

**INFLUENCE OF INFORMATION COMMUNICATION TECHNOLOGY
ADOPTION ON THE OPERATIONS OF COMMUNITY BASED
ORGANIZATIONS IN RANGWE SUB COUNTY, KENYA**

**BY
KIBOYE JACQUELINE ACHIENG**

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DECLARATION

This Research project is my original work and has never been presented for either degree or any other award in this or any other university.

Signature:

Date:

JACQUELINE ACHIENG KIBOYE

L50/72166/2014

This research project has been submitted with our approval as university supervisors

Signature:

Date:

DR. RAPHAEL NYONJE

SENIOR LECTURER

DEPARTMENT OF EXTRA- MURAL STUDIES

UNIVERSITY OF NAIROBI

Signature:

Date:

DR. BENSON OJWANG

SENIOR LECTURER SCHOOL OF ARTS & SOCIAL SCIENCES

MASENO UNIVERSITY

DEDICATION

This research project is dedicated to my family especially my husband Joab Guya for his consistent support that he accorded me in terms of finances, time and other material; and my two sons Jean Sebastian and Theodore Ferdinand and their cousin Clifford Henry for their patience and understanding as I pursued my studies.

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LIST OF ACRONYMS AND ABBREVIATION

CBO: COMMUNITY BASED ORGANIZATIONS

ICT: INFORMATION AND COMMUNICATION TECHNOLOGY

MDG: MILLENIUM DEVELOPMENT GOALS

NGO: NON GOVERNMENTAL ORGANIZATION

SME: SMALL AND MEDIUM ENTERPRISES

ABSTRACT

The purpose of this study was to assess the influence of ICT adoption on the operation of Community Based Organizations in Rangwe Sub-County. The study undertook to examine four objectives which were: To what extent does information technology equipment influence operations of Community Based Organizations in Rangwe sub county; To what extent does training in information communication technology influence operations of Community Based Organizations in Rangwe Sub County, To what extent does electronic platforms influence operations of Community Based Organizations in Rangwe sub county, To what extent does perception of members on Information Communication Technology influence operations of Community Based Organizations in Rangwe sub county. The target population for the study were 300 people drawn from 20 registered Community Based Organizations in Rangwe Sub County. A sample size of 170 was drawn from the target population using Krejcie and Morgan (1990) table for sample determination. The researcher used descriptive survey research design to generate quantitative data. Simple random sampling techniques were used to select the respondents. The research instrument used for data collection was questionnaires. The instrument was piloted on 20 respondents from five CBO Kisumu West Sub-County. Validity and reliability of the study was ascertained through test and retest and by seeking the opinion of the research supervisors from University of Nairobi. Data was analyzed for descriptive statistics (frequencies, means and percentage). This was done with the aid of statistical package for social sciences (SPSS). Data was presented in form of frequency tables. The findings of this study reveal that most of the CBOs did not have enough ICT Equipment. 55%, 85%, 70% and 85% had not computers, laptops, printers and internet services respectively. Further, the study found that training in ICT was a very crucial the operation of CBO. This findings show that a majority of the respondents (50%) had adopted the use of social media to communicate thus could use the same to facilitate communication among the members of their CBOs. Perception on ICT based on ease of use, relevance of content and cost was still a major concern in the adoption of ICT on operation of CBOs. The study concluded that availability of ICT equipment, training on ICT, ability to use various electronic platforms and perception had significant influence of the operations of CBOs. The researcher suggests that comparative studies should be done on the operations of CBO who have and who have not adopted ICT equipment.

CHAPTER ONE

1.0 INTRODUCTION

1.1 Background of the Study

Development begins with the release of God given potential, which is only possible when people are free to themselves. As we increase in positive attitude about our potential to grow and ability to be better actors, this results to transformed persons and structures. (Mutongu, 2011). Community Based Organizations is a popular organizations where people act in concert, as members of groups or communities to decide and act on issues which can best be solved through collective actions (Bhatnagaret al, 1992). Through CBO people establish democratically controlled structures whereby they can profit from economies of scale. Berdgal, (2003) is of the same opinion that Community Based Organizations and in particular their apex organizations are intended to serve as a mechanism for increasing the voice of the people in political discourse.

Community Based Organizations fall under the cluster often referred to as civil society organizations. Civil society organizations include non-governmental Organizations(NGO's), trade unions, national networks and association, lobby movements, clan groups, self-help groups, women, men and youth groups, religious based groups., welfare societies, cooperative societies, traditional/cultural institutions, business groups, professional associates and such like(Mulwa, 2003).

ICT is vital for community development. Information and communication technology is defined variably. For example Heeks(1992) defines ICTs as electronic means of capturing, processing, storing and communication information. Categories ICTs to include digital information held as 1s and 0s and comprise computer software hardware, networks and intermediate technology based largely on analogue information waves such as radios, television and telephone. There are numerous benefits derived from using ICT. The benefits accrue from operational excellence, competitive advantage, improved decision making, customer and supplier intimacy, new products, services and business models and survival (Laudon, 2012). ICT is identified as an effective facilitator for improving information integration and team collaboration. Although the benefits are recognized, the level of ICT use among the CBOs remains low(Munkvold, 2008).

Information technologies seem to offer great potential for benefiting the public in the areas of education, health care, business, commerce, environmental management, and community. Recognizing this potential, corporations, governments, and nonprofit organizations have invested heavily in these technologies. As early as 1995 the National Telecommunications and Information Administration of the U.S. Department of Commerce received approximately 1,800 proposals seeking funding to improve electronic telecommunications. The large number of proposals is just one indicator of the value that the public, private, and nonprofit sectors place on these technologies. At the same time, data and information managed and controlled by information technologies have become the centerpiece of what some characterize as a new civil rights debate. Powerful private interests use racial and economic demographics to locate customers and provide services. Yet, these technologies and the decisions made by using them will affect the lives of ordinary people, even those who are not directly involved in creating these technologies (Ramusubramanian, 1995).

According to Merchant, Cook and Missen (2007), the assumption that developing countries have or should have a high level of ICT illiteracy and same level of access to the vast amount of ICT is incorrect. They argue that institutions in developing countries need ICT that is low cost, requires minimal level of training and experience and has been proven to be both dependable and effective under conditions in developing countries.

According to Kularatne(1997) information is fundamental resource for development , but even when the necessary information is available, not everyone benefits from it. There are sectors in the society that are better informed than others. Rural communities are often left out in the existing information flow.

In the United States, CBOs that engage in Critical reflective practice use ICT to gain competitive advantage and help sustain their position of leadership (Ramasubramanian, 1997). He further argues that CBOs that advocate for social change have the potential to become centres of knowledge production and use when they inevitably decide to use ICT. A study by Gharindranath, Dyerson and Barnes(2008) conducted in the United Kingdom, on ICT adoption and use by SMEs found out that the SMEs responses and motivations for investing in ICT was driven by the need to increase operational efficiency. The same research team found evidence that the SMEs in UK were unaware of existing policy

instruments designed to help them in their adoption and use of ICT. They suggested that SMEs are often driven by the pressures of cost and efficiency. There is a need to retain competitiveness by driving down costs rather than increasing value added. The SMEs in their survey had very little strategic flexibility and their ICT investments reflected this narrow perspective. Where sophisticated ICT applications were found, these were often driven by the need to comply with government regulations rather than through any considered attempt at using ICT strategically.(Gharindranath, Dyerson, & Barnes, 2006)

In Malaysia, ICT has become a medium of information and key enabler to rural community development. The internet has become the important component in bridging the digital gap, however while one needs to master the content of the internet, it can only be done by knowing how to use the technology (Yushina & Manir, 2010).

In rural china, a study done by Jingiu (2008), indicate that internet diffusion and use must be compatible with the existing political, socio-economic and technological contexts of the rural settings if it is to serve as an engine for development. He further argues that organizational further plays an important role during the entire diffusion process. However despite high hope the change agencies have pinned upon the internet to bring about the intended changes, the degree to which ICT can be adopted and used by rural people is conditioned by the joint influence of structural factors and individual characteristics. Her findings further states that individual internet use is greatly determined by the users technical abilities information needs and benefits, the relevance of web contents and existing information channels.

In Ghana, a small number of SMEs are aware of the benefits of ICT adoption. Majority of the firms that use internet mainly use it locate customer and contracts, general business information and emailing rather than sourcing for business. Lack of internal capabilities, lack of financial support, non availability of infrastructure and personal reasons are found to be major barriers to ICT adoption in Ghana among the SMEs in Ghana.(Bonsu & Sampson, 2012).

In Kenya ICT has been found to have a positive impact on total factor productivity among the small and Medium enterprises even though high cost of access was a major barrier.

Access to useful information could be through government sites where regulations and support programs can be found is also an important factor in facilitating access to ICT among the SMEs. Such publicly accessible information could increase transparency and therefore reduce also other business obstacles (Matambalya & wolf, 2001).

A Study by Kiplangat and Ocholla (2005) on diffusion of information and communication technologies in communication of agricultural information among agricultural researchers and extension workers in Kenya observed that a wide range of ICTs has been adopted to facilitate information sharing and exchange among agricultural researchers and extension workers in Kenya. The ICT ranged from modern ICTs such as the internet, email, electronic sources to traditional media such as radio, television and video. However they found out a number of challenges that hinder expansion and modernization of ICT among them including inadequate funding, poor infrastructure, inadequate skills development, lack of comprehensive institutional ICT policy, lack of monitoring and evaluation system, inadequate provision of ICT tools and services, poor maintenance and over reliance on donor funded projects leading to low level of sustainability.

In Homa bay county CBOs deal with issues such as education, youth empowerment, poverty eradication, agricultural activities , gender initiatives, health issues on creation of awareness on HIV/ AIDs and other related illness and civic education. These CBOs use ICT for normal data entry and daily operation of the organization. In Rangwe Sub County, CBOs have affliction with major NGOs and faith based organizations. Financial support for this CBOs come from donor agencies, individual donations, fund raising, grants, county government or from Non-governmental organizations. Most of the funds to CBOs are directed to specific goals and programmes and seldom to ICT support.

1.2 Statement of the Problem.

ICT can be used by CBO's to raise their profiles,, keep abreast of current development and legislation in their field, accurately monitor their finances, understand who is using their services and how they can widen their reach, enable service users to support one another through online communities and finally save costs and operate more effectively allowing staffs to work remotely and flexibly(Michelson, 2006).

One of the major challenges facing CBOs in Rangwe Sub county is learning what the ICT can do for them; their operations and performances. The fact that some of these organisations lack dedicated ICT staff members, and the isolation from technological world, where they can explore issues and share experiences, results in an environment of wariness and hesitancy (Futures Group Europe, 2003). According to the records in the gender and social services county office, majority of the CBOs operating in Rangwe Sub county, and other parts of Kenya, are poorly informed of the potential impacts of the ICT adoption in their daily operations. Many CBOs, are either unable to adopt and implement ICT systems, or fail to visualise the benefits of ICT in their organisations, and therefore opt to work without them. The study therefore aims to fill this gap by focusing on the influence of ICT adoption on the operation of CBOs a case of Rangwe sub county in Homa Bay County.

1.3 Purpose of the Study

The purpose of the study was to assess the influence of Information communication technology adoption on the operation of Community Based Organizations in Rangwe Sub County.

1.4 Research Objectives

1. To assess the extent to which information communication technology equipment influence operations of Community Based Organizations in Rangwe Sub county.
2. To examine the extent to which training in information communication technology influence operations of Community Based Organizations in Rangwe sub county
3. To establish the extent to which electronic platforms influence operations of Community Based Organizations in Rangwe sub county
4. To explore the extent to which perception of members on information communication technology influence operation of Community Based Organizations in Rangwe sub county.

1.5 Research Questions

The study sought to answer the following questions

1. To what extent does information communication technology equipment influence operations of Community Based Organizations in Rangwe sub county.

2. To what extent does training in information communication technology influence operations of Community Based Organizations in Rangwe Sub County
3. To what extent do electronic platforms influence operations of Community Based Organizations in Rangwe sub county.
4. To what extent does perception of members on Information Communication Technology influence operation of Community Based Organizations in Rangwe sub county.

