

**INFLUENCE OF APPLICATION OF INFORMATION COMMUNICATION
TECHNOLOGIES ON LIVELIHOOD GENERATION STRATEGIES OF
YOUTH IN KAKAMEGA CENTRAL SUB-COUNTY, KENYA**

BY

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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.

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DEDICATION

This research project is dedicated to my siblings Imelda Luyanje, Philomena Akello and Gabriel Ochieng' for their moral support and, my beloved daughter Prudence Nanjala for her patience and understanding as I pursued my studies. I hope that this work will be an inspiration in pursuit of her academic achievements.

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ABBREVIATIONS AND ACRONYMS

EU	European Union
ICT	Information Communication Technology
IT	Information Technology
ILO	International Labour Organization
MOYA	Ministry of Youth Affairs
NGO	Non-Governmental Organization
OECD	Organization for Economic Cooperation and Development
PDAS	Personal Digital Assistants
UN	United Nations
UNTCOD	United Nations Trade Cooperation Development
YEDF	Youth Enterprise Development Fund

ABSTRACT

The purpose of this study was on the influence of application of information communication technologies on livelihood generation strategies of youth in Kakamega Central Sub-County. Youth in Kakamega Central Sub-County face unemployment as one of the major challenges. This situation has led them into high rates of dependency and ultimately engagement in criminal activities. Information communication technology has been identified as key to addressing the problems facing the youth with information dissemination and marketing for mass adoption of new technologies as a strategy. As new information and communication technologies increasingly penetrate the different economic sectors, disadvantaged groups now have more opportunities to participate in these sectors. Individuals especially youth can only take advantage of the opportunities ICTs offer in increasing productivity and competitiveness by acquiring new knowledge and skills in order to improve their livelihoods. The study undertook to examine four objectives; Influence of application of information communication technologies on Creation of business activities by youth, influence of application of information communication technologies on Continuing education of youth, influence of application of information communication technologies on socialization of youth and influence of application of information communication technologies on access to employment opportunities by youth and their impact on the livelihoods of youth thus, the researcher sought answers to the following questions: To what extent does application of ICTs influence creation of business activities by youth in Kakamega Central Sub-County? To what extent does application of ICTs influence continuing education of youth? To what extent does application of ICTs influence socialization of youth? And lastly, to what extent does application of ICTs influence access to employment opportunities by youth in Kakamega Central Sub-County? The researcher also investigated the rate of adoption of information communication technologies among youth and how this was helping in improving their lives in Kakamega Central Sub-County. The target population for the study comprised 2200 youth from registered youth groups drawn from the five locations within Kakamega Central Sub-County. The sample size included 327 respondents drawn from the sampled youth groups. The sample size was determined using Krecjcie Morgan's Table (Appendix III) for determining sample size whereas for sampling technique, the researcher used simple random sampling as well as proportionate sampling to attain the number of youth and youth groups required for the study. The researcher employed descriptive survey research design and used the questionnaire to answer the research questions. The research instruments were piloted and their validity and reliability ascertained through test-retest method and by using the experts at the University of Nairobi. The researcher analyzed data collected using descriptive statistics for qualitative data which was presented through frequency distributions, percentages and tabulation this was aided by using Statistical Package for Social Sciences Program (SPSS) computer package in analysis of quantitative data. The findings reveal that ICT had a high positive influence on creation of business activities as evidenced by 136(44.3%) of respondents who agreed and 96(31.3%) who strongly agreed. Most youth were also able to access job opportunities due to increased use of ICT as supported by 153(49.8%) of respondents who strongly agreed. Education for youth has also flourished due to the influence of ICT as confirmed by 153 (49.8%) of respondents. The researcher concluded that indeed ICT has had a positive impact on business activities among youth in Kakamega Central Sub-County. Furthermore, it has helped youth continue with their education irrespective of their backgrounds. Based on the findings and conclusions, the researcher recommended that the government should empower youth in their use of ICT by providing them with material requirements to improve on their ICT knowledge and also facilitate use of internet in public primary and secondary schools to enhance research and use of ICT at early stages among youth.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

The over- representation of young people among the unemployed in developed and developing nations since the 1970s has led some to argue that youth has become a significant part of an under-class. Across the Commonwealth, youth accounts for approximately one third of the total labor force with youth unemployment rates around 30 to 50 percent or more of the total unemployment (Commonwealth Youth Charter, 2006).

According to the United Nations Report (2006), the nature of youth unemployment needs to be seen against the background of economies in each country. How young people experience unemployment will depend on the interaction of many factors. For example: gender, race, social status, level of education among others. The ILO Report (2003) , indicates that Youth unemployment has become a major challenge in the 21st century. The Sub-Saharan Africa is one of the regions highly affected by youth unemployment . It is estimated to be more than 21%. The unemployment rate in all countries especially developing nations like Kenya has been in geometric increase to the extent that it is not only becoming unbearable but also uncontrollable to address the socio-economic issue. Development of ICT will provide employment opportunities to the youths thereby securing the nations both socially and economically .Potential of youth should be upgraded to encourage the application of ICT.

According to the World Bank report (2008), addressing the youth unemployment in Africa Requires an integrated approach . The report advocates for a comprehensive model that caters for rural development , rural –urban migration, preparation of young people for the labor market and investment in agriculture , The aim of every government should be to create enabling environment to promote investments (World Bank, 2008). The report further states that it is necessary to invest in young people who are critical actors in the development process. Failure to train millions of unskilled and low-skilled youth in Africa will amount to higher social and economic cost to the society in the future. Africa and other developing regions of the world are full of innovative ventures that exploit the information communication technologies for development ends.

The potential attributes and benefits of information communication technology to policy makers in the society have been accepted as imperative paradigm (Attama and Owolabi, 2008). Information Communication Technologies are tools, hence they are not ends to themselves in terms of youth training, rather, and information communication technologies are means to an end. This is because technology, according to Lewis (1999), is a manifestation of human creativity channeled towards problem solving. A strategic investment in the youth through the deployment of information technologies either , in Vocational training or educational activities provide opportunities for a catch up in human capital development (Wilhelm, 2003). To develop and implement strategies that give young people everywhere a real chance to find decent and productive work (UN, 2006).

The use of ICTs such as mobile telephone, computers and the internet system to leverage development is gaining popularity in rural and urban communities. As Fife and Hosman

(2007), argue, investment in Information Communication Technologies for the poor in the developing countries promises long-term economic benefits in the overall social and economic development of these regions. Information communication technologies such as the internet and the World Wide Web (WWW) could open up opportunities for businesses to operate globally (Walker and Betts, 1997).

