, announcements, new product launches, technical information and user guides can be published on the web site for viewing and download saving it printing and distribution time and money.

Other areas that the SACCO should improve on include the upgrading of the management information system to cope with new challenges and cooperation among SACCOs in the country so that they are networked together. The networking challenge is in line with Ademba (2010) call for SACCOs to network and foster interaction with a common bond to ensure that in areas of ICT training they can assist one another and also be able to develop a software that allow for information sharing among SACCOs.

The use of mobile phones emerged as another area that the SACCO needed to put some efforts on. Shobha and Natasha (2008) in their study found that mobile phones can be used by clients to make deposits, savings, check on loan status, make purchases and even pay bills. This would save a lot of travel time and costs and reduce transaction costs for the SACCO and client.

The Sacco need to also make use of the immense benefits of the email such as the fact that it is free, fast, generates fast response and thus it will make communication between SACCO and other stakeholders easier and faster.

Objective 2: To find out the extent to which ICTs are used in the provision of services to the members.

The study found that the use of ICT was very limited. This is in agreement with Dieter and George (2006) who found that ICT diffusion in rural MFIs does not go beyond organization boundaries since they are not used to facilitate links with their environmental affiliations. ICTs were used only in the carrying out in-house activities. These included: Teller operations; Deposit Processing; Customer data management; Share and dividends processing; Lending; Financial Risk management and even reporting.

Communication via email was limited to only within the organization and did not extend to the customers. Internet connection was limited to the cooperative bank only since they partnered with the SACCO in the provision of ATMs to its members. Members were

using ATMs (SACCO LINK) from the cooperative bank with which they could withdraw money from any cooperative.

From the study, members hoped that services could be accessible via phone such that one could even check salary payments, dividend and even if one has been awarded a loan via phone.

Objective 3: To find out policy and guidelines used in supporting the adoption and utilization of ICTs by Tharaka Nithi Teachers SACCO.

IT is not only important to have ICT but also a SACCO's strategy for IT must be specifically is clear. The study found out that Tharaka Nithi Teachers SACCO did not have a policy that guided the adoption and utilization of ICTs. A Policy defines a set of principles relating to the application and use of ICT within the SACCO. The Policy is used to facilitate strategic planning. This is in agreement with Financial Sector deepening (FSD) Kenya (2010) report which found out that even among the largest SACCOs in Kenya, those that have been using IT systems for over 10 years, the IT strategy is inadequate or incomprehensive. SACCOs rarely demonstrate a profound awareness of how to use IT to create a sustainable competitive advantage and how the IT relates to the strategy of the SACCO. Currently, the ICT use at Tharaka Nithi Teachers SACCO is basic and this could be the reason why there is no policy. However, it is necessary to be aware of how ICT relates to its business processes. Development of an IT strategy is dependent on the ability of the executive management to develop and articulate it but also on the staff to deliver it and enable evaluation of how it needs to evolve.

Objective 4: To identify the challenges experienced by Tharaka Nithi Teachers SACCO in the adoption and utilization of ICTs.

The study identified the cost of installation as the most prominent challenge. The fact that ICTs are expensive means that only basic ICTs were available at the SACCO. This could have explained why the SACCO had adopted only basic ICT.

Another challenge was the need for skilled ICT manpower. Only the IT manager had a degree in information technology. This meant that applying full potential of ICTs would be difficulty as he could not make use of them alone. Even members had only basic computer training and did not have Internet connections.

Sustaining the systems; maintenance and support of the system was expensive and at times the SACCO was not able to upgrade the system to the most current version due to expenses involve. The fact that they have to renew licences every year also compounded the problem.

Introducing new products to the system: The system available is not able to handle the required customization due to complexity of diverse products and lending methodologies. Currently the software available cannot make it possible to perform various tasks online, such as members viewing their statements, applying for loans and even querying online, thereby bringing the management and members closer to each other.

Weak connections between the SACCO and the cooperative bank slowed down on operations. The SACCO Liaised with the Cooperative Bank, the Teacher’s Service

Commission and Cortec Systems and Solutions who are the vendors of the software that the SACCO used.

These findings were in agreement with an earlier study by Rao (2004) who found that poor infrastructure, finance, skilled personnel and poor Internet connectivity were the main challenges that MFIs in rural areas face.