1.6 Significance of the Study

It is hoped that the findings of this study will be of significance to various stakeholders and policy makers. It will help CBOs to understand the benefits of ICT and to use it to gain competitive advantage and help sustain their position of leadership. The findings of the study may also further be used by donors, well-wishers and governments to improve and offer affordable internet capacity in rural areas and offer continual skills development in the wake of achieving MDG goal 8 of developing global partnership for development. It is hoped that the study will be significant to the academia community in filling the gap on influence of ICT adoption on operations of Community Based Organizations and be used as a point of reference and open up further areas for research.

1.7 Basic Assumptions of the Study

The researcher assumed that the respondents will be receptive and give accurate information that is not bias. Rangwe Sub County being a rural area with impassable roads when it rains and limited means of transport, it is assumed that the weather condition will be favourable to allow the researcher continues with the exercise. It is also assumed that the respondents will be available on the material day to participate in the process.

1.8 Limitation of the study

The study was confined to a couple of months which may not be efficient to carry out an exhaustive study therefore time constraints will be expected, the researcher has used Gantt chart for prior planning to avoid time wastage .

Another limitation was that respondents were not willing to give accurate information due to individual perception on use of ICT. This limitation was overcome by the researcher

sensitizing and winning the confidence of the respondents before administering the questionnaires.

1.9 Delimitation of the Study

The research was conducted among CBOs in Rangwe Sub County. Rangwe Sub County is one of the sub counties in Homa Bay County and is located on the north eastern part of the county. It is approximately 273.2 km². The population is largely rural. The research restricted itself to influence of ICT adoption on operation of CBO in Rangwe sub county.

1.10 Definition of Significant terms

ICT adoption - in this study is an independent variable and it means acceptance and use of ICT. It was broken down into four aspects to include ICT equipment, Training in ICT, Electronic platform and perception on ICT that may influence operation of CBOs.

Operation: in this study is a dependent variable. It was used as a composite term that could not be broken down to other variables but used to include information processing and distribution, decision making, saving on cost and monitoring of finances that may be influenced by adoption of ICT.

Community based organizations- in this study refers to civil society non-profit community organizations that operate in Rangwe sub county.

ICT equipment - in this study refers to desktop computer, laptops and internet services

Training in ICT- in this study refers to education level of members, language they speak fluently and source of income.

Electronic platforms –in this study refers to social networks, teleworker services and entertainment

Perception of members on ICT- refers to cost of accessing ICT, Ease of use of ICT and relevancy of the content in the web.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter contains a review of the research literature related to the topic. This section constitute influence of ICT equipment on the operation of CBOs, influence of Training in ICT on operation of CBOs, influence of electronic platforms on operation of CBOs and influence of perception of members on ICT on operation of CBOs. It also covers the theoretical framework, conceptual framework and summary of knowledge gap.

2.2 ICT Equipment and Operations in CBOs

High cost of hardware and the resulting low rates of ownership are among other cognitive barriers associated with ICT access and use in developing countries.(Rangaswany & Nair, 2012). By the same token Marker, McNamara and Wallace, (2011) rightfully points out that “problems underlying rural development in most African countries are manifold, and include issues of access and exclusion”. They are of the opinion that modern ICT rely on physical infrastructure such as electricity and telecommunications that are poorly maintained and too costly to use. According to Killick (2000), ICT has had impacts on the costs/benefits of the rural operation. Consequently, it is important to understand some of the ICT equipment that are explored in the extant literature as important for operations and performances of CBOs.

Recently, most CBOs in Kenya have been installing different ICT equipment to better their operations. Clearly, technology imperatives and installation of ICT equipment in organisations require effective planning (Hurd, 2010). The artefacts, mainly the hardware and software that is necessary for effective ICT adoption in CBOs must therefore be identified prior to adoption. In addition, accessibility to the technology equipment must be properly addressed. In contributing to the argument on the right equipment for adoption in not for profit organisations, Kling & Callahan (2003) explained that all members of the staff in any organisation, whether community based or not, must be given easy access to use of technology and the technological equipment to ensure learning and efficiency within the organisations. However, most of the previous researches on the use of ICT in CBOs have identified that access to technological equipment in CBOs is relatively lacking as opposed to larger NGOs and government supported institutions

(Kling & Callahan, 2003; Hurd, 2010). As a result, there is need to integrate key ICT demands with the CBO operations to expand accessibility of the same.

In one of the earlier, but significant studies on ICT adoption in organisations, Sauland Zulu (1994) linked the concept of ICT equipment accessibility to the concept of ICT diffusion. The concept of ICT diffusion as advanced by Sauland Zulu (1994) explains the levels of ICT decentralisation and deployment throughout organisations. In this regard, the more accessible a technology is, the more decentralised and potentiality used it becomes. Today, Sauland Zulu (1994) is still relevant in the context of CBOs and other rural based institutions because a progressive approach is necessary for the implementation and ICT adoption the organisations. For the case of CBOs, simple websites developed to pass information and display the projects done by the organisation can be used to interactively engage the supporters of the CBOs globally. Gakunu (2004) also concurred that progressive adoption of appropriate ICT equipment and diffusion of ICT directly correlates with the development of the organisational goals and service delivery in the organisations, all of which translate to operational efficiencies and enhanced performances.

Basu (2006) researched and documented some of the most common technology equipment used in CBOs and non-profit organisations globally. The research demonstrated that CBOs and NGOs depend on technological equipment that are reliable, affordable and rugged. Moreover, the advancement in private sector technology developments has facilitated adoption of different technologies without having to invest heavily in expensive and specialised equipment. Some of the ICT equipment that he considered reliable and affordable for effective adoption in CBOs includes networking with laptop, desktop computers and cell and smart phones, high frequency radios (HF) and very-high-frequency radios (VHF); all of these equipment are readily available worldwide, and can be repaired and replaced locally. Moreover, this equipment relies on local suppliers and expertise for establishments, managements and repairs.

Mariscal et al. (2011) in another study explained that CBOs use range of technology equipment to manage their operations, facilitate service delivery and manage information. At the field, the organisations can use laptops and cell phones with satellite installation

for gathering of data and access to information as necessary. Internally however, Russell (2008) observed that email based communications through satellite phones, desktops and laptops suit most CBO contexts. The equipment are largely important in exchanging data and information between the field offices, headquarters and the funding agencies. Russell (2008) further observed that the modern emailed-based ICT equipment are fast overtaking traditional voice communication in CBO operations.

With effective connectivity and equipment, CBOs that have adopted ICT use can make point-to-point communications and access internet to expand their options through; voice over internet protocol (VOIP) applications such as SKYPE, blogs, social networks, email-based communication and intranets (Mariscal et al., 2011). A more in-depth view of the ICT equipment used in CBOs by Russell (2008) revealed more than the basic few highlighted by Basu (2006). In addition to the equipment that Basu (2006) highlighted, Russell (2008) suggested the use of faxes (facsimilie) and telephone (voice) as still relevant for CBO operations. In addition, Russell (2008) suggested important software that are necessary for installation in CBOs to facilitate operations and performances, including; spread sheets, databases, information management systems, word processing, census taking systems, logistic management systems, epidemiology software and information gathering software among others. Some other more advanced systems that may be useful in CBO operations include geographical information systems (GIS), global positioning systems (GPS) among others.

Some of the technology equipment highlighted in this section may be sophisticated to use without effective training and ICT specialists. As a result, the next section discusses ICT training for operability and enhanced performances in CBOs.

2.3 Training in ICT and Operations

The previous section pinpointed the use of ICT equipment in CBOs to achieve operational efficiencies and performances. As explored in this section, training in ICT education and equipment is among the factors that influence adoption of the same, and operations of CBOs. Although majority of literature are not necessarily fine-tuned to CBOs, there is sufficient literature suggesting the significance of training in improving the ICT adoption for better operations and performances of CBOs across the globe. According to Tumuti (2011),

majority of young people who enter into the CBO and NGO workforce lack essential training on how ICT can be used to improve operations and performance in the organizations. In an earlier study, Badii (2003) revealed that majority of the end-users, most of whom are from non-technical backgrounds in the developing countries are oblivious of what the technology can do for them in the rural areas. This means that when such people, with poor and lower level technical background on the implementation of ICT in community organizations take roles in the organization, then the rates of adoption naturally remain low. E-business skills are the capabilities needed in order to identify and exploit the opportunities provided by ICTs especially the internet, so as to improve efficiency and effectiveness of business. These skills include management and creative skills, IT technical and IT literacy skills(McCormack,2010)

Mansel (2006) in his study, blamed the poor adoption and the implementation of ICT in Community Based Organizations on the poor exposure while the students are still in schools and colleges. As Mansel (2006) explained, the CBOs, particularly those that are in rural contexts, only attract people with lower levels of training. In the developing country contexts such as Kenya, such workforce are poorly exposed to ICT while in schools and colleges, making adoption and implementation and operation of ICT while in CBOs difficult in the contexts. Concisely, students who fail to get hands-on training in ICT while in school, do not only shy away from the use of technology while employed, but prefer manual methods for their operations (Tumuti, 2011; Mansel, 2006). In addition, Stehr (2000) explained that individuals who are poorly exposed to technology training while in schools often find it difficult to embrace technology adoption, and even train in technology while at work in the CBOs.

A study conducted by Standish Group (2005) to assess some of the factors that influence adoption of technology in rural organizations revealed that organizations that had at least one employee dedicated for training other employees on the use and ICT adoption in service delivery proved more successful in operations and performances. In addition, the Standish Group (2005) emphasized the significance of conducting regular training to the organizational employees on the use of technology. Interestingly, the Standish Group (2005) researchers acknowledged the fact that technology is dynamic, and that devices and systems used in ICT keep on changing, requiring frequent training for the employees to benefit the

people to whom they deliver the services. While Tumuti (2011) argued that CBOs, with their lower financial capabilities may not be able to employ ICT champions, he noted that the organizations should be able to invest in ICT training in order to uniformly elevate the knowledge of the employees with regards to adoption and operation of ICT systems. Nevertheless, majority of the extant literature allude to the fact that most CBOs and other community-run institutions are greatly challenged with regards to skilled ICT staff as opposed to larger organization with higher financial capabilities (Tumuti, 2011; Sitta, 2007; Mansel, 2006; Standish Group, 2005).

In a study that was conducted in Tanzania, that has a near-similar rural set-up with that of the rural Western Kenya, Sitta (2007) revealed that training and integration of ICT in CBOs empowers the staff and organizational leaders into judicious and effective service delivery to the community. He explained that quality service delivery and relevance that accompanies ICT training in rural based institutions and organizations enhances networking, while acting as the bedrock of the society. In Meru County, a study conducted by Mugambi (2008) attempted to investigate some of the factors that contributed to failures of CBOs in the area. In his report, the researcher indicated that CBOs largely failed due to non-adoption and non-training in ICT. Mugambi (2008) reported that the local community required the managerial capacity to gather essential data, budgeting and storage. He also reported that poor training and background in ICT is mentioned in the extant literature as an important determiner in the ICT adoption in CBOs (Mugambi, 2008).

An independent study conducted by Harrison (2010) similarly revealed that lack of training in ICT is among the key factors that contribute to failure of organizations in Kenya. While the researcher acknowledged that adoption of technology is important for management and operations of CBOs, he was quick to indicate that the pace of technology adoption cannot be maintained unless the staff and other users of the services are trained on the technology. Harrison (2010) findings concur with most of the extant literature which point to the significance of ICT training in ICT adoption in CBOs in different parts of the world.

The summation of the suggestions advanced in the extant literature concerning the significance of ICT training and skill enhancement, suggest the fundamentality of the training for workers beyond the ICT sector. It is indeed evidenced from the extant literature

that lower skilled and low wage community dwellers who constitute the CBOs need ICT training to enhance fluidity of the organizational operations and performances. As Chapple (2006) earlier pointed out, basic acquaintance with ICT has become necessary, not only for people in high calibre jobs, but for everyone in the community. Similarly, the context of the current study relies on the social ties and personal networks, which can be harnessed through ICT training to improve performances and operations of the CBOs. In addition, CBOs are important intermediaries that offer skills and networks which in-turn provide essential services to the disadvantaged people in communities. Consequently, the ICT training services that the CBOs provide to their members can help them to acquire crucial skills to compete and gain social mobility in different areas of life beyond CBOs (Chapple, 2005; 2006).