Information communication technologies impact on livelihood assets in a number of ways depending on the local context in which they are introduced. According to Scoones (1998), a livelihood comprises the capabilities, assets, including both material and social resources and activities required for a means of living. Improved access to education and training through distance learning programmes, and education tools in a wide range both different formats. Improved networking both at the community level with existing networks and potentially amongst a much wider community. Access to markets and market information helps to improve choices for the sale of goods on local markets (Chapman et al, 2004).

The advancement and growth in the level of information and communications technology (ICT), utilization has been witnessed in many parts of the world especially in the 21st century. This was made possible among others, through the use of ICT for electronic payments in the financial sector, the operations of government and administrative procedures (e governance), in education (e learning), improved business activities (e business), transportation especially the rail and air transport (e ticketing). They further argue that ICT utilization connotes the ability of ICT to have a broad influence in a country as it relates to ICT usage by economic factors such as households, firms and the government (Mukoyana 2003; Osabuonien and Efobi, 2012).

In the United States the National Telecommunications and Information Administration report (NTIA,2004) , indicated that 62% of U.S households had PCs in their homes in 2003 , 55% had internet access and 20% had broadband internet access .Hudson (1994) , argues that just as the US government adopted a universal telephone policy in the early twentieth century that led to broader rural economic development , there were calls at the close of the twentieth century for a policy encouraging universal access to the internet (Norris, 2001).

In Europe according to the EU report (2010), European Information Society for Growth and Employment established digital inclusion as an EU strategic policy goal. Everybody living in Europe should have the opportunity to use information and communication technologies (ICT) if they so wish and /or benefit from ICT use by service providers, intermediaries and other agents addressing their needs. The report mentions France, Germany, Spain and the United Kingdom among the European countries with clear policies on access and usage of Information communication technology. For example France in terms of households having a Personal Computer and internet access at home in 2007, 62% of households were equipped with a computer , 49% had access to internet .Young people are the most active users of the internet . An average 80% of young people in the EU use a mobile phone at least once a week.

In Germany beyond individual access in domestic realm, many public, private and third sector institutions and initiatives provide collective possibilities of internet access to their patrons. The federal government also launched the initiative ‘Jugend ans Netz’ (youth online) which among others make computers available to Youth Centres with a significant

discount. In Spain information and communication technology is used for the creation of small and medium enterprise (EU Report, 2010).

In Latin America Chile leads Latin American countries in information communication adoption with 74% of internet users believed to be under the age of 35 years of age. Brazil, Colombia and Mexico have information communication technology trainings targeting youth .For example in Brazil, there are projects whose main objective is to increase employment opportunities and the quality of life of youth residing in low-income communities of Rio de Janeiro. (Lopez, 2002). The Project Information Communication Technology and Youth is creating opportunities for youth entrepreneurship in Latin America uses ICT to generate employment or entrepreneurial or independent business opportunities (Lopez 2002, OECD, 2005).

In West Africa, Nigeria's National Information Communication Technology (ICT) Policy DRAFT 2012 emphasizes the introduction of ICT training at all school levels through the development of specialized training institutes. It also provides for computer and internet access in public facilities such as post offices, schools and libraries .Morocco's strategy highlights programs to subsidize computers and internet connections for teachers and students .The strategy also emphasizes public –private partnerships to offer similar low-cost device and access packages to different sections of the population (GIT Report, 2013).

Mauritius is another country at the forefront of digital development. Information communication technology initiatives modeled on the Singaporean experience as a “cyber Island” and focus on becoming a hub within the South African region with a substantial segment of its Information communication technology policy being dedicated to

education (Isaacs, 2007). Seychelles provides an interesting scenario .According to (Isaacs, 2007) , it is among the countries in Africa with the most developed information communication technology infrastructure including being the highest in fixed line density , mobile phone penetration , electricity penetration , personal computer penetration , internet access and a number of households with television and radio .

In the Eastern Africa region, Rwanda accepted Information communication technology as central to its Vision 2020 and is one of the core –pillars of the country’s National Information and Communications Infrastructure Policy and Plan adopted in 2000. (Farell, 2007). The government of Rwanda through the Ministry of Youth and Information Communication Technology has initiated Multipurpose Community telecenters, public information kiosks, and ICT buses have been deployed across the country to increase access to ICTs, provide ICT literacy training, and raise ICT awareness (GIT Report, 2013).

According to Farell and Isaacs (2008), Rwanda is among a few African countries to have developed a comprehensive Information Communication technology policy which is based on ten pillars. One of them being ICT knowledge for the youth program and the National Public Awareness program targeted at promoting the vision of Rwanda to transform Rwanda into a middle –income , information rich and knowledge –based society and economy . In Burundi, Information Communication technology policy was adopted in 2007 to promote connection of ICT in the rural areas of the country (Hare, 2007). Tanzania’s consultative process culminated in the national information communication technology policy in 2003 (Twaakyondo et al, 2002).

In Uganda, the government through the Ministry of Information and Communication technology together with the National Information Technology Authority –Uganda (NITA-U) embarked on the government master plan project which plans to increase information communication technology utilization through development of e-services, thus creating a demand for e-skills. It is hoped that development of national e-skills can help in improving the labor force of Uganda and creating employment opportunities for youth who are the majority and face a high rate of unemployment (NITA –U Report, 2012).

In Kenya, a national policy on information and communication technology was adopted in January 2006. The policy is based on four guiding principles; infrastructure development, human resource development, stakeholder participation and appropriate policy and regulatory framework. On human resource development the country underscores the need to strengthen and streamline information communication technology training.

Some of the objectives of the National Policy on Information and Communication Technology (2006) include; Ensuring that IT plays a key role as an empowerment tool, addressing gaps relating to gender, youth, people with special needs, rural and urban and disadvantaged groups, and as a literacy tool for the population and potential users. Using IT to achieve the objectives of alleviating poverty, improving healthcare, and general welfare of the population. Encouraging the use of IT in schools, colleges, universities, and other learning educational institutions in the country so as to improve the quality of teaching and learning. Using IT to generate additional employment and promoting entrepreneurship for the new digital economy. Encouraging and accelerating investments and growth in IT hardware, software, internet, training, IT enabled services;

telecommunications and electronic commerce. Providing adequate infrastructure in the country for IT sector to flourish Facilitating the development of sectoral IT policies and strategies e.g. e-education, e-water, e-health, e-agriculture.

The National Policy on Information and Communication Technology (2006) underscores the government's recognition of the role of ICTs in the social and economic development of the nation and the policy was promulgated based on the Economic Recovery Strategy for Wealth and Employment Creation (ERS) 2003-2007. It also recognizes that youth are the largest population of ICT users and they need to have access to affordable and appropriate ICTs.