Objective 5: To find out the role of the ministry of cooperative and the Kenya Union of Savings and credit societies in the promotion of ICT use in rural SACCOs

KUSCCO provides a range of services to members. Though its core mandate is to represent the interests of SACCOs in the policy-making and legislative processes, KUSCCO also provides common shared services, including: education and training; business development, consultancy and research; risk management; credit for SACCOs through the Central Finance Programme and a mortgage facility for SACCOs through the KUSCCO Housing Fund

Through its mandate, KUSCCO plays the role of advocacy. The Advocacy Department is concerned with fundamental needs of SACCOs in the emerging legislative and business trends. Through this department, KUSCCO stands with SACCOs whenever they are confronted with difficult situations. It was instrumental in the development of the SACCO regulation act. Currently it is working with WOCCU to establish servers that SACCOs can use to store backups in case of data loss.

Education and Training forms an integral part in the promotion of the Union services and relevant issues in the management of SACCO Societies.

KUSCCO renders various services such as the promotion of SACCO Societies, members' education and conduct of National and Regional seminars for the delegates, committee members, and all cadres of staff. This is after appropriate training needs assessments have been carried out. The department also conducts short tailored courses for SACCO staff and Board members.

KUSCCO liaises with, Co-operative College of Kenya; Co-operative College, Moshi Tanzania.

However in broad terms the training is focused on general management, financial management legislation in SACCOs, credit Administration, co-operative values and principles and members rights and obligations.

KUSCCO's IT department is taxed with the responsibility of advising member SACCOs about automation processes and procedures and facilitating acquisition of SACCO software by SACCO members.

KUSCCO has not taken up the task of lobbying for IT standards that can benefit the SACCOs. Technology standards are increasingly relevant to development. Broad adoption of standards can promote interoperability by making it easier for ICT products and services to share and mutually use data. Interoperability, in turn, can drive down costs and expand ICT access for SACCO users by allowing them to make use of Point of

Sale terminals and other models of ICT application. Interoperability also facilitates the transfer of information among SACCOs, the cooperative Bank and any other stakeholders.

The Ministry of Cooperatives and Marketing was in the process of preparing a standardization manual for ICT application and processes for societies. The ministry of cooperative had developed an agricultural society's management information system called coopworks in collaboration with FAO. This software is open source. However, the ministry had not extended the same to other SACCOs. The government does not set aside any budget for the promotion of ICT in the cooperative societies.

5.2 Implications of the study

The study has several implications for SACCOs, the government through the Ministry of Cooperative and marketing and other stakeholders who deal either directly or indirectly with the credit union movement. For the members it shows that they are ready to embrace ICT to access SACCO services. The research findings indicate that though the SACCO members were aware of the positive impact of ICTs in service delivery, the SACCO needed to first give them a better bargain in terms of service delivery, new innovations and improved products.

The implication to the SACCO is obvious. It needs to reassess their stand in among other ways the utilization of ICTs to help them achieve a competitive edge over these competitors. ICT has potential to help them achieve this by proper information

management for good governance, service delivery, increased customer base, information access, innovative products and communication.