According to Sullivan et al. (2007) of the University of Washington Centre for Internet Studies, basic ICT training is a core service of the CBOs, and specialized training organizations (STOs) and individuals can be used to advance trainings and certifications in the CBOs. Sullivan et al. (2007) notes that the local CBOs may not be able to offer basic ICT training despite the essentiality of such skills in the operations and performances of the CBOs. The study participants that Sullivan et al. (2007) interviewed under the umbrella of the University of Washington Centre for Internet Studies, while seeking to understand the essentiality of training in CBOs, overwhelmingly suggested the importance of CBO training. Overall, the study report suggested that training in CBOs is a critical and basic step towards adoption and maintenance of ICT in CBOs.

2.4 Electronic platforms and operations in CBOs

The challenges that NGOs face can be overcome through use of formal networks and adoption of electronic platforms. Literature on electronic platforms demonstrates how significant networking is conducted in CBOs and related organizations. Kusunoki & Aoshima (2010) remarked that electronic networking platforms by various organizations are key for the purposes of information exchange or for carrying out various duties that are common to them. The researchers further explained that electronic platforms have improved the operations of organizations through exchange of information. Largely, electronic platforms assist in developing desirable attributes learnt from past experiences. Such experiences include bad practices that are avoided, and good practices that are

adopted in ways that enhance improved performances and operations for organizations (Kusunoki&Aoshima, 2010). Ngo-Ye &Sinha (2014) explained that networks that are forged through electronic platforms are beneficial to the members of the network in various ways. Most of the networks serve to convene meetings or to execute moral or financial support for an issue whose achievement can only be realized when people come together or to a region; all of which are characteristic of CBOs. In other scenarios, electronic platform networks are utilized to avail forums for learning, which is much cheaper than when a single CBOs contracts consultants or trainers individually.

When electronic platforms are used in any of the discussed ways above, then they serve to advance cheaper ways of gaining more knowledge (Boland et al., 2007). He explains that due to the employment of ICT in CBOs, there is the anticipation of improvements towards the achievement their goals. A more specific reason for the adoption of electronic platform is that knowledge is shared on how critical development procedures are enhanced through electronic network interface. The electronic networks bear some resemblance with the traditional networks, except for the technological systems that are used to enhance the efficiency of the electronic platforms. Such knowledge makes it easy to consider adoption of electronic platforms in CBOs. The other difference, as pointed out by Boland (2007) is that electronic platform adoption is beneficial to the CBOs with regards to cost, speed and confidence of the sharing information for improvement and efficiency in the organizations compared to the traditional networks.

Russo et al. (2005) opinion that electronic network interface allows for a constant exchange of ideas and information in CBOs without the need for face-to-face meetings, creating cost reductions for meetings and conferences in the organizations. He further reported that CBOs and related not-for profit organizations are increasingly achieving benefits that are related to adoption of electronic platforms. The benefits largely relate to operations and performances on the organizations. Nelson (2006) noted that ICT electronic platforms have enabled the connection of CBOs, operations and management of finances among the CBOs and NGOs, even those that had been initially marginalized. Electronic platforms for the transfer of funds makes it easier and more efficient for CBOs to receive funds without lapses in time and reduced costs.

Galliers *et al.* (1998) observed that electronic platform in CBOs provide information access for research, evaluation, and learning as derived from various practical works. Different practitioners' provide information that is tapped from the electronic network interface, and is used to significantly enhance the efficiency of the organization fieldwork. From this, knowledge is gained and lessons are learned; the acquired skills are used to influence the rest of the players, give advice and create awareness through information reach. The information gathered is confidently believed to be accurate as they are acquired from real experience unlike when theoretically gathered (Ngo-Ye, et al 2014).

The electronic platforms enable information transfer from the rural based CBOs in the developing countries to the mother institutions overseas (Galliers et al., 1998). It is therefore possible to share experiences and ideas across various programs, and also across state boundaries, which would not be achieved in organizations whose presence is constrained to a single level that lack ICT enhancements. Organizational and individual learning is enhanced in the electronic network by reducing the complexity of the procedure of learning (Russo et al 2005). It provides an infrastructure through which flexible interaction between headquarters and field staff or between practitioners is enhanced through decentralization. In addition, informal and formal education is balanced through information on best practices well-documented in online posts, electronic learning platform and electronic discussion forums (Russo et al., 2005).

In Heeks (2002)'s view, the main focus of the electronic platform strategy is the formulation of working ICT in the organizations. ICT and technology innovation result in ideating of a new organizational strategy that must be integrated with electronic initiatives. Specifically, the point is to view the value creation process in electronic platforms. The establishment of progressive relationships with a variety of players that revolve around a particular organization results in value creation for organizations. The addition of the value that these relationships provide, enable the competitive advantage achievement and the possibility of aligning the strategy with the environment. In this regard, the value constellation is significant contribution of electronic platform initiation (Nelson, 2006).

According to Boland et al. (2007), the underlying establishment of the relationships through electronic platforms reduces constraints on place, time, and the players through which configurations are possible. Boland (2007) further explained that innovation in technology, among other ICT approaches have to a greater extent influenced the processes and operations in CBOs, processes through which dematerialization process.

Important in the extant literature in the electronic platform processes and operations in CBOs is liquefaction and unbundle ability. Kusunoki et al (2010) explained that liquefaction in the physical world is identified by the separation of information. For instance, sending the same content can be done by the use of email or alternatively through the postal services. In the case of the postal services, the physical world is of considerable importance. Moreover, liquification allows a mobilization kind of information together with its combination such that tremendous amount of fresh information is easier to create (Kusunoki et al, 2010). This is among the few examples that justifies the adoption of electronic platforms in CBOs for communication. Unreliability on the other hand entails a scenario in which an activity of production is reformulated based on time the involved actors and the region where it is carried out. For instance e-commerce has enabled services to be offered for a whole 24 hours of the day and in the 365 days of the year. In addition the availability of the services is not only in the traditional premises but they are found in internet, and the users or the service utilizers need a new role (Kusunoki, et al, 2010).

In brief, the procedures for obtaining and making use of information in CBOs has remarkably improved through the adoption of electronic platforms (for e-commerce and communication). The platform has also been remarkably efficient in developing substantial actions for achieving set goals at the primary levels for the rural based organizations (Russo, et al 2005). Specifically, the extant literature reviewed in this section demonstrates that electronic platforms offer improved ways of gathering and distributing knowledge and information that are related to discourse applications and implementation success and failures (Russo, et al 2005).

2.5 Perception of members on ICT and operations

Despite the significance of ICT adoption in CBOs as discussed in the previous sections, CBO staff in the developing countries tend to experience difficulties in implementing ICT in their organization due to poor attitudes and negative perceptions on implementation and usage of the same (Boland et al 2007). The management and members of these CBOs are however aware that that implementation of the digital divide allows easy information access, the means and ability to exploit the technology for social and economic benefits that may result in the human development realization Any organization that has implemented ICT broadly accepts that the role of ICT has increased competitiveness, efficiency, and effectiveness. Nevertheless, such organizations tend to avoid approaching the integration of the technology in their operations, resulting in high costs of maintenance and less proportional gains in efficiency. The overall outcome is skepticism, disillusionments and organization commitment reduction that are largely depictive of poor attitudes towards ICT adoption in CBOs .

In South Africa for instance, mindset has been the largest influential staff perception in the integration and the use of ICT in local and rural based organizations (Du Plessis& Webb, 2012). There is no doubt, therefore that local and rural based organizations should always deal with the issues of attitudes and perception before the implements ICT. Working on the attitudes and perceptions helps the staff and management to abandon viewing of ICT implementation as a task that is advanced, and that needs a lot of resources and considerably advanced skills to manage (Du Plessis& Webb, 2012). Barakabitze (2014) while working in Tanzania context revealed that lack of sufficient knowledge on ICT is characterized by a statement that is common to a wide range of the staff; “ICT implementation will consume most of our resources; we cannot afford it because it is expensive”. The result will be failure of the organization to purchase a computer worth less than Sh. 50000 and failure to put in place an information system integration into the organization at Sh.1,500,000 but the same organization goes ahead to buy a 2,500,000 Sh. four-wheel for the organizations chief executive officer. The poor mindset is also depictive in lack of sufficient awareness. For some CBO staffs, implementation of ICT‘ has always been expensive, it is expensive and will continue being expensive’. Russell (2008) in demonstration explains that the conservative attributes of many staff members in CBOs make them tend to stick to old ways. It is

unusual to find an organizational office with computers more than those which perform basic functions such as typing and printing.

Still bordering on the issue of attitude and perception, most subordinate and middle level staff in CBOs are not authorized to make ICT related decisions, although they bear the ability to make the decisions. In most CBOs in rural contexts, the management teams still make all the decisions regarding ICT, regardless of how simple they are, with the rest of the staff only mandated to implement decisions and use ICT equipment in the office (Boland et al., 2007). Such non-inclusive decisions only dampen the spirits of other staff members, dispelling further away from ICT adoption for operations in CBOs.

In other contexts, the adoption and use of ICT in ICT is jeopardized by non-willingness of the incumbent management to embrace technological advancements (Mariscal et al., 2011). This is the scenario that Mariscal et al. (2011) reported, in which chief executives and other organizational leaders, most of who grew up before the emergence of modern technology fail to embrace ICT in organizations that they lead. ‘The CEO, who approve the budgets, consider the requests for ICT implementation in the organizations as mere luxury, and not worth equal investments. On the contrary younger leadership in the CBOs spur love for ICT in the organizations, facilitating more adoption. Zittrain (2006) in a separate study revealed that CBOs that head a younger leadership that were in their thirties and forties tended to love ICT processes than their older counterparts. The researcher considered this group dynamic, with capabilities to ensure that implementation of ICT policies within the organizations were achieved In addition, the younger leadership has proper understanding of the ICT trends in the local communities, welcoming the vibrant ideas that comes with the emergence of modern technological advancements (Mariscal, et al 2011; Zittrain, 2006). The discussion on the correlation between the average age of employees and ICT adoption in CBOs is intended to demonstrate that CBOs with relatively older leadership require some levels of compulsion to have the appropriate technologies implemented. Else, the poor perception and attitude towards ICT may hamper implementation in CBOs.

In India, Guttal (2007) reported that the levels of adoption of technology in organizations was influenced by the behavioral and cultural perceptions. While some of participants in

Guttal (2007) study assumed that technology, once made available is readily accepted and used, majority of them failed to express options for successfully driving adoption of the technology in the CBOs. The main argument from Guttal (2007) study is that certain behaviors and cultural norms such as wanting to be physically available for meetings may prevent ICT adoption systems in organizations.

2.6 Theoretical framework

According to Chigon and Licker(2008),an innovation no matter well designed, would be perceived as useless if it is not adopted, therefore one of important duties of those responsible for an innovation to maximize its adoption rate and the first step towards maximizing an innovation rate is to understand the factors that influence its adoption. They used diffusion of innovation theory as a framework to explain communal computing facilities adoption among the poor.

In this study, we use the innovation diffusion theory of Rogers (2003) to examine the influence of ICT adoption on the operation and performance of CBOs in Rangwe Sub County. In general terms, innovation diffusion research studies the process by which the use of a perceived new idea, practice, or object is adopted within a given social system (Rogers, 2003). It provides a generic model of the process of the adoption of an innovation by acknowledging a strong relationship between perceived attributes of innovations and the rate of adoption of these innovations. Rogers' theory has been widely used in sociology, anthropology and marketing research, but also in educational research. Plank, Villenas and Reese (2008) argue in this context that innovation diffusion research has a long and rich history in ICT adoption among organizations.

Rogers' theory and more specifically Rogers' notion of perceived characteristics of innovations - provides a useful framework to study both the implementation of ICT in education (Dooley, 1999; Ellsworth, 2000) and the study of curriculum change (Hewitt, 2006).