Under the social pillar of Kenya Vision (2030), the vision for gender, youth and the vulnerable, is equity in power and resource distribution between the sexes, improved livelihoods for all vulnerable groups, and responsible, globally competitive and prosperous youth. Livelihoods are seen as a combination of the resources used and the activities undertaken in order to live. These resources include individual skills and abilities, land, savings, equipment and relationships. Gordon and Conway (1992), further argue that on the various components of a livelihood, the most complex is the portfolio of assets out of which people construct their living. This portfolio includes tangible assets such as stores and resources as well as intangible assets such as claims and access, which is the opportunity in practice to use a resource, store or service or to obtain information, material, technology, employment, food or income.

1.2 Statement of the Problem

Information communication technologies are believed to bring about social and economic development by creating an enabling environment. Almost every single activity in the modern world is becoming more dependent on the application of ICTs for one use or another. The benefits of ICTs reach even those who do not themselves have first-hand access to them. The importance of ICTs in development process was long recognized and access to ICTs was even made one of the Millennium Development Goal No. 8 (MDG. 8), which emphasizes the benefits of new technologies, especially ICTs in the fight against poverty.

Unemployment is one of the most daunting economic challenges facing Kenya. The Government has placed job creation at the top of policy agenda in recognition of this fact. The Youth constitute two thirds of the economically active population. They account for 61% of the unemployed. Ninety two percent (92%) of the unemployed Youth have no job training other than formal schooling. Hence unemployment is not just a lack of jobs, but also a lack of job skills due to inadequacy of the training infrastructure as well as the means to acquire skills due to poverty (MOYA- Guidelines , 2007).

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Under the social pillar of Kenya Vision (2030), the vision for gender, youth and the vulnerable, is equity in power and resource distribution between the sexes, improved livelihoods for all vulnerable groups, and responsible, globally competitive and prosperous youth.

The National Youth Policy also recognizes unemployment as one of the major challenges facing the youth because the economic growth has not been sufficient to create enough opportunities to meet the government policy of creating 500,000 jobs annually. As such, young people have no alternative but to seek alternative ways to create jobs for themselves and others through enterprise based initiatives.

This concern has been raised by the Kakamega Central Sub-County Development Report (2008-2012). The report indicates that a large proportion of the population in the area is composed of young persons but even though the youth form part of the labor force or productive age group on which the Sub-County depends to stimulate economic growth since they form a crucial part and play a vital role in development, the age group has been neglected.

The report further identifies one of the major challenges facing them as unemployment which has led to high rates of dependence syndrome and eventual lapse into anti-social activities such as crime. The report further notes that information communication technology is key to addressing the problems facing the youth and suggests undertaking information dissemination and marketing for mass adoption of new technologies. Therefore, the researcher sought to investigate the rate of adoption of information technologies among youth in Kakamega Central Sub-County as one way of solving the problem of unemployment.

As new information and communication technologies increasingly penetrate the different economic sectors, disadvantaged groups now have more opportunities to participate in these sectors. Individuals especially youths can only take advantage of the opportunities ICTs offer in increasing productivity and competitiveness by acquiring new knowledge and skills in order to improve their livelihood . Therefore , the researcher sought to investigate whether youth in Kakamega Central Sub-County had taken advantage of the benefits that information communication technologies offer to improve their livelihood through Creation of business activities, Continuing education, socialization and access to employment opportunities.

1.3 Purpose of the Study

The purpose of the study was to establish the influence of application of information communication technologies on livelihood generation strategies of youth in Kakamega Central Sub- County.

1.4 Research Objectives

The study was guided by the following objectives:

1. To establish the extent to which application of information communication technologies influence creation of business activities by youth in Kakamega Central Sub-County.
2. To examine the extent to which application of information communication technologies influence continuing education of youth in Kakamega Central Sub-County
3. To explain the extent to which application of information communication technologies influence socialization of youth in Kakamega Central Sub-County

4. To assess the extent to which application of information communication technologies influence access to employment opportunities by youth in Kakamega Central Sub-county.

1.5 Research Questions

The study sought answers to the following questions;

1. To what extent does application of information communication technologies influence creation of business activities by youth in Kakamega Central Sub-County?
2. To what extent does application of information communication technologies influence continuing education of youth in Kakamega Central Sub-County?
3. To what extent does application of information communication technologies influence socialization of youth in Kakamega Central Sub-County?
4. To what extent does application of information communication technologies influence access to employment opportunities by youth in Kakamega Central Sub-County?

1.6 Significance of the Study

It was hoped that the findings of the study would provide valuable and add adequate information to policy Makers and benefit various stakeholders and institutions charged with provision of information communication technology services in Kakamega Central Sub-County in order to help them make informed decisions on policies relating to livelihoods of youth. The study was also expected to fill knowledge gap in scholarly information on influence of information communication technologies on livelihood generation strategies of youth and provide relevant information on measures and ways to manage challenges faced by youth in using information communication technologies in

order to improve their livelihoods. It was further hoped that the findings of the study would be useful as a reference material on influence of information communication technologies on livelihoods of youth.

1.7 Basic Assumptions of the Study

The researcher assumed that respondents would be receptive, reliable, and honest and give accurate information to the questionnaires. Kakamega Central Sub-County being a rainy zone, it was assumed that the weather conditions would be favorable enough to enable the researcher conduct the exercise as planned. The researcher also assumed that the targeted respondents would be available on material day and willingly participate in the interviews.

1.8 Limitations of the Study

One limitation of the study was inadequate time frame to conduct the entire research process especially in respect to proposal writing, data collection and analysis, report writing and Submission. Another constraint was inadequate finances that hindered sampling of a wider population. To mitigate against the anticipated limitations, the researcher planned all the activities by allocating each activity specific time frame and ensured that, that particular activity was completed as scheduled. The inadequacy of financial resources was countered by confining the study to a manageable sample size. Another limitation was related to the nature of the respondents who are youth and known to be highly mobile and their availability unpredictable. To counter such uncertainties, the researcher confined the study to selected youth groups based on purposive sampling procedure.

1.9 Delimitations of the Study

One delimitation of the study was the target area and population size which was confined to a small area and a few selected respondents interviewed. Another likely delimitation was the age limit of youth who were interviewed which was confined to those between 18 to 35 years of age and had been actively engaged in group activities from 2011 to 2013 within Kakamega Central Sub- County. Another delimitation was the use of the term Information communication technologies which was used as a composite term in the study thus not breakable into other components.