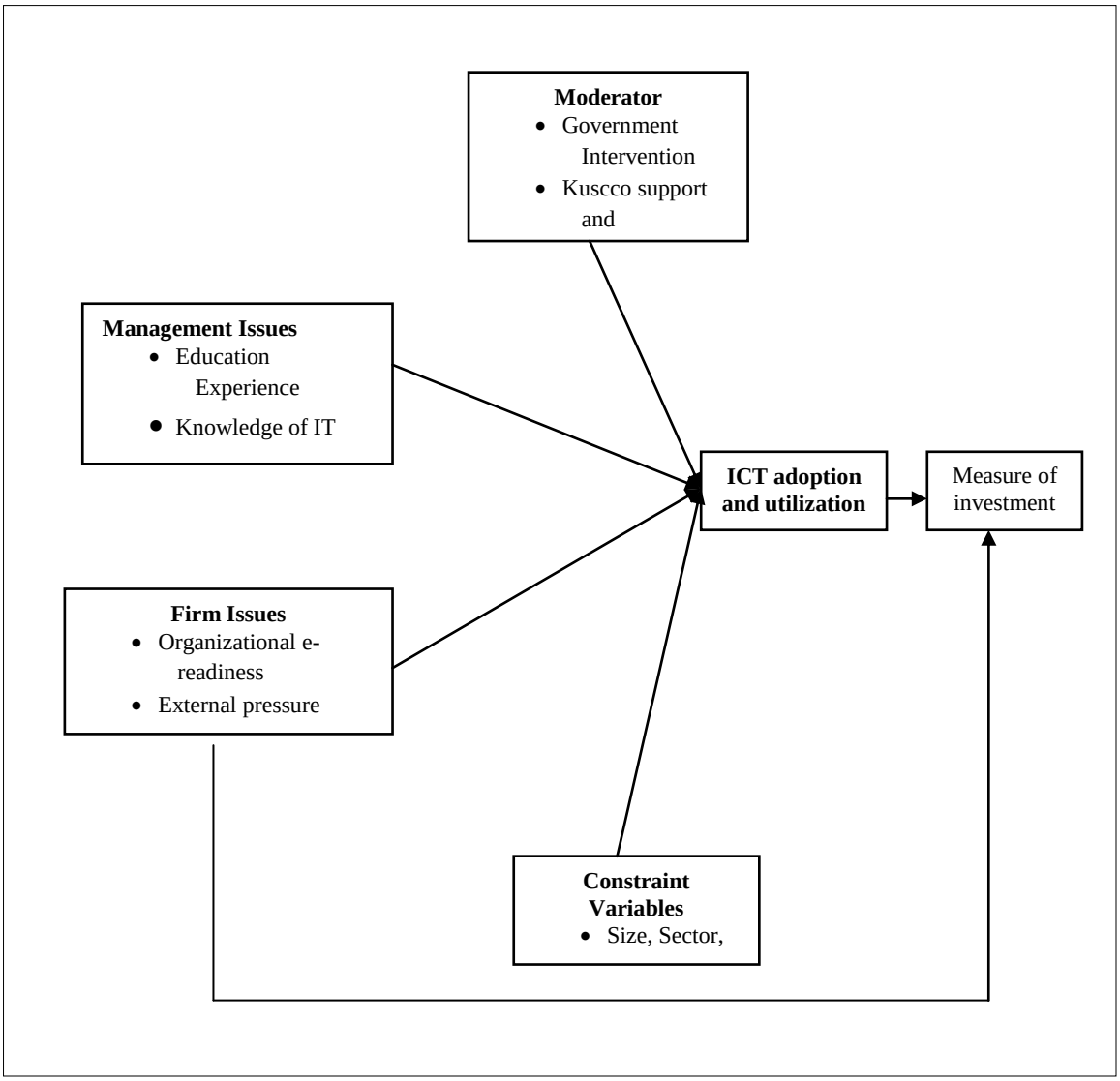
For the Government, studies have shown that the cooperative movement has been crucial in the growth of the Kenyan economy. It would be suicidal for the government to stand aside and let this movement die a natural death. Therefore the government through the Ministry of Cooperative and Marketing should come up with ways and means to assist SACCOs utilize ICT to overcome the challenges that they are facing. More so, the study showed that the greatest challenges SACCOs face in the rural areas are in regard to training and software upgrade. The government would be advised to come up with policies to address these issues.

The Kenya Union of saving and credit societies ought to be at the forefront to develop a framework by which SACCOs and other credit unions can be able to cooperate and network together to come up with ways by which challenges such as staffing and development of a SACCO specific software can be achieved.

5.3 Proposed model of ICT adoption and utilization at Tharaka Nithi Teachers SACCO

This research attempted to propose a model for the adoption and utilization of ICTs at Tharaka Nithi Teachers SACCO. The proposed model gives a picture of the themes as they emerged from the research findings. The themes included; firm issues such as, Organizational e-readiness, External pressure, Strategy (policy); Moderator, who includes the government and KUSSCO; Management issues such as education experience,

knowledge of IT, perceived value of IT; Constraint Variables which included, Size, Sector, Location; ICT adoption and utilization which was the result of the coming together all the other themes and Measure of investment which was the evaluation of the information technology investment.



Firm Issues: The SACCO must have the necessary support in terms of: Policies; The SACCO did not have an established framework in terms of policy and regulatory environments. The policy needs to focus on regulatory, Promotion, infrastructure, and

human capacity development. Organizational readiness in terms of infrastructure and skills is also necessary.