As presented above, Rogers' innovation diffusion theory studies the process by which a new idea, practice, or object is adopted within a given social system (Rogers, 2003), and emphasizes the role of innovation characteristics in the process of adoption (Ellsworth,

2000). Rogers (2003) defines diffusion as ‘the process by which an innovation is communicated through certain channels over time among members of a social system’. Van Braak and Tearle (2007) argue that innovation diffusion can be considered as the reason why, and as the process by which, an innovation is adopted by people in a specific setting or community. Rogers (2003) argues that the nature of an innovation, as perceived by individuals, helps to determine the rate of its adoption. He emphasizes the importance of understanding perceptions of an innovation, as this has significant strength in predicting future adoption of the particular innovation. In other words, an individual’s perception of an innovation will significantly affect his/her use intention, acceptance behaviour, and adoption behaviour (Liao & Lu, 2008). Rogers (2003) outlines five attributes of an innovation that influence an individual’s perception of the innovation, including: relative advantage, compatibility, complexity, trialability and observability. In this context, Dearing and Meyer (1994) describe ‘innovation attributes’ as the perceived characteristics of a new idea, process or technology.

Turning the attention to the CBOs in Rangwe, Rogers has noted that the decision to adopt or not adopt an innovation is not an instantaneous act but one that involves a process. The decision is active information seeking an information- processing behavior. Rodgers model identified five sequential stages that occur in the process of adoption of innovations. They are; knowledge about or exposure to the innovation, formation of favourable attitude or persuasion, a decision to adopt or reject, implementation and confirmation of reinforcement(Rogers 1995).The theory maintains that the rate of adoption is influenced by relative advantage, compatibility, complexity, triability and observability. In this study the five innovation attributes outlined by Rogers have been translated and contextualized as follows: Relative advantage: the degree to which the ICT adoption is perceived as better than the actual situation; Compatibility: the degree to which the ICT adoption is perceived as being consistent with existing values, past experiences and the needs of CBOs; Complexity: the degree to which the ICT adoption is perceived as difficult to understand and use; Trialability: the degree to which the ICT adoption may be experimented with on a limited basis; -Observability: the degree to which the results of the implementation of the ICT are visible to others.

Next to these attributes, Rogers (2003) describes other variables that may determine the rate of innovation adoption, including the type of innovation-decision, the communication channel, the nature of the social system, and the level of promotional effort made by change agents of the ICT attainment. This theory is considered relevant to the research topic because information communication technology are innovations that can be modified as need arises to suit the needs of the adopter.

2.7 Conceptual Framework

The study was guided by conceptual framework showing the influence of ICT adoption on the operation of CBOs in Rangwe Sub county.

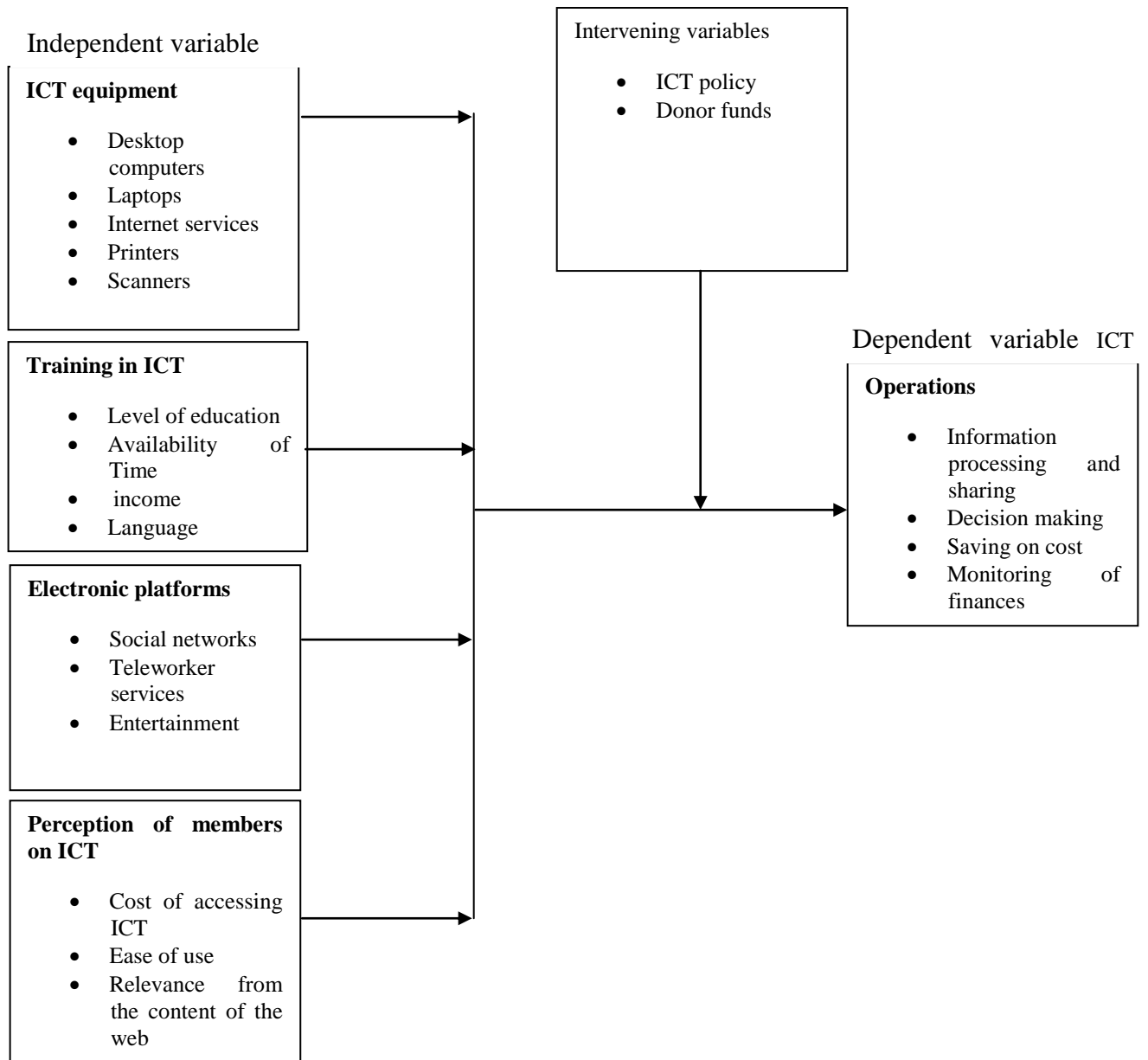


Figure 2.1 Conceptual framework showing influence of ICT adoption on operation of CBOs

2.8 Summary of Knowledge gap

Studies undertaken by Tumuti (2011), focused on factors influencing ICT adoption among the Community Based Organizations but there has been no attempt made to investigate on the influence of ICT adoption on the operations of CBOs.

It is also evident from the literature review that most of the studies have been done in developed countries and the ones done in developing countries have concentrated on large profit industries ignoring the non-profit making sector. Most of the studies too have concentrated on urban regions ignoring the rural community.

This study therefore aims to fill this gap by focusing on influence of ICT adoption on operation and performance of CBOs in Rangwe Sub County which has a population that is largely rural.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1. Introduction

This chapter described the research procedures and techniques that were used in this study. It constituted the research design, target population, sample size and sampling techniques that were employed. It also constitutes the research instruments, piloting of the instruments, validity and reliability of the instruments, data collection procedures, data analysis techniques and ethical considerations.

3.2. Research Design

The researcher employed descriptive survey research design to answer the research questions. Descriptive survey research design describes a thing, situation or phenomenon and seeks to give complete and accurate description of a situation at hand. The design is also found suitable because it enables direct generation of information. It creates in depth responses through sharing on past, present and future possibilities that consequently provide a good understanding of the phenomenon under study. The information gathered from survey design can also be used to answer questions that have been used to solve problems that have been posed or observed to assess needs and set goals (Isaacs and Michael, 1990).

3.3. Target Population

The target population for this research comprised 300 members of registered Community Based Organizations in Rangwe Sub County. According to the records by the department of Gender and Social Development Rangwe sub-county (2014), there are 20 registered CBO's with a total of 300 members.

3.4. Sample Size and Sampling Technique

Sampling procedure was determined by research questions and objectives of the study. Since it was not possible to study every member or element in the whole population due to heavy costs and time frame, the researcher employed probability sampling methods because the researcher was interested in the representativeness of concepts in their varying forms.

3.4.1. Sample Size

The sample size was determined using Krejcie and Morgan (1990), table for sample size determination. According to Krejcie and Morgan table for sample size determination, a population of 300 requires a sample size of 170(See appendix III)

3.4.2. Sampling Technique

The researcher employed simple random sampling to select the sample for the study. To avoid bias during selection members of the CBO will be selected randomly to ensure that each member of the target population has an equal opportunity of being included in the sample.

3.5. Data Collection Instruments

The main data collection tools in the study were pre-designed and pre-tested survey questionnaires. The survey questionnaire contained questions developed to assess the opinions and attitudes of the participants on the influence of ICT adoption the operations of CBOs within Rangwe Sub-County. The factors and variables were tested on a five-point Likert Scale with strongly agree and strongly disagree on both ends. The researcher first sought the consent of the potential participants through the central offices at the organisations, then contact participants to complete the questionnaires. Each specific question or item had its response analyzed separately, or have it summed with other related items to create a score for a group of statements. The questionnaire was divided in five sections (A to F). Section A contained demographic information whereas section B to E was used to collect information on formulated research objectives.

3.5.1. Piloting of Instruments

A pilot study was on 20 respondents drawn from 5 CBOs in Kisumu West Sub County. This enabled the researcher to identify any ambiguities or weaknesses of the instrument that could be experienced during the main study. Test-Retest technique was employed in the pilot study. The questionnaires were collected after two weeks to rephrase the questions where necessary and re-administer to the same respondents to observe whether their response was positive and could give expected results during the main research. Feedback obtained from the pilot study assisted the researcher in revising the instrument of data collection to ensure that it covers the objectives of the study. The main reason for

piloting the questionnaire was to ensure that the items will detect the kind of responses the researcher intends to get, that the items are acceptable in terms of their content and adequately covered any aspects of the unit which the researcher wished to explore.

3.5.2. Validity of the Instruments

The researcher gave out the questionnaire to two experts from the University of Nairobi to judge its suitability and relevance to the proposed research. The experts evaluated the relevance and objectives of each item on the instrument in relation to the study objectives. The recommendations were used to adjust the instrument accordingly.

3.5.3. Reliability of the Instruments

To achieve acceptable reliability and validity of the research instruments, the survey questionnaires were pre-designed and pre-tested. A CBO, selected randomly was used for pre-testing of the research instruments. The reliability coefficient was determined using the test-retest method. This is because the method is accurate as it determines the stability of the instruments. Using Pearson's (r) - Product moment correlation coefficient, each response in the questionnaire was allocated a score. The scores of the first test constituted x values while those of the second test constituted y values. Using Pearson's(r) the results of the two tests were correlated.

3.6. Data Collection Procedures

The researcher prepared a project proposal and submitted it for defense before the University of Nairobi examination panel. Upon approval of the proposal, the researcher sought a permit from the National Council for Science Technology and Innovation as well as authorization letter from the University of Nairobi to enable her get consent from County Director of gender and social services Homa Bay County to conduct the research and at the time of the study, the researcher made courtesy call to the Sub – County Gender and Social Development Officer. The researcher also made courtesy call to the national administration offices that is the former chiefs and assistant chiefs of the sub location that she was visiting. The researcher used self-administered questionnaires. The researcher also sent letters of transmittal to CBOs identified for interview and book appointments with them.

3.7. Data Analysis Techniques

Data analysis is the process of systematically searching and arranging field findings for presentation (Bogdan and Biklen, 1992). It involves organizing the data, breaking the data into categories and units and then searching for trends and patterns before deciding to report.