1.10 Definition of Significant Terms

Information communication technologies: In this study, information communication technologies was used as an independent variable. It was used as a composite term that could not be broken-down into other Variables but used as an umbrella term that included any communication device or application encompassing radio, television, cellular phone, computer and network, hardware and software, satellite systems as well as various services and applications associated with it

Livelihoods: In this study, livelihoods was used as a dependent variable.

This was broken-down into four aspects to include, Creation of business activities, continuing education of Youth, socialization of youth and access to employment Opportunities for youth.

Creation of business activities: In this study this referred to the process of youth

Initiating income generating activities

Continuing education of youth: In this study, this referred to the process of youth

Continuing with studies irrespective of whether they were in or out of school and irrespective of the distance from learning institutions

Socialization of youth: In this study, this referred to interaction among youth, Their families and friends

Employment opportunities: In this study, this referred to the possibilities of Youth accessing Jobs

Youth: In this study, this referred to a person aged 18 years and above and registered In a youth group within Kakamega Central Sub-County

1.11 Organization of the Study

The study was organized in five chapters. The first chapter included the background of the study , statement of the problem , purpose of the study , research objectives ,research questions , significance of the study , basic assumptions of the study , limitations of the study, delimitations of the study , definitions of significant terms used in the study and organization of the study .

The second chapter contained literature review. This chapter reviewed relevant and appropriate literature to the study. It examined the concept of influence of information communication technologies on livelihoods of youth which were derived from the four research objectives. The first area constituted literature on the influence of information communication technologies on creation of business activities by youth , influence of information technologies on continuing education of youth , influence of information communication technologies on socialization of youth , influence of information communication technologies on access to employment opportunities by youth , theoretical framework , conceptual framework, knowledge gap and summary of literature reviewed.

The third chapter constituted the research methodology .This section covered research design, target population, sample size and sampling techniques, data collection instruments. Piloting of instruments, validity of the instruments, reliability of the instruments, data collection procedures, data analysis techniques and ethical considerations.

The fourth chapter dealt with data analysis, presentation, interpretation and discussion. The chapter presents an analysis and interpretation of collected data on the four variables of the study. The fifth chapter included the summary of findings, discussions, conclusions and recommendations. The chapter gives a clear conclusion and recommendation including contribution of the study to the existing body of knowledge. It also gives suggestions for further research . There was also a section on references as cited in the study and appendices of the study.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter contained a review of the research literature related to the research topic. This section constituted influence of information communication technologies on creation of business activities, influence of information communication technologies on continuing education of youth, influence of information communication technologies on socialization of youth and influence of information communication technologies on access to employment opportunities by youth. It also covered the theoretical framework, conceptual framework, knowledge gap and a summary of literature reviewed.

2.2 Information communication technologies and creation of business activities

The extent of information and communication technology utilization has been measured in extant literature using different approaches such as internet users per capita, mobile phone subscribers per capita. (Lutz, 2003). Expenditure on information technology (Luciani and Padoan, 2007), personal computer per capita (Haller, 2007). Some others have used the extent of utilization of Information communication technologies for economic activities like purchasing, email account per person, email users (Moriones and Lopez, 2002).

Studies focusing on the micro analysis have ascertained that information communication technology utilization is influenced by the human capital capacity, the income of the individual adopter, the nature of the new technology to be adopted, firm's characteristics (such as size of the firm, performance of the firm) among others (Jensen, 1982, Grazzi

and Vergara, 2008). However, Studies on the macro perspective have concentrated on the digital divide which is the divergence existing in the rate of technology utilization between developed and developing countries (Guerrieri; Luciani and Meliciani, 2011).

According to the World Youth Report (2003), in terms of economic activity, information communication technologies are expected to increase accessibility to potential customers in terms of both marketing and direct sales. Howard et al (2001), observed that more experienced users are much more likely to do online transactions and manage their online business activities compared to more recent adopters of the internet. He further argues that more experienced users are more likely to have a higher socio-economic status; therefore education level and income are predictors of those who engage in e-commerce related activities.

Adopters of information communication technology tend to reduce transaction costs, increase transaction speed and reliability, and extract maximum value from transactions in their value chains (OECD, 2002). According to Riggins (2004), for sellers operating in both online and offline channels simultaneously, the digital divide can act as a natural segmentation mechanism to help differentiate the market place. Business and society need both relevant and marketable skills and it is the responsibility of all stakeholders to work together in addressing this aspect. 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 the efficiency and effectiveness of business. These skills include management and creative skills, IT Technical and IT literacy skills (McCormack , 2010).

In the business sector, E-commerce opportunities abound. Young people who pursue this option may have commercial dealings with individuals or companies all over the world

but will often be able to receive professional training and conduct their business without having to relocate away from their families and support networks. At the grass roots level, there is a growing number of ICT- related entrepreneurial opportunities for low income youth. One increasingly popular option for a young entrepreneur is to purchase a mobile phone through a micro- credit programme and earn a living by providing low-cost phone services to others. However, ICT literacy, skills and accessibility are essential if young people are to use new technologies to advantage of employment and entrepreneurial opportunities (World Youth Report, 2005).

The economic potential of ICTs informed the recommendation of the panel of eminent persons, a body appointed by the UN Secretary General to focus on the application of modern technologies for youth development (Bramiah and King, 2006). This strategy created the potential of modern ICTs for social economic development. However, for the youth to realize the economic potential of information communication technologies, they need support from public and private partnerships by providing the necessary infrastructure and resources to facilitate adoption of innovations. This is necessary to cushion young people operating in a strongly competitive environment, major financial constrains, lack of professional expertise and greater sensitivity to external forces.

According to the Microsoft Corporation Report (2007), information communication technologies offer special opportunities to stimulate growth and increase innovation in every local setting, thereby enabling individuals and institutions to increase more productivity with the global economy and the wider world. The report further states that to realize their potential, technologies must be part of a mix of productive changes and supporting capabilities. Resources must be matched by resourcefulness, combined with

other initiatives by local leaders, educators and entrepreneurs so as to achieve individual and institutional objectives.

Information communication technology development is therefore an effort to distinguish the most constructive opportunities to apply technologies for growth and poverty reduction. The role of technology in national development was undeniably significant as Majanja (2007), rightly puts it. Were et al (2007), observed that information communication technology if carefully integrated in education, has a potential to facilitate the acquisition of relevant life skills that buttress the development process in the prevailing economic and information order.

In recent years, money transfers through information communication technology solutions, notably through mobile phones, have become a much discussed solution. These types of solutions are often offered by mobile network operators (MNOs) rather than banks as they provide a simple cash transfer service. M-PESA in Kenya has been highly successful and expanded into other services, such as savings and new clients (FAO, 2013).