Competition from other industry participants though not recognized as an ICT driver was also found to be of great contribution since the SACCO needs to know what other microfinance institutions are using. The policies will also come in handy when the SACCO wishes to partner with others especially the mobile phone companies for provision of mobile phone services and other organizations for provision of POS services.

Moderator: Government and institutional (KUSCCO) an intervention is necessary. Their role would be to create enabling business environment through policies and legislation framework and other related support.

Management: The level of education of the management may translate to the policies that the management makes in regard to ICT. Their ICT knowledge and Skills may impact on the level of utilization. What management perceives as the benefits of an innovation usage influences the types of ICTs that the SACCO will adopt. Management with a desire to adopt strategic management thoughts in the SACCO movement would very much recognize the importance of policy especially if they were to partner with other SACCOs to utilize open source systems to eliminate high costs in upgrade and customization of the current software.

Constraint Variables: These include size, location and even the sector. Size impacts much on the need to have ICTs to manage vast amounts of data, reduce operation costs in terms of staff, and time spent on performing a transaction. Location affects the infrastructure that is available while sector impacts on the source of finance. The SACCO is funded by member's contribution which translates to the fact that money for financing complex ICT facilities may be limited.

ICT adoption and utilization: ICT adoption depends on the firm issues such as policies and infrastructure, management issues such as the perceived benefits from ICT. The level of utilization depends on the education level of management, their ICT skills and government and institutional interventions. Constraint variables such as the size and location of the SACCO also contribute to the level of ICT adoption and utilization. Rural areas have generally poor Internet connectivity and therefore maximum utilization of the Internet for service provision is limited.

Measure of investment: There is need for evaluation procedures to be in place to determine the benefits that the SACCO has accrued from ICT use. Currently there is no evaluation done but management assumes that there are benefits because the SACCO is performing well. Times may come when this performance changes and ICT is blamed for the failure. Evaluation measures will assist managers to avoid this and also help them make strategic decisions in regard to ICT.

5.4 Conclusion

This study sought to investigate the types, nature and extent of ICT adaptation and utilization by Tharaka Nithi Teachers Sacco in order to identify gaps and set a benchmark that can be used for further research. The study was guided by the following objectives: To map and audit ICTs in Tharaka Nithi Teachers' SACCO, to find out the extent to which ICTs are used in the provision of services to the members, to determine the perceived benefits of ICTs at Tharaka Nithi Teacher's SACCO, to find out policy and guidelines used in supporting the adoption and utilization of ICTs by Tharaka Nithi Teachers SACCO. to identify the challenges experienced by Tharaka Nithi Teachers SACCO in the adoption and utilization of ICTs, to find out the role of the ministry of cooperative and the Kenya Union of Savings and credit societies in the promotion of ICT use in rural SACCOs and to suggest and recommend measures for improving adoption and use of ICTs by SACCOs in Kenya.

It is clear from the study that the SACCO had made some well coordinated efforts to adopt and utilize ICT. However, these efforts were inadequate. Their usage did not extend beyond the wall of the SACCO and thus it can be said that the status of ICT within the SACCO not adequate. It is clear that the SACCO does not utilize the mobile technology despite the fact that all the customers have mobile phones and the fact that members are scattered over a wide area and the provision of services via phones would be of great benefit to them.

It was also noted that the SACCO had been able to achieve efficiency and effectiveness in the provision of its services which was supported by the fact that it was able to keep ahead of other SACCOs not only in the district but also in the country as well. Generally the SACCO had achieved the following benefits:

For clients

- Access to banking services like the FOSA services.
- More convenient service – anytime to conduct transaction with the use of ATMs
- Reduction on delays in receiving services

For SACCO

- Reduced transaction cost (by reducing staff time)
- Less fraud (better internal control and less cash transactions)
- Improved quality of financial information (better performance management due to faster and better quality data processing)
- Increased outreach (by making services available 24 hours and closer to clients via ATMs)
- More professional look
- Increase customer satisfaction and loyalty

The SACCO had potential to utilize ICTs to promote itself as well as to boost its membership since it was working on a website. This intended to ensure that it had all the advantages an organization has in regard to the very existence of a clear and up-to-date website.

Although members agreed that there was need for the SACCO to provide computers for its members in the lobby, most of them had only basic computer skills that were necessary for their jobs and will require some basic training to make use of services that the SACCO may provide via its website when complete.