Quantitative data was obtained and coded and clustered for subsequent statistical analysis. The researcher used the data collected to enable her establish patterns, trends and relationship of the variables in the research study. Raw data was coded sequentially based on the research objectives and questions for purposes of analysis. Data was analyzed using descriptive statistics such as frequencies and percentage counts and presented using frequency and percentage tables. Quantitative data analysis will be aided by use of Statistical Package for Social Sciences (SPSS) for easy interpretation. Results from quantitative data was presented by use of frequency distribution in form of frequencies and percentages tables while responses from qualitative data were grouped into themes based on the objectives of the study and reported narratively.

3.8. Ethical Considerations

The study did not pose any risk to the human subjects, and as such did not entail serious ethical issues. Nevertheless, the researcher sought the consent of the potential participants before they commence the study (Creswell, 2009). In addition, the raw data gathered from the participants was only used for the research purposes, and was not be revealed to any third party.

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION, INTERPRETATION AND DISCUSSIONS

4.1 Introduction

This chapter presents findings of the study which have been discussed in line with the objectives of the study as well as the demographic characteristics of the study respondents. Data is analyzed, presented, interpreted and discussed under subheadings of questionnaire return rate, demographic characteristics of respondents, influence of availability of ICT equipment on performance of the CBOs, training on ICT by CBO members and staff, utilization of various ICT platforms on CBO operation, perception of CBO members on ICT, the use computers within the CBOs .

4.2 Questionnaire Return Rate

The study targeted 170 members drawn from 20Community Based Organizations in Rangwe Sub-County, Homa Bay County. The researcher distributed 170 questionnaires to the respondents, at the end of the survey, 140 questionnaires were returned by the respondents for analysis. This gave a questionnaire return rate of 82%. According to Amin (2005), a return rate of above 60% is good and suitable for analysis. Therefore, the response rate of 82% achieved by this study was very sufficient for analysis. The researcher attributed this high questionnaire return rate to the fact that respondents were followed with phone calls. Also the respondents had fixed place of abode thus could be actually visited by the research team for collection of the questionnaires. Further, the researcher attributes this high questionnaire return rate to the fact the most of the respondents were literate and were aware of the value such a research can have on the lives of the community and individuals.

4.3 Demographic characteristics of respondents

The researcher sought to understand the demographic characteristics of the respondents. The demographic information gathered from the respondents included the gender of the respondents, age of the respondents, highest level of education and occupation of the respondents. These demographic characteristics of the respondents are analyzed and presented below.

4.3.1 Distribution of Respondents by Gender

The researcher sought to collect data on the gender of the respondents. Information on this characteristic was considered critical by the researcher because it would show the level of participation of both women and men in the activities of Community Based Organizations in the study area. The respondents were asked to state their gender. Table 4.1 is a presentation of the distribution of the respondents by gender.

Table 4.1: Distribution of Respondents by Gender

Gender	Frequency	Percent
Male	69	49
Female	71	51
Total	140	100

Table 4.1 shows that 49% of the respondents were males while 51% were females. This shows a gender balance in those who were surveyed as well as the fact that they is considerable gender balance in CBO activities in Rangwe Sub-County.

4.3.2 Distribution of Respondents by Age

The researcher also sought to gather information on the age of the study respondents. This demographic characteristic was considered important to the study because it could help the researcher to understand the age cohort that is more involved in the work of community based organization in the study area. The age distribution of respondents is presented in Table 4.2.

Table 4.2: Distribution of Respondents by Age

Age in Years	Frequency	Percent
Below – 20	0	0%
21 - 25	13	9%
26 - 30	26	19%
31 - 35	43	31%
36 - 40	31	22%
40 – Above	27	19%
Total	140	100

Table 4.4 presents that 43 (31%) of the respondents were within 31-35 age bracket, followed by 31 (22%) of them in the age bracket of 36-40. Of the respondents, 27 (19%) were in age bracket of 40 and above while 26 (19%) was in the age bracket of 26-30. The least represented age bracket was 21-25 which was represented by only 13 (9%) respondents. From Table 4.2 above, it can be concluded that the mean age of the respondents was 33, thus in the age bracket 31-35 years which is also the modal age of the respondents. Based on the statistics, it is apparent that the majority of those who participated in the study and by extension the membership of the CBOs were in the 31-35 age bracket. This shows that the membership of the CBOs in the study area is largely made up youthful and energetic people whose work and lifestyle is largely influence by ICT. Thus, an appropriate study population

4.3.3 Distribution of Respondents by Level of Education

The study sought to establish the highest level of education of the respondents. Level of education was considered important in this study because it could reveal information in the role of level of education in interest in and exposure to ICT. The researcher believed that level of education also determined the respondent's ability to appreciate the relevance of ICT in the operations and performance of CBOs. In the study, the respondents were asked to state their highest level of education. Table 4.3.presents the study responses.

Table 4.3: Distribution of Respondents by Level of Education

Level of Education	Frequency	Percent
University	4	2.9
College	33	23.6
Secondary	71	50.7
Primary	32	22.9
Total	140	100

In table 4.3, a total of 71 (50.7%) of the respondents had secondary education followed by those with college education at 33 (23.6%) that was followed those with primary education at 32 (22.9%). Those with university education were 4 (2.9%). The data shows that a majority of the respondents had secondary education at 50.7% and that over 71% of the respondents had post primary education and were therefore literate. Based on this high

level of education among the respondents, the researcher believed that a high majority of the respondents can appreciate the influence of ICT in operation and performance of their CBOs.

4.3.4 Distribution of Respondents by Occupation

The study sought to establish the daily occupation and means of livelihood for the respondents. Establishing this was considered important in the study because it could influence the ability of the respondents' ability to acquire various ICT platforms and equipment. In order to establish this, the respondents were asked to indicate their occupation. Table 4.4 presents the occupations of the respondents.

Table 4.4: Distribution of Respondents by Occupation

Occupation	Frequency	Percent
Formal Employment	21	15.3%
Self-Employment	62	45.3%
Casual Laborer	41	29.9%
Student	13	9.5%
Total	137	100

Table 4.4 shows, that 62 (45.3%) of the respondents self-employed while another 41 (29.9%) were employed as casual laborers in various sectors. 21 (15.3%) were in formal employment with within either public or private sectors. Of the respondent on 13 (9.5%) were students in various institutions of learning. These results therefore show that a majority of the respondents were self-employed and doubled up as members of the CBOs under the study.

4.4 Influence of ICT Equipment in the Operation of Community Based Organization

This section presents the findings of the study in regard to assessing the extent to information communication technology equipment influence operations of Community Based Organizations in the study area. This section sought to analyze the availability and accessibility of various ICT equipment and services to the members and staff of the organization. The various equipment that the researcher sought to collect data on included availability and the number of desktop computers, laptops, internet services, printers and

scanners. In addition unrestricted accesses to computers by members of the organizations were analyzed.

4.4.1 Availability of Desktop Computers in the CBO

The researcher sought to establish the availability of desktop computers in the organizations surveyed in the study. This was done to understand whether organizations have adopted the use of ICT for their day-to-day operations or not. Table 4.5 shows an analysis of the availability of desktop computer equipment in the CBOs.

Table 4.5: Availability of desktop computers in the organization

Number of Desktop Computers	Frequency	Percent
0	11	55%
1-4	5	25%
5- Above	4	20%
Total	20	100

Table 4.5 shows that of that 11 (55%) of the CBOs surveyed had no computer equipment, while 5 (25%) had between 1 and 4 computers while another 4 (20%) of the organizations had above 5 computers. This shows that a majority of the organizations had no access to computer equipments, thus could not use the same for operations in their organizations. Even the organizations that had such equipment had far low number compared to their membership ration. This means that members of the organization had limited, if any, access to desktop computers.

4.4.2 Availability of Laptops Computers in the CBO

The researcher sought to establish the number of laptop computers that CBOs in the survey owned. This was also considered important as it showed the ability of the CBOs to use such equipment for presentations outside the office and to promote out of traditional office operations. Table 4.6 presents the information on the availability of laptop computers by different CBOs that were surveyed.

Table 4.6: Availability of Laptop computers in the organization

Number of Laptop Computers	Frequency	Percent
0	17	85%
1-4	3	15%
Total	20	100

The findings from Table 4.6 above indicate that 17 (85%) of the organizations did not own a laptop computer. Only 3 (15%) of the organizations surveyed owned a laptop computer. These findings show that a big majority of the organization did not have access to laptop computer services hence would not be able to operate in situations where electricity is limited or when there is a need to make presentations out of the traditional office.

4.4.3 Availability of Printers and Scanners in the CBO

The researcher sought to understand the extent to which the surveyed organizations had access to printers and scanners to support their operation. In this regard, the researcher asked representatives of the various organizations the number of printers and scanners that they owned. Table 4.7 represents the findings from the respondents.

Table 4.7: Availability of Printers and Scanners in the organization

Number of printers	Frequency	Percent	Number of Scanners	Frequency	Percent
0	14	70%	0	17	85%
1-4	6	30%	1-4	3	15%
Total	20	100	Total	20	100

Table 4.7 shows that 14 (70%) of the organizations did not have any printer for use in their operations while only 6 (30%) owned the same for use in their operations. This showed that in case such organizations that had no printers had to print a document; they had to spend many to seek printing services elsewhere. These service providers are often far from reach being that most of the CBOs are based in the rural parts of the sub-county. In addition 17 (85%) of the organizations surveyed owned scanners while only 3 (15%)

had such equipment. This curtailed the organization’s ability to scan documents for various uses.

4.4.4 Availability of Internet services in the CBO

The study sought to collect data on the availability of internet services in the CBOs under survey. Due to the growing importance of internet services in facilitating operations in organizations, internet services play a very important role in the operation of any organization. Indeed, the researcher believes that any organization that need to operate effectively and efficiently, they must have access to internet services. In order to gather information on availability of internet services, the researcher asked members of the CBOs to indicate if they had internet services or not within the organization. Table 4.8 shows availability of internet services in the various organizations that were surveyed.

Table 4.8: Availability of Internet Services in the Organization

Access to internet services	Frequency	Percent
Have Internet	17	15%
Do not have Internet	3	85%
Total	20	100

Table 4.8 shows that 17 (85%) of the surveyed organizations do not have access to internet services while 3 (15%) had access to internet services. These findings show that a majority of the organizations did not have access to internet services, hence could not use emails, download or upload information or be able to interact through internet platforms

Generally, results from the above tables depict that most organizations did not have basic ICT equipment. This support the findings of Kling & Callahan (2003)that all members of the staff in any organisation, whether community based or not, must be given easy access to use of technology and the technological equipment to ensure learning and efficiency within the organisations. the findings of Gakunu (2004) also supports the view that progressive adoption of appropriate ICT equipment and diffusion of ICT directly correlates with the development of the organisational goals and service delivery in the organisations, all of which translate to operational efficiencies and enhanced performances

4.5 Influence of Training in Information Communication Technology on Operations of Community Based Organization (CBOs)

The researcher sought to determine the extent to which training in ICT influenced operations of CBOs in Rangwe Sub-County. In order to determine this, the researcher gauged the level of agreement of the respondents on three parameters namely provision of time for ICT training by the organization, the influence of language of used in ICT training and the influence of income on individuals ICT training. In understanding this relationship, the researcher used a 5-point Likert scale ranging from strongly agrees through agree, neutral, disagree and strongly disagree.

4.5.1 Influence of time availability on ICT training by CBO members and staff.

In order to establish the extent to which time influences training in ICT by CBO members, the researcher asked the respondent regarding if the organization gives ample time for its members to undergo training in ICT. In seeking answers to this question, the researcher believed that if an organization provided ample time for its members to undertake training in ICT, the members and the staff would be able to acquire valuable skills in ICT to be utilized in the organization to facilitate its operations. In the converse, if the staff do not have time for training in ICT, then they would be unable to learn the necessary ICT skills, thus will not have the ICT skills to contribute to the operations of the organization. Table 4.9 summarizes the findings in this regard.