According to Pandey and Shukla (2009), Information communication technology –based interventions can easily be successful when there is sufficient need for underlying services and institutional capacity to implement and maintain the enhanced service. Poverty and inadequate education have not proved to be significant barriers to acceptance of new technologies or services, such as mobile phones or even use of Automated Telling Machines (ATMs) as intended safe remittance system. They further argue that the perceived value of the service is paramount to the adoption rate of technology or service irrespective of education level; people in all countries have adopted technologies that

provide a visible direct link access to important markets, services or opportunities. From making a simple call to contact for information to gaining access to new markets and buyers, or obtaining expert advice from distant experts, ICT particularly the mobile phone has made obtaining the right information achievable for many despite their remoteness.

According to the World Bank Report (2006), the use of computers and the internet has grown rapidly in developing countries. Between 2000 and 2005, the number of internet users in those countries grew by a quarter of a billion people and many of whom are young people. There is a wide variance across countries, however. According to recent surveys, the share of 15-24 year olds who have ever used the internet varies from less than 1% in Ethiopia to 12% in Indonesia, 13% in Ghana, 15% in Egypt, 29% in Armenia, and 53% in China. Illustrating the age differences in internet use, in 2003 in China, 23% of those in ages 18-34 years were using the internet compared to 9% of those aged 35-49 and only 3% of those over 50%. It is widely believed that universal access to information and communications technology would bring about a global community of interaction, commerce, and learning resulting in higher standards of living and improved social welfare.

A recent study by Pew Internet and American Life Project found that, independent of all other factors, annual income was the strongest predictor of individual internet usage. (Pew Internet, 2003). A study by Rice and Katz (2003), show that the primary factors predicting internet usage are income level and age, while mobile phone usage is associated with income, work status and marital status (Rice and Katz, 2003). Mehra et al (2004), report findings focusing on the marginalized segments of the population. The results suggest that the major use of the internet by participants in these studies related to

distributing information that can be used to empower people within these marginalized segments of society. As such, relationships, information actors, and community building were important for users. Individuals in the low income segment study who were online sought to use the internet for various forms of e-commerce including selling car online, gathering product information prior to purchase, and procedural information about first - time home buying. Empowerment of people in low-income may involve using the internet to engage in economic activities that previously were beyond their reach.

2.3. Information communication technologies and continuing education of youth

According to Grazzi and Vergara (2008), human capital has also been identified as another pertinent factor that can influence technology utilization. Guerrieri et al (2011), opine that high human capital development can expedite the rate of technology utilization as individual adopters are able to embrace the utilization of technology. Observation by Kiiski and Pohjola (2002), noted that tertiary education had a positive significant influence on the utilization of information communication technology. Those without online access are shut out of internet –based training and education (Norris and Conceicao , 2004) .

According to Were et al (2007), information communication technology if carefully integrated in education, has a potential to facilitate the acquisition of relevant life skills that buttress the development process in the prevailing economic and information order. It provides educational opportunities through distance learning.

According to the EU Report (2010), young people are the most active users of the internet and in relation to social status, students and working people are the most active users. The main activities on internet are search for information among others.

The ability to harness the benefits of information communication technology provides tremendous opportunities for developing the potential of African Youth through education and training. Such collaborative partnership and the enabling environment provided by good policy frameworks are essential in stimulating a broad scale application of Information communication technologies in youth and community development (Development Magazine, 2006).

According to Garrido and Coward (2007) , training should be relevant in populations without information communication technology experience , in other words , it should be part of the broader objectives of the individual and society to reduce the social barriers individuals face to enable them to acquire new skills and use them productively .

Education institutions try to restructure their education programmes and classroom facilities in order to minimize the teaching and learning technology gap between today and the future. This restructuring process requires effective integration of technologies into existing context in order to provide learners with knowledge of specific subject areas, to promote meaningful learning and enhance professional productivity. (Tomei, 2005). Studies conducted by Deaney, Ruthven and Hennessy (2003), considered three major points for using ICT: The need for wider skills for effective use of tools, the need to focus on the power of technology and the need to shift familiar patterns of classroom interaction by introducing technology.

According to Mansel and Wehn (1998), knowledge and human capital are vital aspects of development. This is more important in today's competitive global economic systems where knowledge is seen as an essential ingredient for production. The ability to harness the benefits of information communication technologies provides tremendous

opportunities for developing the potential of African youths through education and training. Such collaborative partnerships and the enabling environment provided by good policy frameworks are essential in stimulating a broad scale application of ICTs in youth and community development in Africa (Haddad and Draler, 2002).

The effectiveness of technology to support education in Africa locates itself within the goals of socioeconomic transformation, reconstruction and development of countries. Investigation into the use of ICTs as a tool for advancement of education covers three major contextual areas two of which are educational and development issues, ICT issues and the interrelationship between these Isaacs (2002), Major advantages of integrating information communication technology in education and community development frequently cited include, expanding access to educational opportunities, increasing efficiency in educational management and enhancing the quality of learning (Haddad, 2007; Howie et al 2005; Tinio, 2003).

The effective application of information communication technology in education enables the youth to acquire 21st century skills essential for the knowledge societies (ILO 2001), contends that these technologies will continue to exert enormous influence on their ability to acquire knowledge and tap into global networks. The use of information communication technologies can lead to improved access to education and training through distance learning programs, and education tools in a wide range of different formats. The potential to transfer digital content to remote locations easily in the form of text images , video and radio , combined with vast storage capacity of PCs , CDs and DVDs , reduces many of the costs associated with broad -based information access (Chapman et al ,2004) . However, the impact of increased information flow on human

capital development will depend equally on the effective translation of material into different languages and appropriate formats for the intended users and their local cultural context.

According to Wheels (2001), the use of ICT will not only enhance learning environments but also prepare next generation for future lives and careers. Learning approaches using contemporary ICTs provide many opportunities for constructivist learning through their provision and support for resource-based student centred settings and by enabling learning to be related to context and to practice . Any use of ICT in learning settings can act to support various aspects of knowledge construction and as more and more students employ ICTs in their learning processes, the more pronounced the impact of this will be (Berge, 1998).

According to Moore and Kearsley (1996), ICT increases the flexibility of education so that learners can access knowledge anytime anywhere. It can influence the way students are taught and how they learn as now the processes are learner driven and not by teachers .This in turn would better prepare the learners for lifelong learning as well as to improve the quality of learning. In concert with geographical flexibility, technology –facilitated educational programmes also remove many of the temporal constraints that face learners with special needs.