Just like most rural SACCOs, the SACCO faced challenges such as financial, Human Capacity, Infrastructure and weak Legal Frameworks. The SACCO gets its funds from investing member savings and share mobilization. Bearing in mind that these are the same funds that members borrow against it may become difficulty to have funds for investing in bigger ICT issues. Generally the SACCO lacks an ICT policy that will guide it. The SACCO needs to realize that ICT is mission critical: core business and for the full utilization if ICT it will require a large budget. Currently, the budget is decided by the Chief accountant. Since IT is an investment a policy guiding how this investment will take place and how it will operate is very necessary.

From the study the role of the government through the ministry of Cooperative and marketing concentrated in the development of a regulatory framework for SACCOs to operate on and did not touch on a regulatory framework that can help SACCOs utilize ICT for electronic fund transfer.

More so the role of KUSCCO should extend beyond its advocacy role to act as a link between other stakeholders to develop a framework by which SACCOs can network to help one another especially in both staff and member training.

5.5 Recommendations

From the above findings it is clear that the SACCO experienced such challenges as lack of human capacity in both the management and use of ICTs, financial challenges in the acquisition and maintenance of ICT, Lack of reliable infrastructure for ICT and a non existence legal framework for ICT use and development. Based on these findings the following is recommended.

5.4.1 Human Capacity

There is great need for the SACCO to have training programs for its members so that they can make full use of some of its services like the ATM card. This will help members to make use of them in supermarkets as they are not aware that the ATMs can be used to pay for goods bought.

There is also need for the SACCO to have an ICT training policy that will see staff training. This will ensure that The ICTs available are used to the maximum.

Ways that the government through the Ministry of Cooperative and Marketing can help increase ICT adoption among SACCOs include hosting training workshops that are flexible and tailored to the specific industry, providing subsidies for ICT training; and creating opportunities for SACCOs to try the technologies hands on.

5.4.2 Financial

Tharaka Nithi Teacher's SACCO had problems with license renewal and software upgrade as it is very expensive. This could be alleviated if the SACCO management

should attempt to use open source software that is free and easy to customize compared to over the counter software.

As for the issue of software customization, the SACCO should conduct a careful and thorough assessment of the SACCO's requirements before any further investment in software. The requirements should be addressed in the perspective of current needs and future plans to avoid the current situation where it is difficult to introduce new products in the current system.

5.4.3 Infrastructure

The government should invest in the development of infrastructure that can be utilized by a network of SACCOs and other cooperative societies. Such infrastructure may consist of ATMs and POS terminals. On the other hand the government could provide tax concessions to SACCOs investing in IT and infrastructure for their operations intended to reach both rural and poor populations.

The SACCO should strive to form an alliance with mobile phone providers to provide their clients with people based services. Alliances such as Safaricom and equity's Mkesho would be of great benefit to the SACCO clients and would put the SACCO ahead of not only other SACCOs but the microfinance industry in general.

5.5.4 Legal Framework

There is need for policy makers to develop policies that will increase the number of qualified ICT personnel. For example the cooperative training college should work hand in hand with stakeholders in the SACCO industry towards this goal.

Necessary steps need to be taken to bring the microfinance community to a common standard –based SACCO platform in terms of functionality and inter operability of recommendations. KUSCCO should strive to develop standards for the industry. These can be developed by representatives of cooperative movements, banking system experts and it system analysts. This could be a starting point for technology and software development firms especially local vendors to develop affordable, configurable, functional and inter-operable softwares.

5.5 Recommendations for further research

1. Further research is necessary as these findings were based on one SACCO. There is need to expand on the sample and extend similar research to a larger sample.

2. Research with both groups (adopters and non-adopters) of ICT would also be an eye opener on whether ICTs are really a determining factor in the growth and development of SACCOs.

3. Also research on the available open source software for SACCOs would go a long way to making the industry aware of them thus reducing overreliance on over the shelf software.

4. Research on how universities can develop curriculum to cater for ICT needs of SACCOs would also be welcomed by the industry.

5. Further work would be recommended to develop a checklist of factors that need to be in place in SACCOs for effective adoption and utilization of ICTs.

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Appendix 1: Questionnaire cover letter

Dear member of Tharaka Nithi Teacher's SACCO,

My name is Hellen M. Ndegwa and I am an Mphil student in library and information studies, School of information sciences, Moi University.

I am writing to request you to participate in research in the form of a questionnaire.