Table 4.9: Availability of Time for ICT Training

Does the CBO give time for ICT training?	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Total
Frequency	35	28	23	19	17	122
Percentage	29%	23%	19%	16%	14%	100

Table 4.9 shows that 35 (29) strongly agree that their organizations provided time for their members and staff to undertake ICT training, 28 (23%) of the responded agreed that organizations provided time for their member for ICT training, while 23 (19%) were neutral on this matter. On the other hand 19 (16%) disagreed that their organizations provided time for ICT training while 17 (14%) strongly disagree with the statement that

their organization provided time for ICT training. The findings show that most of the respondents (52%) tended to be those who believed that their organizations provided time for ICT training while only a slim part of the respondents (36%) tended to be in the category of those who did not believe that organization provided time. The availability of time for ICT training in the CBOs shows that if other factors influencing the use of ICT for the operations of the organizations were favorable then the members of the organizations will be able to effectively train in ICT and use such skills to support the operation of their organizations.

4.5.2 Influence of ICT Instruction Language on the Operation of CBOs

In this study, the researcher sought to understand how whether the instruction language for ICT training would make it difficult for the members of the organization to train in ICT. This opinion was captured through a 5-point Likert scale from strongly disagree through agree, neutral, disagree and strongly disagree. The findings on this parameter are presented in table 4.10.

Table 4.10: Influence of ICT Instruction Language on the Operation of CBOs

Does the language of ICT instruction make it difficult for you to acquire training	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Total
Frequency	17	21	20	22	35	115
Percentage	14.8%	18.3%	17.4%	19.1%	30.4%	100

Table 4.10 shows that 17 (14.8%) of the respondents strongly agreed that the language of ICT instruction can make it difficult for them to acquire training in ICT, 21 (18.3%) agreed that the language of instruction influenced their ability to acquire training in ICT while 20 (17.4%) were neutral on this matter. Those who disagreed with this statement were 22 (19.1%) while those who strongly disagreed were 35 (30.4%) of the respondents. This study shows that on average, a majority of the respondents (49.5%) did not think that the ICT instruction language would be a barrier for training in ICT. Being that a majority of the respondents had post-primary education (71%), they would not have difficulty understanding English, which is the major instruction language in ICT training.

4.5.3: Influence of Income on Ability to Train in ICT

In this study, the researcher also sought to understand the influence of income on the ability of a CBO member to adopt training in ICT. Table 4.11 presents the findings on this parameter.

Table 4.11 Influence of Income on Ability to Train in ICT

Does income influence your ability to train in ICT	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Total
Frequency	18	35	23	24	31	131
Percentage	13.7%	26.7%	17.6%	18.3%	23.7%	100

Table 4.11 shows that 35 (26.7%) of the respondents agreed that income influenced their ability to undertake ICT training, while 18 (13.7%) of the respondents strongly agreed that income influenced their ability to undertake ICT training. Those who were neutral on this matter were 23 (16.5%) while those who disagreed and strongly disagreed were 24 (23.7%) and 31 (23.7%) respectively. This findings show that respondents (43%) were those who tended to disagreed that Income influenced their ability to undertake training in ICT whereas 40.5% were those who tended to agree with the same statement.

The report from the above tables depict that training was not a barrier to ICT adoption on the operation of CBOs. For instance 52% believed that organization could provide enough time for training, 49.5% acknowledged that language was not a barrier to acquiring training since 70% of them had acquired post primary education, 43% agreed that income did not affect them accessing training. This supports the findings of Badii (2003) that majority of the end-users, most of whom are from non-technical backgrounds in the developing countries are oblivious of what the technology can do for them in the rural areas. This means that when such people, with poor and lower level technical background on the implementation of ICT in community organizations take roles in the organization, then the rates of adoption naturally remain low. The Standish Group (2005) researchers acknowledged the fact that technology is dynamic, and that devices and systems used in ICT keep on changing, requiring frequent training for the employees to

benefit the people to whom they deliver the services. While Tumuti (2011) argued that CBOs, with their lower financial capabilities may not be able to employ ICT champions, he noted that the organizations should be able to invest in ICT training in order to uniformly elevate the knowledge of the employees with regards to adoption and operation of ICT systems.

Table 4.12: The Correlation between Computer Access and Skills Training and Operations

			1	2	3	4	5	6
Spearman's rho	Has been assigned a computer	Correlation Coefficient	1					
		Sig. (2-tailed)	.					
		N	140					
	Organization provides time and resources for training	Correlation Coefficient	.131	1				
		Sig. (2-tailed)	.143	.				
		N	127	127				
	Can access and communicate on social networks	Correlation Coefficient	.093	.151	1			
	Sig. (2-tailed)	.274	.091	.				
	N	140	127	140				
Can work at home through computer	Correlation Coefficient	.121	.036	-.039	1			
	Sig. (2-tailed)	.224	.727	.695	.			
	N	102	95	102	102			
Easy to access and use computer in the organization	Correlation Coefficient	.037	-.030*	.097	-.012	1		
	Sig. (2-tailed)	.679	.750	.275	.908	.		
	N	128	115	128	94	140		
Information processing and sharing	Correlation Coefficient	.	.	.	.	.	1
	Sig. (2-tailed)	.	.	.	.	.	.
	N	40	35	38	40	29	40	

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

* . Correlation is significant at the 0.05 level (2-tailed).

Table 4.12 shows the correlation coefficients between having own computer at one's community-based organization, ease of access to and use of computer in the organization, and working for the organization at home or even having access to and communicating over social networks on the other hand. All the participants who responded the survey item that asked them to state whether ICT they use ICT to process and share information confirmed the stated and therefore it was impossible calculating correlation. This

basically means that CBOs generally use ICT to process and share information. There was also a weak positive correlation between organization providing time and resources for ICT skills training and ability to access and communicate on social media, with $r = .151$ and $p = .091$, which was insignificant though.

4.6 Influence of Electronic Platforms on Operations of Community Based Organizations in Rangwe Sub County.

The study also intended to establish the extent to which electronic platforms influenced operations of Community Based Organizations in Rangwe Sub County. This objective sought to answer three main question on the extent to which CBO members were able to use social networks to communicate, could do work through computer and laptops or have various entertainment through ICT.

4.6.1 Influence of Utilization of Social Media to Communicate

Under this sub-theme, the study sought to understand the extent to which members of the CBOs were able to communicate using social media networks such as Facebook and Whatsapp. Being that these are some common and permissive ICT communication platforms, the researcher believed that the use or non-use of such network can influence the operation of CBOs. Table 4.12 presents the findings on the ability to use social media to communicate by the CBO members.

Table 4.13: Use of Social Networks to Communicate

Use of Social Media to Communicate	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Total
Frequency	28	35	19	23	21	126
Percentage	22.2%	27.8%	15.1%	18.3%	16.7%	100

Table 4.13 shows that 35 (27.8%) of the respondents strongly agreed that they use social networks to communicate, while 28 (22.2%) agree that they use social media to communicate. In addition, of those who responded to this question, 19 (15.1%) were neutral on the matter while those who disagreed and those who strongly disagreed were 23 (18.3%) and 21 (16.7%) respectively. Therefore, 50% of the respondents tended to

agree that they use social media such Facebook and Whatsapp to communicate while 35% tended to disagree that they use social media to communicate. This findings show that a majority of the respondents had adopted the use of social media to communicate, thus could use the same to facilitate communication among the members of their CBOs.

4.6.2 Influence of Utilization of teleworker services in Facilitating Organization’s Work

The study also sought to establish how members of the organization were using teleworker services to facilitate their work in the organization. This was with the intention of understanding the how the ability to use such ICT platforms influence the operation of the CBOs. Table 4.13 shows the findings in this regard.

Table 4.14: Use of Computer to do Organization’s Work

Use of computer to do organization’s work	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Total
Frequency	23	26	25	34	31	140
Percentage	17.1%	18.6%	17.9%	24.3%	22.1%	100

Table 4.14 shows that 26 (18.6%) of the respondents agreed that they use computers to organization’s work while 23 (17.1%) strongly agreed that they use computers to undertake organizational work. Another 25 (17.9%) had neutral opinion on this matter, while 34 (24.3%) and 31 (22.1%) of the respondents disagreed or strongly disagreed that they use computers for work in their organizations. On average 35.7% agreed that they use teleworker services while 46.4% disagreed.

4.6.3 Influence of Use of ICT for Entertainment on Operation of CBOs

In this study, the researcher sought to establish the extent to which CBO members use ICT for various entertainment. The researcher measured this parameter through 5-point Likert scale as presented in table 4.15.

Table 4.15: Use of ICT for Entertainment

Use of ICT for Entertainment	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Total
Frequency	27	26	38	26	18	135
Percentage	20%	19.3%	28.1%	19.3%	13.3%	100

Table 4.15 shows that 27 (20%) of the respondents strongly agree that they use ICT for entertainment while 26 (19.3%) agree that they use ICT for various entertainment. In addition 26 (19.3%) disagreed that they use ICT for entertainment while 18 (13.3%) strongly disagreed that they use ICT for entertainment. However, 38 (28.1%) were neutral on this matter. The findings show that on average 39.5% of the respondents were those who agreed that they used ICT for entertainment while on average 32.6% were those who disagreed that they used ICT for various entertainment.

This findings show that a majority of the respondents of 50% had adopted the use of social media to communicate thus could use the same to facilitate communication among the members of their CBOs. This supports Russo et al's (2005) opinion that electronic network interface allows for a constant exchange of ideas and information in CBOs without the need for face-to-face meetings, creating cost reductions for meetings and conferences in the organizations. The findings also indicate that 46.4% disagreed that they access teleworker services. This can be confirmed by the fact that the majority did not have access to ICT equipment at home. On the other hand majority of members agreed that they use ICT for entertainment.

4.7 Influence of perception of members of CBOs on information communication technology on operation of Community Based Organizations in Rangwe Sub County.

Table 4.16: Perception that Cost of Accessing ICT is Affordable

Cost of ICT is affordable	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Total
Frequency	21	23	25	33	36	139
Percentage	15.1%	17.3%	18%	23.7%	25.9%	100

Table 4.16 shows that 21 (15.1%) of the respondents strongly agree that cost of accessing ICT is affordable while 23 (17.3%) agree that cost accessing ICT is affordable. In addition 36 (25.9%) disagreed while 36 (25.9%) strongly disagreed that cost of accessing ICT is affordable. However, 25 (18%) were neutral on this matter. The findings show that on average 32.4% of the respondents were those who agreed that cost of accessing ICT is affordable while on average 49.6% were those who disagreed that cost of accessing ICT is affordable.

Table 4.17: Perception that using ICT is easy

Using ICT is Easy	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Total
Frequency	25	39	27	33	4	128
Percentage	19.5%	30.5%	21.1%	25.8%	3.1%	100

Table 4.17 shows that 25 (19.5%) of the respondents strongly agree that using ICT is easy while 39 (30.5%) agree that using ICT is easy . In addition 33 (25.8%) disagreed that using ICT is easy while 4 (3.1%) strongly disagreed that using ICT is easy. However, 27(21.1%) were neutral on this matter. The findings show that on average 50% of the respondents were those who agreed that using ICT was easy while on average 28.9% were those who disagreed that using ICT is easy.

Table 4.18: Perception on Relevance of Content on ICT

Relevance of web content	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Total
Frequency	33	30	27	28	21	128
Percentage	23.7%	21.6%	19.4%	20.1%	15.1%	100

Table 4.18 shows that 33 (23.7%) of the respondents strongly agree that the content of the web is relevant while 30 (21.6%) agree that the content of the web is relevant. In addition 28 (20.1%) disagreed that the content of the web is relevant while 21 (15.1%) strongly disagreed that the content was relevant. However, 27 (19.4%) were neutral on this matter. The findings show that on average 45.3% of the respondents were those who agreed that

the content was relevant while on average 35.2% were those who disagreed that the content is relevant.

These findings basically indicate that majority of the members. 49.6% disagree that cost of accessing ICT is affordable which is inline with the findings of Barakabitze (2014) while working in Tanzania context revealed that lack of sufficient knowledge on ICT is characterized by a statement that is common to a wide range of the staff; “ICT implementation will consume most of our resources; we cannot afford it because it is expensive” while 50% agreed that using ICT is easy. 45.3% also agreed that the content of the web is relevant.