One of the most vital contributions of ICT in the field of education is easy access to learning. With the help of ICT, students can now browse through e-books , sample examination papers , previous year papers etc and can also have an easy access to resource persons , mentors , experts , researchers , professionals and peers all over the world . This flexibility has heightened the availability of just-time learning and provided

learning opportunities for many more learners who previously were constrained by other commitments since mobile technologies and seamless communication technologies support continuous teaching and learning (Young, 2002).

There exists drawbacks in generational education all over the world like lack of learning materials, teachers, remoteness of education facilities, high dropout rates etc. Innovative use of information and communication technology can potentially solve this problem (UNESCO, 2002). Information communication technology has the potential to remove the barriers that are causing the problems of low rate of education in any country. It can be used as a tool to overcome issues of cost, less number of teachers, and poor quality of education as well as to overcome time and distance barriers. It eliminates geographical barriers as learners can log on from any place (Bhattacharya and Sharma, 2007).

According to Bottino (2003), use of information communication technology in education develops higher order skills such as collaborating across time and place and solving complex real world problems. This argument is supported by Kozma (2005), who asserted that it improves the perception and understanding of the world of the student, thus ICT can be used to prepare the workforce for the information society and the new global economy. It improves the quality of education by facilitating learning by doing , real time conversation ,delayed time conversation , direct instruction , self-learning , problem solving , information seeking and analysis and critical thinking as well as the ability to communicate , collaborate and learn (Yuen et al , 2003) .

Many countries have acknowledged the fact that investment in human capital development which are essential in order to the demands for new meanings of school and learning within the larger process of education reform. The only way to reach a long-term

solution for the economic problems of the population is to raise the educational level, particularly for the low socio-economic groups (OECD, 2006). The report further indicates that in order to enhance education for the youth, infrastructure related challenges in information communication technology to be addressed. Policy makers and planners must carefully consider factors such as availability and accessibility of electricity and telephones, access to computers not only in schools but in communities, households and affordable internet access.

A survey conducted by Jensen (2002), revealed that almost 60% of African countries have a bandwidth that is less than that of a typical institution in the developed world. In Africa , inefficient private sector investments in the telecommunications infrastructure and the lack of competition has led to arbitrary price-setting that has set the cost of ICT beyond the reach of most education providers .

Studies have been conducted to find possible effect of having students in a household on ICT adoption at home. Using survey data from the UK, both Selwyn (2004) and Holloway and Valentine (2003) , concluded that having students is a main reason for the purchase of computers in households . The presence of students is also a very important factor in the subscription of internet at home as confirmed by Newberger (2001) , using survey data from the US and Van Rompaey et al (2002) , using a survey of Flemish families in Belgium (Adam , 2003) . Eamon (2004), studied differences between academic and non – academic use of the internet for youth according to family income levels. This study shows that family’s income is the primary factor determining which side youths fall along the digital divide, while other demographic factors are not as significant.

Attempts to enhance and reform education through information communication technologies requires clear and specific objectives , guidelines and time bound targets , the mobilization of required resources and the political commitment at all levels to see the initiative through . Information communication technology based interventions must take into account current institutional practices and arrangements specifically drivers and barriers to ICT use need to be identified including those related infrastructure , capacity building ,language and content and financing , the specification of educational goals at different education and training levels as well as the different modalities of use of ICT that can be best employed in pursuit of these goals . This requires policy makers understanding of the potentials of ICTs when applied in different contexts for different purposes and an awareness of priority education needs and financial and human resource and constraints within the country as well as best practices around the world and how these practices can be adapted for specific country requirements. There has been substantial evidence around the world that technology has become one of the most important and relevant components to the success of education of young people through continuing education. Technology has made it possible for those who did not finish college or high school to get back to continue learning without leaving the comfort of their own home (UNESCO, 2003).

At the local level, Kenya promulgated a National policy in January 2006 that aims to improve the livelihoods of Kenyans by ensuring the availability of accessible , efficient , reliable and affordable ICT services .The government is out to encourage use of ICT in schools , colleges ,universities and other educational institutions in the country , The related strategies under the heading E-learning are to promote the development of e-learning resources , facilitate Public-Private Partnerships to mobilize resources in order to

support e-learning initiatives , promote development of an integrated e-learning curriculum to ICT in education . Promote distance education and Virtual institutions, particularly in higher education, and training. Promote the establishment of a national ICT centre of excellence.

Other strategies include provision of affordable infrastructure to facilitate dissemination of knowledge and skill through learning platforms. Promote the development of content to address the education needs of primary, secondary and tertiary institutions. Create awareness of the opportunities offered by ICT as educational tool to the education sector. Exploit e-learning opportunities to offer Kenyans education programmes for export and integrate e-learning resources with other existing resources (Kenya National ICT Policy, 2006).

2.4 Information communication technologies and socialization of youth.

According to Yildirim (2000), the rapid developments in technology have made tremendous changes in the way we live, as well as the demands of society. Recognizing the impact of new technologies on the work place and everyday life. The recent and rapid development of information and communication technologies has not only had a dramatic effect on the individual, but also on the family. The discourse of family and its social organization are also changing undeniably and the synergy between a family and the technology that is incorporated into family's life vitally important to understanding this change. Studies suggest that individuals who communicate through multiple mediums such as email have stronger relationships than those who communicate face to face (Haythornwaite, 2005; Igarashi et al 2005).

Internet revolution has brought drastic changes to family living. Internet has revolutionized the way people relate with each other, the way they communicate, and the way they do business. Indeed, the permeation of the internet technology into homes has created the opportunities for some families to either fall apart or come together (Molosi, 2001). According to Adeoye (2010), information communication technologies have become the new frontier in social relationships. People are meeting friends, colleagues etc. Young people are creating and developing a communication culture that incorporates many special features through the use of tools such as PDAS, other wireless technology and web services.

He further argues that the advantages and reach of ICTs as a mode of transporting information have made it an efficient , inexpensive and flexible means of communication .Advances in ICTs have enabled convenience in individuals' personal communications .This convenience has played a major role in globally changing people's preferences and ways of interaction with their acquaintances . It has also opened up our social circles to a great extent and thus changed our priorities and concept of how certain relationships should be maintain

According to Scharer (2005), families who are socially isolated can benefit from social networking sites as a means of communicating with others and reducing family stresses .Social networking sites such as face book and twitter can also provide real time peer support for families struggling with issues such as domestic abuse, addiction, and emotional trauma (Baum, 2004; Dennis and Ebata, 2005). Selwyn et al (2005) , through a study conducted in the UK found out that peoples usage of the internet is based on interest , relevance , mediation of significant others and the role of house hold dynamics .