My masters thesis is entitled "Adoption and utilization of ICTs by rural SACCOs: a case of Tharaka Nithi Teacher's SACCO"

The aim of the research is to: investigate the types, nature and extent of ICT adoption and utilization by Tharaka Nithi Teachers SACCO in order to establish gaps and give suggestions to remedy the situation.

Your participation and effort will be highly appreciated. Thanks in advance.

Yours sincerely

Hellen M. Ndegwa

Appendix 2: Questionnaire for SACCO members

Part 1: Bio Information

Put an X where applicable

Gender: ☐ Male ☐ Female

Age: ☐ 20-30 years ☐ 30-40 years ☐ 40 -50 ☐ 50 and above

Education: Diploma ☐ Bachelor/BS/BA ☐ Master/MBA/MS ☐ Doctorate ☐

Other ☐

Position e.g.; principal, senior teacher etc.

No. of years in present position:

PART 2

Services provided by the SACCO

1. For how long have you been a member of Tharaka Nithi teachers SACCO?

   1-5 years ☐ 6-10 ☐ 11-15 years ☐ above fifteen ☐

2. Which services do you receive from the SACCO?

   a.

   b.

   c.

   d.

   e.

3. How efficient is the SACCO in providing these services?

   ☐ Very satisfactory

   ☐ Satisfactory

   ☐ Don't know

   ☐ Unsatisfactory

   ☐ Very unsatisfactory

4. To what extent do you think computerization has enhanced efficiency and quality of services?

5. Which services have become efficient?

   a.

   b.

   c.

   d.

6. Which areas do you think the SACCO needs to make some improvement?

   a.

   b.

   c.

   d.

7. What do you think should be done to meet your expectations?

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8. In your view rate how ICT has enhanced quality and effectiveness using the following parameters. Tick where appropriate

Better financial control	Very satisfactory	satisfactory	Don't know	Unsatisfactory	Very Unsatisfactory
better communications	Very satisfactory	satisfactory	Don't Know	Unsatisfactory	Very Unsatisfactory
better quality of work	Strongly agree	agree	Don't Know	disagree	Strongly disagree
work done more quickly	Strongly agree	agree	Don't Know	disagree	Strongly disagree
sharing information	Very effective	effective	Don't know	Ineffective	Very ineffective
faster access to information	Strongly agree	agree	Don't know	Disagree	Strongly disagree
reduction of staff	Strongly agree	agree	Don't Know	Disagree	Strongly disagree
handling large volumes of data	Very effective	effective	Don't know	Ineffective	Very ineffective
enhance effectiveness	Strongly agree	agree	Don't Know	disagree	Strongly disagree
customer satisfaction	Very satisfactoy	satisfactory	Don't Know	Unsatisfactory	Very Unsatisfactory

9. How long does it take for the SACCO to process a normal loan?
    - ☐ One week
    - ☐ Two weeks
    - ☐ Three weeks
    - ☐ Four weeks
    - ☐ More than four weeks
10. Are you comfortable with the time the SACCO takes to process your loan? Put an X where applicable: ☐s ☐
11. If no, how long would you wish it takes for the loan to be processed?
12. Which communication method do you use when communicating with the SACCO:
    a. Traveling to SACCO
    b. Mobile phone
    c. Email
    d. Postal services.
13. What recommendations would you propose to boost the use of ICT in the provision of services to the members of the SACCO?

ICT Competency

Internet

1. Are you computer literate?
2. Do you have a personal email?
3. Does the SACCO provide any services through the Internet?

4. Are you familiar with the services the SACCO provides through the Internet

Mobile phone

1. Do you have a mobile phone?
2. Do you use your mobile phone to communicate with the SACCO?
3. Does the SACCO use the mobile phone to communicate with you?
4. Which services do you think should be provided through the mobile phone?

Appendix 3: Interview guide for ICT manager (SACCO)

Part 1: Bio Data

Designation: ----------

Age…….

Level of education…….

PART 2

1. What is your job description?
2. What are your qualifications?
3. Do you have an ICT Training programme for staff and members?
4. What ICT tools and equipment and equipment does the society have?
5. How many computers does the society have? Which brand are they?
6. Do you have a local area network for the society?
7. Which software do you use and for what purpose?
8. What type of hardware does the SACCO use?
9. Who makes acquisition decisions for the purchase of both the hardware and software?----------

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10. Who determines the ICT budget?
11. Does the society have an organizational email? What is it used for?
12. Do you have a website? If yes, who is responsible for the maintenance of the website? ----------

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13. What problems do you encounter in the management of ICT within the SACCO?