4.8 Operation of CBOs

Table 4.19: use ICT for CBO Operations

Task	Frequency	No. of Respondents	Percent
Information sharing and processing	56	56	100%
Decision making	9	56	16.1%
Saving on cost	39	56	69.6%
Monitoring finances	45	56	80.4%

Table 4.19 shows that 56 (100%) of the respondents acknowledged that they use ICT for information sharing while 9 (30%) acknowledged that they use the same for Decision making. This can be strongly seen in Boland et al (2007) findings Still bordering on the issue of attitude and perception, most subordinate and middle level staff in CBOs are not authorized to make ICT related decisions, although they bear the ability to make the decisions. In most CBOs in rural contexts, the management teams still make all the decisions regarding ICT, regardless of how simple they are, with the rest of the staff only mandated to implement decisions and use ICT equipment in the office Such non-inclusive decisions only dampen the spirits of other staff members, dispelling further away from ICT adoption for operations in CBOs In addition 39 (69.6%) acknowledged use of ICT saved on cost and 56(100%) acknowledged that they use ICT for monitoring finances which is supported by Nelson (2006) in his study noted that ICT electronic platforms have enabled the connection of CBOs, operations and management of finances among the CBOs and NGOs, even those that had been initially marginalized. Electronic platforms

for the transfer of funds makes it easier and more efficient for CBOs to receive funds without lapses in time and reduced costs.

The table shows that information available over the internet has been useful in respondents' organizations' operations, including decision making, information processing and sharing, and monitoring finances. It also helps save on operations costs. Further correlation analysis provided important insight into this issue.

Table 4.20 Correlation between Influence of ICT and Decision Making

Variables		Significance	
Spearman's rho	Decision making	Correlation Coefficient Sig. (2-tailed) N	1 . 140
	Organization provides time and resources for training	Correlation Coefficient Sig. (2-tailed) N	.454** .005 36
	It's easy to access and use ICT	Correlation Coefficient Sig. (2-tailed) N	.163 .323 39
	Can access and communicate on social networks	Correlation Coefficient Sig. (2-tailed) N	.441** .004 41
	Can work at home through computer	Correlation Coefficient Sig. (2-tailed) N	.000 1.000 30
	Has been assigned a computer	Correlation Coefficient Sig. (2-tailed) N	.242 .127 41

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

* . Correlation is significant at the 0.05 level (2-tailed).

There was significant positive correlation between organization providing time and resources for ICT skills training and use of ICT to support or guide decision, with $r = .454$ which was significant at $p < .01$. There was a significant positive correlation between ability to access and communicate on social networks and use of ICT for decision in organizations, with $r = .441$ significant at $p < .01$. Similarly, there was also a weak, positive but non-significant correlation between having been assigned a computer at one's organization and use of ICT to make decisions, with $r = .242$ and $p = .157$.

Table 4.21: Summary of Correlation between ICT and Decision Making

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.605 ^a	.366	.190	.418	.366	2.080	5	18	.115

a. Predictors: (Constant), Information available over the internet is relevant, Can work at home through computer, It's easy to access and use ICT, Has been assigned a computer, Organization provides time and resources for training

The model summary in table 4.21 shows that all the factors combined explained 36.6% of the variance in organizations use of ICT to support decision making. However, this was not found to be significant, with $F(5, 18) = 2.080$ and $p = .115$. Further regression analysis was performed to check the effect of the three independent variables (time and resources for training, information available over the internet, and ability to access and communicate on social networks) which significantly correlated with the dependent variable (decision making). The combined effect of the three variables explained 19.4% of the variance in organizations' use of ICT to support decision making. This was significant, with $F(2, 31) = 3.724$ and $p = .036$ (significant $p < .05$).

Table 4.22 Correlation between ICT and Saving on Operations Costs

Variables			Significance
Spearman's rho	Saving on costs	Correlation Coefficient	1
		Sig. (2-tailed)	.
		N	140
	Organization provides time and resources for training	Correlation Coefficient	.378*
		Sig. (2-tailed)	.023
		N	36
	It's easy to access and use ICT	Correlation Coefficient	.451**
		Sig. (2-tailed)	.004
		N	39
	Can access and communicate on social networks	Correlation Coefficient	.323*
		Sig. (2-tailed)	.039
		N	41
	Can work at home through computer	Correlation Coefficient	-.102
		Sig. (2-tailed)	.593
		N	30
	Has been assigned a computer	Correlation Coefficient	.065
		Sig. (2-tailed)	.127
		N	41

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

* . Correlation is significant at the 0.05 level (2-tailed).

Table 4.22: reveals Ease of access to and use ICT within the organization was also significantly correlated with use of ICT to save operations costs, with $r = .451$ at $p < .01$. Providing time and resources for ICT skills training was also significantly and positively related to saving on operations costs on the long term, with $r = .378$ at $p < .05$. Ability to access and communicate on social networks was also positively correlated with saving on operations costs, with $r = .323$ at $p < .05$.

Table 4.23 Model Summary Regression of ICT on the Operations Cost

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.698 ^a	.487	.306	.401	.487	2.686	6	17	.051

a. Predictors: (Constant), Information available over the internet is relevant, Can work at home through computer, Can access and communicate on social networks, It's easy to access and use ICT, Has been assigned a computer, Organization provides time and resources for training

Table 4.23: shows the combined effect of the independent variables explained 48.7% of the variance in the organizations' use of ICT to save on operations costs. This was almost significant, with $F(1, 17) = 2.686$ at $p = .051$. Consequently, stepwise model selection was performed to come up with a parsimonious model. The survey item which measured having been assigned own computer in the organization was dropped so that the combined effect of the remaining five independent variables explained 48.4% of variance in organization's use of ICT to save on operations costs. The combined effect of the remaining five independent variables was found to be significant, with $F(5, 18) = 3.373$ and $p = .025$ (significant at $p < .05$).

The researcher further sought to understand how ability to access and use ICT, ability to access and communicate on social networks explained variance in organizations' use of ICT to save on costs. The combined effect of these three independent variables explained the most significant variation in organization activities as they explained 38.4% of this variance, significant at $F(3, 33) = 6.855$ and $p = .001$ (significant at $p < .001$). Ease of access to and use of ICT in organization alone explained 19.2% of the variance in organizations' use of ICT to save on operations costs, which was significant at $F(1, 36) = 8.534$ and $p = .006$ (significant at $p < .01$). Similarly, relevance of information available over the internet explained 24.9% of the variance in organizations' use of ICT to save on operations costs, which was significant at $F(1, 37) = 12.266$ and $p = .001$ (significant at $p < .01$). The effect of ability to access and communicate via social media however did not explain significant variation.

Table 4.24 Correlation between ICT and Monitoring Organization Finances

Variables			Significance
Spearman's rho	Monitoring finances	Correlation Coefficient	1
		Sig. (2-tailed)	.
		N	140
	Organization provides time and resources for training	Correlation Coefficient	.456**
		Sig. (2-tailed)	.006
		N	36
	It's easy to access and use ICT	Correlation Coefficient	.413**
		Sig. (2-tailed)	.010
		N	38
	Can access and communicate on social networks	Correlation Coefficient	.389*
		Sig. (2-tailed)	.013
		N	40
	Can work at home through computer	Correlation Coefficient	-.045
		Sig. (2-tailed)	.815
		N	29
	Has been assigned a computer	Correlation Coefficient	.102
		Sig. (2-tailed)	.531
		N	40

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

* . Correlation is significant at the 0.05 level (2-tailed).

Providing time and resources for ICT skills training was found to be significantly and positively correlated with use of ICT to monitor organization finances, with $r = .456$ significant at $p < .01$. Ease of access to and use of ICT within an organization was also found to be significantly correlated with use of ICT to monitor organization finances, with $r = .413$ significant at $p < .05$. Similarly, ability to access and communicate on social networks was also found to be significantly related with an organization's use of ICT to monitor finances, with $r = .389$ significant at $p < .05$.

Table 4.25 Model Summary Regression of ICT on Monitoring of Finances.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.723 ^a	.523	.354	.405	.523	3.105	6	17	.031

a. Predictors: (Constant), Has been assigned a computer, It's easy to access and use ICT, Can work at home through computer, Can access and communicate on social networks, Organization provides time and resources for training, Information available over the internet is relevant

Table 4.25 shows The combined effect of all the independent variables explained 52.3% of variance in organizations' use of ICT to monitor organization finances. This was found to be significant, with $F(6, 17) = 3.105$ and $p = .031$ (significant at $p < .05$).

CHAPTER FIVE
SUMMARY OF THE RESEARCH FINDINGS, CONCLUSION AND
RECOMMENDATIONS

5.1 Introduction

This chapter presents the findings of the entire study from chapter one. Literature review has been incorporated and the results compared with the present finding. There is a discussion of the summary of the findings in chapter four as per the objectives of the study. Conclusions have been made on the basis of the findings and the literature review. Finally, suggestion for further studies, contribution to the body of knowledge and recommendation is made to complete the research project report.

5.2 Summary of the Research Findings

The purpose of the study was to assess the influence of ICT adoption on the operation of CBOs in Rangwe Sub- County. The findings in this chapter are summarized in this section according to the objectives of the study.

The findings of this study reveal that most of the CBOs did not have enough ICT Equipment. For instance 11(55%) of the CBOs had no computers and even the ones that had such equipment had far low number compared to their membership ratio which meant that member's had limited access hence affecting the daily operation and efficiency. 17(85%) of the CBOs had no laptops and this meant that they don't operate in situations where there electricity is limited or when there is need to make presentations out of the traditional office. 14(70%) of the CBOs had no printers while 17(85%) owned no scanners and this curtailed the organizations ability to print and scan documents for various uses. The findings also indicate that 17(85%) of the members of the CBOs had no access to internet services hence could not use emails, download or upload information or be able to interact through internet platforms.

Training in ICT was not a barrier to ICT adoption on the operation of CBOs. For instance 52% believed that organization could provide enough time for training, 49.5% acknowledged that language was not a barrier to acquiring training since 70% of them had acquired post primary education, 43% agreed that income did not affect them accessing training. An independent study conducted by Harrison (2010) similarly

revealed that lack of training in ICT is among the key factors that contribute to failure of organizations in Kenya. While the researcher acknowledged that adoption of technology is important for management and operations of CBOs, he was quick to indicate that the pace of technology adoption cannot be maintained unless the staff and other users of the services are trained on the technology.

This findings show that a majority of the respondents of 50% had adopted the use of social media to communicate thus could use the same to facilitate communication among the members of their CBOs. This supports the opinion Russo *et al* (2005) that electronic network interface allows for a constant exchange of ideas and information in CBOs without the need for face-to-face meetings, creating cost reductions for meetings and conferences in the organizations. The findings also indicate that 46.4% disagreed that they access teleworker services. This can be confirmed by the fact that the majority did not have access to ICT equipment at home. On the other hand majority of members agreed that they use ICT for entertainment.

Perception on ICT was still a major concern in the adoption of ICT on operation of CBOs. These findings basically indicate that majority of the members. 49.6% disagree that cost of accessing ICT is affordable which is in line with the findings of Barakabitze (2014) while working in Tanzania context revealed that lack of sufficient knowledge on ICT is characterized by a statement that is common to a wide range of the staff; “ICT implementation will consume most of our resources; we cannot afford it because it is expensive”. While 50% agreed that using ICT is easy. 45.3% also agreed that the content of the web is relevant.

The findings in this study revealed that 56 (100%) of the respondents acknowledged that they use ICT for information sharing while 9 (30%) acknowledged that they use the same for Decision making. This can be strongly seen in Boland et al (2007) findings still bordering on the issue of attitude and perception, most subordinate and middle level staff in CBOs are not authorized to make ICT related decisions, although they bear the ability to make the decisions. In most CBOs in rural contexts, the management teams still make all the decisions regarding ICT, regardless of how simple they are, with the rest of the staff only mandated to implement decisions and use ICT equipment in the office. Such

non-inclusive decisions only dampen the spirits of other staff members, dispelling further away from ICT adoption for operations in CBOs. In addition 39 (69.6%) acknowledged use of ICT saved on cost and 56(100%) acknowledged that they use ICT for monitoring finances which is supported by Nelson (2006) in his study noted that ICT electronic platforms have enabled the connection of CBOs, operations and management of finances among the CBOs and NGOs, even those that had been initially marginalized. Electronic platforms for the transfer of funds makes it easier and more efficient for CBOs to receive funds without lapses in time and reduced costs.