According to Anderson and Tracy (2001), applications and services delivered via the internet are not changing the way people live their lives in a simple, straightforward manner, but are supporting and enhancing their existing life styles, whatever those lifestyles may be.

According to Mehra et al (2004), the major use of the internet is related to distributing information that can be used to empower people within marginalized segments of society. Expanding the characterization of ICT to include both older and new technologies ranging from newspapers, radio and television to camcorders, computers, and cell phones makes it possible to acquire a better understanding of the full impact of ICT on the social development of youth. The proliferation of ICTs presents both opportunities and challenges with regard to the social development and inclusion of youth. Young people often use the internet to access entertainment, news sites and virtual meeting spaces. They also utilize new technologies to participate in a number of civic activities (World Youth Report 2005),

The World Youth Report (2003) , affirms that the social structure of society (democratic government , equitable income distribution , social security and public services must be intact to allow the adoption and utilization of information communication technology for the purpose of enhancing sustainable development benefiting everyone . According to Norris (2001), generational differences is the most important determinant of information communication technology adoption with regard to internet. For example, a person's generation is a more important factor than income, education or profession. Beneficiaries of youth programs in Colombia reported that the information communication technology training program made them feel empowered and offered them social, economic and

personal opportunities. Social opportunities are associated with the ability to help family members do homework or procedures requiring use of the internet or computer (World Youth Report, 2003).

Utilization of information communication technology was predominant with the young and urban population. This implies that a country with a growing population of the youth will be more apt to higher rate of technology adoption. Information communication technologies enhance interaction with peers over long distances, create entertainment opportunities and provide more realistic information on life elsewhere (Baliamoune, 2003). In order to promote training in, and use of information communication technology, it is important to build on those aspects that people value including improving employment prospectus and social interaction at publicly provided information communication technology facilities (Pat, 2000).

In a media culture, it is important to learn multiple ways of interacting with social reality. Young people must be motivated with opportunities to acquire skills in multiple literacies to enable them to develop their identities, social relationships and communities whether material, virtual or a combination of the two. Technologies are becoming an increasingly important part of the everyday lives of young people which has implications on the ways in which they use their time and interact with people close to them. Reachability through the cellular network creates a situation characterized by constant telepresence and accessibility, mobile communication creates an extended connection between youth and their families (Kellner, 2003).

The increased use of mobile phones and the internet has affected the daily interactions of youth almost everywhere. ICT can be a force for independence in the lives of young

people, influencing behavioural and value patterns that differ from those of older generations. In this sense, ICT creates a new socialization landscape that in many ways challenges or erodes the traditional socialization process involving the transmission of long established beliefs and practices through successive generations. The direction of socialization can even be reversed as the younger generation teaches the older generation about the uses and applications of emerging technologies. It is important to recognize however, that ICT and media do not preclude the continuing influence of such traditional actors as parents and schools in the socialization of children and youth. The emergence of a global media –driven youth culture propelled by ICT creates conditions for bidirectional socialization between generations (World Youth Report, 2005).

According to Hodkinson (2003), young people who have access to the internet seem to use it as part of their local socialization. They participate less often in so-called virtual communities, tending to do so only when they are driven by special interest in a site's programme (Holloway and Valentine 2003; Media Awareness Network, 2004). In some contexts , the internet may signify a dimension of identity and group belonging beyond one's immediate social environment , for young people in sparsely settled areas the internet has global symbolic value (Lagegran ,2002 ; Sharkey , 2002) , and for young immigrants it may be a cross-border bridge –building place to maintain contact with their native cultures (Kinnunen ,2003) .

Information communication technology has facilitated the development of new forms of creative, open and non-hierarchical channels of cyber-participation. Youth are gradually becoming more aware of resources outside their communities and opportunities to share in and reinforce each other's work. While these new modes of participation are not

substitutes for strong and effective youth councils , they can provide more young people with opportunities to become active in decision –making and in shaping their societies (Media Awareness Network,2004) .

In developed countries young people tend to become involved in various leisure past times generating active groups of youth versatile in use of the new ICT and also engage in sports and culture related activities . But there is also a group of passive young people whose everyday lives are filled with television viewing, which, incidentally, is now considered one of the central factors in diminishing social capital and solidarity between people. There are those who argue that in developed countries, public spaces are disappearing and life in general is undergoing a process of privatization leading to the erosion of social cohesion and trust (World Youth Report, 2003).

In the transitional phase from childhood to adulthood, young people establish their own identities adopting the cultural norms and values of their parents and adapting them to their own social and cultural environments. The globalization of media has expanded the scope of norms and values upon which young people draw in creating their identities. Young people are increasingly incorporating aspects of other cultures from around the world into their own identities. However, this trend along with the intergenerational digital divide is likely to widen the cultural gaps between the younger and the older generations (World Youth Report, 2005).

The development of modern technologies may be contributing to the evolution of a culture of individualized leisure as young people increasingly devote their time to computer screens and mobile keypads. It is argued that ICT has also affected leisure-time habits as social interactions is increasingly taking place within an electronic

environment through such means as text messaging and on-line meetings . New leisurely pursuits such as downloading music, using instant messages, and playing electronic games are for the most part solitary activities. Some of these pastimes are replacing more traditional pursuits such as sports. None the less, large numbers of young people are also excluded from the information revolution. Others are adversely affected by the ways in which the ICT revolution has challenged the traditional forms of socialization. Many struggle to balance family and community influences with global and cross – cultural influences (Gilgll, 2004).

2.5 Information communication technologies and access to employment.

The extent to which a young person is economically dependent, independent or dependent upon within the household can change extremely rapidly. This has important implications for the present and long –term well – being of both the young person and his or her family. . Unemployment, which is relatively high among youth, prevents many young people from becoming economically independent from their families, or from contributing substantially to family well-being. ICT is increasingly being used to improve access to education and employment opportunities, which supports efforts to eradicate poverty (World Youth Report, 2005).

According to the UNDP Report (2012-2015) ,the increasing adoption of ICTs in everyday life , and the growing market place for digital goods and services are creating opportunities for youth to find employment that transcend traditional paradigms . The way young people find and carry out work is changing. Instead of looking in the local newspaper; youth around the world browse web-based job listings to find work. Those with limited access to the internet carry out their job searches at public venues,

telecentres, libraries, cyber-cafes and many are even finding and carrying out their work via their mobile devices. The very notion of the workplace now reaches far beyond the local, which has great implications for young people that are challenged to find employment in their own communities. New approaches to outsourcing like crowd-sourcing and micro-work are providing young people with tasks and project-based work opportunities many of which are not restricted to highly skilled developers but can also extend to semi-skilled and low-skilled workers with access to a relatively basic digital infrastructure.