14. What benefits has the SACCO gained from the adoption and use of ICTs?----------

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15. What suggestions and improvements would you make for the SACCO to maximize adoption and use of ICTs ----------

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Appendix 4: Interview guide for the SACCO manager

Part 1 Bio Data

Designation…….

Age……

Level of education……..

1) For how long have you been the manager of Tharaka Nithi Teachers SACCO?
2) What are your duties?
3) What prompted the SACCO to adopt ICTs ----------

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4) Do you have a training programme for the staff?
5) Would you say that the SACCO has been influenced by any external force to adopt and use ICTs?
6) How would you rate your SACCO in relation to ICT utilization among other SACCOs in the rural areas? ----------

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7) What benefits have been derived from adoption and use of ICTs by the SACCO?

8) What would you list as some of the disadvantages of adopting and using ICTs by the SACCO? ----------

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9) Does the SACCO have an organizational email?
10) Which mode of communication is used within the SACCO and to members?
11) Do you have an ICT policy that guides development of ICT in the SACCO?
12) Do you have a budget set aside every year for the development of ICT?
13) Is the budget enough to meet all the ICT needs of the SACCO?
14) Since SACCOs are facing a very Challenging time currently, how do you think ICTs help the SACCO to be competitive? ----------

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15) DO you have a web site? If yes what is its purpose?
16) What institutions and stakeholders does the SACCO liaises with for information for the day to day running of the SACCO?
17) What particular challenges have you encountered in :
    a. your adoption of ICT processes
    b. as you use ICT
18) In your opinion what ought to be done to improve the current status of ICT in the SACCO.

Appendix 5: Interview schedule for other SACCO staff

Bio Data

Designation:

Level of education……..

1. What section of the SACCO do you work?
2. How long have you worked for the SACCO?
3. Are you provided with any ICTs to facilitate your work?
4. Have you had any training in the use of computers?
5. Does the SACCO provide training on ICT use?
6. How has the computerization of activities impacted on your work?
7. Do you have an email address?
8. If yes to the above question, do you use your email transact business of the SACCO?
9. To what extent is the current level of ICT application adequate in meeting the SACCO activities?
10. What software do you use and for what purpose?
11. What are the challenges that you face as you use ICTs for your work?
12. What solution would you propose to improve the adoption and use of ICT in the SACCO

Appendix 6: Interview schedule for SACCO chairman

Bio data

Designation

Age

Level of education

1. What are your responsibilities as the chairman of the SACCO?
2. Which modes of communication do you use to communicate with other officials, with the SACCO staff and with the members?
3. Are their policies that have been developed to assist the SACCO in the adoption and use of ICTs?
4. Do you use ICTs to expend your duties to the SACCO?
5. What challenges do you encounter as you use ICTs in performing your duties to the SACCO?
6. What solutions would you recommend to the above challenges?

Appendix 7: Interview schedule for ministry official

Part 1: bio data

Designation:

Level of education:

PART 2

1. How has the ministry promoted the use of ICT among SACCOs
2. Bearing in mind that SACCOs are facing their most challenging times now what is the ministry doing to address these issues?
3. Does the ministry have a policy guideline to guide the SACCOs in adopting and using ICTs?
4. Since rural SACCOs face unique challenges in their adoption and utilization of ICT, what has the ministry done to address this?
5. Does the ministry set aside a budget for the promotion of ICTs in the SACCO movement?
6. What are the challenges that the ministry faces in promoting the adoption and use of ICTs by rural SACCOs
7. What solutions would you propose to overcome these challenges?

Appendix 8: Interview schedule for KUSCCO official

Bio data

Designation:

Level of education

Part 2

1) What is the mandate of KUSCCO in supporting SACCOs?
2) Does KUSCCO support adoption and use of ICTs among the SACCOs?
3) Do you have a program for the training of SACCO management on the use of ICT?
4) Do you liaise with other stake holders in coming up with policy guidelines to guide adoption and rolling out ICT especially in rural areas?
5) What are the challenges experienced by SACCOs especially in the rural areas as they go about adopting ICT?
6) What is KUSCCO doing to assist in alleviating some of these challenges?