The correlation and regression analyses have provided evidence indicating that ICT has positive and significant impact on CBOs' operations, and in turn, performance. The factors were found to be most influential include access and use of ICT in the organization, access to relevant information through the internet, ICT skills training offered by CBOs, and access to and communication via social media. These factors significantly influence CBOs' decision to use ICT to support decision making, monitor organization finances, and to save on operations costs. All the respondents indicated that they use ICT to process and share information.

5.3 Conclusion

The findings of this study clearly reflected the day to day events in the setup and operation of community based organizations. To begin with, ICT equipment has a great impact on the operation of any organization. And in a dynamic world, the current and right equipment are required to increase efficiency and effectiveness of such organizations. However, on this aspect, the findings of this study concluded that most of the organizations surveyed had no access to crucial ICT computer equipment such as laptops computers, desktop computers, printers, scanners and internet services. This limited access to ICT equipment has been shown through the study to impede adoption of ICT for the operation of the surveyed CBO.

The findings of the study further show that most members of the surveyed organization had adequate time for training in ICT. Therefore the study concluded that if all other factors are favourable, then most \CBO members would train in ICT to increase their efficiency and effectiveness in undertaking the operations of the CBOs. In regards to

language the study concluded that most CBO members were not barred from acquiring training because they were well conversant with ICT instruction language which is usually English. It is also concluded that income had an influence on ability to train in ICT. Finally on this subject matter, the study concluded that if members of the CBOs were able to train in ICT, then they would be able to adopt the use of ICT equipments to enhance the operation on their CBOs.

On the question of the extent to which adoption of various ICT platforms influence operations of CBO in the study area, the study concluded that ability to access and use various ICT platforms such as social media, computer gadgets and entertainment have an influence on the operation of CBO members. When member of the CBOs, adopt the use of the various ICT equipments, then they will be able to enhance the operation of their CBOs.

On the assessment of the influence of perception on ICT on the operation of CBOs, the study concluded that most people had the perception that ICT equipment and services were unaffordable to most CBOs and their members, thus their ability to adopt and use them for their operations were greatly curtailed. However, at the same time, the study concluded that most CBOs and their members perceived that using ICT was easy and that the content on the web had relevant information they needed. These perceptions influenced how member for the CBOs and the CBOs were willing and able to adopt the various ICT platforms.

On the operation of the CBOs, the study concluded that CBO used computers to undertake different tasks. This included information sharing and processing, decision making, saving on operational cost and in monitoring of organizational finances. It is further concluded that all organizations.

5.4 Suggestions for further Studies

Through the study, the researcher recommends that a comparative study be done on the performance of CBOs that have adopted ICT and those who have not adopted any form of ICT. Studies should also be carried out on influence of ICT adoption on the performance of CBOs. The researcher also suggests that this study be replicated in other sub-counties

to give a broader picture on the influence of ICT adoption on the operations of CBOs in the whole country.

5.5 Recommendation of the Study

Based on the findings and conclusions above, the study found it necessary to make these recommendations as a step to the implementation of the study objectives. ICT requires that users are open to change. This is because technology is ever changing, new and better ways of accomplishing tasks are being invented therefore it is paramount for users of ICT to embrace change. This calls for change on their perception and attitude which might make them prone to getting comfortable with the status quo hence becoming fearful to change. ICT cost to be included in every organizational budget to ensure that funds are available for ICT implementation in every organization. With the dynamic nature of ICT, continuous training should always be in place to allow for upkeep with the current technology.

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APPENDICES

APPENDIX 1: LETTER OF TRANSMITTAL

KIBOYE JACQUELINE ACHIENG

P O BOX 51-40300

HOMA BAY

CELL-PHONE NO-0720962139

EMAIL –jacqibs@gmail.com

Dear Respondent,

RE: PARTICIPATION IN RESEARCH

I am Jacqueline Achieng Kiboye a Master of Arts student at the University of Nairobi in Project Planning and Management Registration Number L50/72166/2014. I am undertaking a study to establish the influence of ICT adoption on operations of Community based organisations in Rangwe Sub County, Homabay County. The purpose of writing this letter is to kindly request you to participate in the study by responding to the questionnaire items to the best of your knowledge. Be assured that ALL the information you give will be treated with utmost confidentiality. Your participation and co-operation will be highly appreciated.

Thank You,

Yours Sincerely,

Kiboye Jacqueline Achieng

Researcher.

APPENDIX II: QUESTIONNAIRE FOR RESPONDENTS

Introduction

I am a student at the University of Nairobi pursuing a Masters Degree in Project Planning and management. I am currently carrying out a study on influence of information communication technology on operation and performance of community based organization in Rangwe Sub-County as part of the requirement for the fulfillment of my Masters Degree. The purpose of this introduction is to kindly request you to participate in the study by completing the attached questionnaire. This questionnaire has been designed to help gather relevant information to this study.

Your community based organization has been purposely selected to participate. Therefore, your response is critical to the study. Please respond to ALL the questions by putting a tick to the response that best applies to the question and reflects your opinion. The responses range from Strongly Agree (SA), Agree (A), Neither Agree nor Disagree or Neutral (N), Disagree (D) and Strongly Disagree (SD). All the answers and opinion given will remain confidential and used only for the academic purpose. PLEASE DO NOT WRITE YOUR NAME ANYWHERE ON THE QUESTIONNAIRE.

SECTION A (Demographic Information of Respondents)

Kindly put a tick in the correct box

1 .State your gender

Male Female

2. Age in years

age	tick
Below 20 years	
21-25	
26-30	
31-35	
36-40	
40 and above	

3. Level of Education

Level of education	tick
University	
College	
Secondary	

Primary	
None	

4. Occupation

occupation	tick
Formal employment	
Self employed	
casual	
student	
None of the above	

SECTION B (ICT equipment)

Kindly put a tick in the box that best reflects your opinion

- How many desktop do you have in the organization? _____
- How many laptops do you have in your organization? _____
- Do you have internet services in the organization?
Yes No
- How many printers do you have in the organization? _____
- How many scanners do you have in the organization? _____
- Have you been personally assigned a computer to yourself?
Yes No

SECTION C (Training in ICT)

	Strongly Agree	Agree	Neutral	Disagree	Strongly disagree
Organization provides time and resources for training in ICT					
I may not easily acquire training on ICT because of the language used					
I don't have income to allow me go for ICT training					

SECTION D (Electronic platforms)

	Strongly Agree	Agree	Neutral	Disagree	Strongly disagree
I can access and communicate on social network					
I can do work at home through computer or laptop					
I can have various entertainment through ICT					

SECTION E (perception of members on ICT)

Kindly put a tick in the box that best reflects your opinion

	Strongly Agree	Agree	Neutral	Disagree	Strongly disagree
Cost of accessing ICT is affordable					
Using ICT is easy					
The content on the web is relevant to what information I need					

SECTION F(operations of CBOs)

1. What do you use the computer in your office for

Tasks	Tick all that apply
Information sharing and processing	
Decision making	
Saving on cost	
Monitoring of finances	

Thank you for answering the Questions

APPENDIX III: TABLE FOR DETERMINING SAMPLE SIZE FROM A GIVEN POPULATION

Population Size	Sample Size
10	10
15	14
20	19
25	24
30	28
35	32
40	36
50	44
55	48
60	52
65	56
70	59
75	63
80	66
85	70
90	73
95	76
100	80
110	86
120	92
130	97
140	103
150	108
200	132
250	162
300	169
400	196
1500	306
1600	310
1700	313
1800	317
1900	320
2000	322
2200	327
3000	341
4000	351
5000	357
6000	361
7000	364
10000	370
20000	377
50000	381
100000	384

Source: R.V.Krejcie and D. Morgan (1990), sample size for research activities in Educational and Psychological Measurements.

APPENDIX IV: GANTT CHART

ACTIVITY	TIME(MONTHS)				
	May & June	July	August	September	October
Development of proposal					
Developing the instruments					
Data collection					
Data organization, analysis and interpretation					
Report writing /editing/ submission					

APPENDIX V: THE BUDGET

Item	Printing materials	Transport	Accommodations	Miscellaneous	Total
Amount (Kshs.)	8,000	10,000	21,000	10,000	49,000

APPENDIX VI: LETTER FROM THE UNIVERSITY



UNIVERSITY OF NAIROBI
COLLEGE OF EDUCATION AND EXTERNAL STUDIES
SCHOOL OF CONTINUING AND DISTANCE EDUCATION

Our Ref.: UON/CEES/KSM/1/5

University Of Nairobi Plaza
Oginga Odinga Street
P.O. Box 825,
KISUMU. Kenya

Telephone: Kisumu 057-2021534

16th October, 2015

TO WHOM IT MAY CONCERN

RE: KIBOYE JACQUELINE ACHIENG - REG NO. L50/72166/2014

This is to inform you that the above named **Kiboye Jacqueline Achieng** is a student at the University of Nairobi, College of Education and External Studies, School of Continuing and Distance Education, Department of Extra Mural Studies pursuing Bachelor of Project Planning and Management.

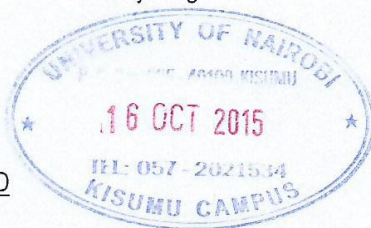
Jacqueline has completed her course work and examinations successfully and is now undertaking her Research Project which is a pre-requisite for the course. The Project is entitled: **"Influence of ICT Adoption on the Operations of CBO's in Rangwe Sub-County"** The purpose of this letter therefore is to request you to allow the student to access the data or information she may need for purpose of this study. The data is required for her academic purposes only and not for any other reasons.

We would appreciate any assistance that may be given to enable her carry out the study.

Yours faithfully,

A handwritten signature in black ink, appearing to read 'Raphael O. Nyonje'.

Dr. RAPHAEL O. NYONJE, PhD
RESIDENT LECTURER
KISUMU CAMPUS



ISO 9001: 2008 CERTIFIED

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APPENDIX VII: AUTHORIZATION LETTER



NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY AND INNOVATION

Telephone: +254-20-2213471,
2241349, 310571, 2219420
Fax: +254-20-318245, 318249
Email: secretary@nacosti.go.ke
Website: www.nacosti.go.ke
When replying please quote

9th Floor, Utalii House
Uhuru Highway
P.O. Box 30623-00100
NAIROBI-KENYA

Ref: No. **NACOSTI/P/15/49924/8828**

Date:

23rd November, 2015

Jacqueline Achieng Kiboye
University of Nairobi
P.O. Box 30197-00100
NAIROBI.

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on *“Influence of Information Communication Technology adoption on the operation of Community Based Organizations in Rangwe Sub County,”* I am pleased to inform you that you have been authorized to undertake research in **Homa Bay County** for a period ending **18th November, 2016**.

You are advised to report to **the County Commissioner and the County Director of Education, Homa Bay County** before embarking on the research project.

On completion of the research, you are expected to submit **two hard copies and one soft copy in pdf** of the research report/thesis to our office.


SAID HUSSEIN
FOR: DIRECTOR GENERAL/CEO

Copy to:

The County Commissioner
Homa Bay County.

The County Director of Education
Homa Bay County.



APPENDIX VIII: RESEARCH PERMIT

THIS IS TO CERTIFY THAT:
MS. JACQUELINE ACHIENG KIBOYE
of UNIVERSITY OF NAIROBI, 0-41300
paw akuche, has been permitted to
conduct research in Homabay County
on the topic: INFLUENCE OF
INFORMATION COMMUNICATION
TECHNOLOGY ADOPTION ON THE
OPERATION OF COMMUNITY BASED
ORGANIZATIONS IN RANGWE SUB
COUNTY.

for the period ending:
18th November, 2016

Applicant's
Signature

Permit No : NACOSTI/P/15/49924/8828
Date Of Issue : 23rd November, 2015
Fee Received :ksh 1000

Director General
National Commission for Science,
Technology & Innovation