The report further states that the global increase in the use of mobile technologies is playing a key role in expanding employment opportunities for youth. Great potential for employment growth derives from a demand of services enabled by mobile phones. Young people can now find and carry out work , launch their entrepreneurial endeavours and even get paid via their cell phones .Young people are doing mobile micro-work , and also being contracted to carry out market research in their own communities .Mobile financial services such as M-PESA are making it easier for young people to receive payment for services rendered .Given the growth in mobile phones , there is a lot of interest in mobile applications and how the emerging “app economy” might generate new employment opportunities for young people around the world . Many young computer programmers are finding jobs working directly for software development firms. In addition, there are opportunities for developers with entrepreneurial ambitions to start their own apps-based business (World Bank, 2012).

According to Olasunni et al (2012), information communication technology has been increasingly used to promote youth employment over the past decade. Offering courses

through distance learning can provide individuals in all settings with academic credentials and vocational and professional skills that can greatly enhance their prospects. ICT era has created various types of jobs from Chief Information officer in the enterprise or government agencies to the computer shop operators since early 1990's vendors of hand held phones and their accessories are common sight in every community. There are various types of ICT based businesses such as document processing centres , cyber cafes , computer training centres , computer services and repairs , hand set services and repairs , internet programming , cable and satellite TV installations etc with very little take off funds . These are seen as common vocations to empower youth.

According to the EU report (2003), information communication technologies are a powerful driver of growth and employment opportunities. There is high rate of unemployment among the youth who are the majority portion of the population. Development of national E-.skills can help in improving the labor force by creating employment opportunities for these youth. Young people with the skills and training in information storage, retrieval and production with the use of ICTs have an edge over others in the employment market. Some jobs in this category include secretarial duties, business and call center operators, customer services and a host of other opportunities (ILO Report, 2001).

UN World Youth Report (2005), emphasizes the need to develop and implement strategies that give young people everywhere a real chance to find decent and productive work. Providing employment information about job opportunities to unemployed individuals through the internet is problematic since many of these individuals will likely be those without access. To curb such scenarios, Lindsay recommends that public access

to the internet and information communication technology training are needed to make the internet an effective channel to deliver information to the unemployed (Lindsay ,2005) .

West and Garrido (2008) , recount experiences of several NGOs that work in five Eastern European countries through careful relevant training developed with community participation , these NGOs contributed to young people's employability .Young peoples' involvement in information communication technology projects gave them work experience , which subsequently help them find a job . These NGO projects also serve as a technological platform for youth to acquire the information communication technology skills required in the labor market. A study conducted by Chapple in 2006, of graduates of ICT training provided by several US NGOs in Latin America found that this training was generally successful because most had found work and remained in their jobs for three years on average (Chapple, 2006).

Most of the developing countries contend that there is a high rate of unemployment among the youth who are the majority portion of the population. Development of national e-skills can help in improving the labor force of these countries by creating employment opportunities for these youths. This calls for focused capacity building of the citizens. The single most important thing that any country will need in order to prosper in the future is a large, well educated workforce. A study on youth from Eastern Europe by (Cara, Lytle and Koler 2005) , identified the lack of young people's access to a quality education as an obstacle for obtaining employment and lack of training and credit opportunities as barriers for youth to establish a micro enterprise thereby hindering self-employment .

According to Gilgll (2004), those with disposable income are almost always the early adopters of ne technologies. They have newer and more powerful equipment and more

opportunities to develop the skills and competences needed to use it. Poor infrastructure puts young people in smaller towns and villages at a further disadvantage. Technical problems can discourage wide-spread internet use in some countries and can prevent young people from fully appreciating or taking advantage of all the possibilities the web offers. Apart from these considerations, there are also young people who shy away from the internet because of the prevalence of English language content, or more to the point, the absence of content in their own language.

However, while ICT clearly has the potential to empower young people and improve their lives in many respects; questions remain regarding its role in deepening inequalities and divisions in the world. The important concerns surrounding the global digital divide apply as much to youth as to any other age group. ICT access remains a major challenge for many young people. Rapid advances in wireless technology have made it possible to overcome the physical impediments of distance and topography that have limited the development of traditional telecommunications infrastructure in rural and other outlying areas. In other words, it is now theoretically possible to provide ICT services almost anywhere in the world at a relatively reasonable cost.

Lindsay (2005), uses a case study of the efforts of the city of Glasgow to provide information about job opportunities to unemployed individuals through the internet. The author argued that providing such information to this group of people via the internet is problematic since many of these individuals will likely be those without public access. Their public policy recommendations are that public access to the internet and ICT training are needed to make the internet an effective channel to deliver this information to the unemployed.

None the less, many poor youth are unable to take advantage of new technologies because of access limitations or cost factors. In the most remote and sparsely populated areas, there may not be enough of a market incentive for private investment in communications technologies and government funding may be required. The digital divide characterized by highly unequal ICT access and use, persists both within and between countries and should therefore be addressed by both national policy makers and the international community.

2.6 Theoretical Framework

The process of adopting new innovations has been studied for over 30 years, and one of the most popular adoption models is described by Rogers in his book, *Diffusion of Innovations* (Sherry and Gibson, 2002). Thus, for purposes of this study, the theoretical framework will be based on Rogers Diffusion of Innovations Theory. There is a general agreement among researchers that Diffusion of innovation theory is a suitable and valid theory for examining the process of adoption. In a research conducted by Jeyaraj, Rottman and Lacity (2006), on adoption of information technology by individuals and organizations, diffusion of innovations theory was recognized as the only theory which has been used to evaluate adoption on the individual and organizational level.

Much research from a broad variety of disciplines has used the model as a framework. Dooley (1999) and Stuart (2000), mentioned several of these disciplines as political science, public health, communications, history, economics, technology, and education, and defined Rogers' theory as a widely used theoretical framework in the area of diffusion and adoption.

Rogers' diffusion of innovations theory is the most appropriate for investigating the adoption of technology in higher education and educational environments as observed by (Medlin , 2001 ; Parisot , 1995) .In fact , much diffusion research involves technological innovations so Rogers (2003) used the word “ technology “ and “ innovation” as synonymous . For Rogers, a technology is a design for instrumental action that reduces the uncertainty in the cause –effect relationships involved in achieving a desired outcome. It is composed of two parts: hardware and software. While hardware is the tool that embodies the technology in the form of a material or physical object, software is the information base for the tool.

According to Rogers (2003), adoption is a decision of full use of an innovation as the best course of action available and rejection is a decision not to adopt an innovation. He defined diffusion as the process in which an innovation is communicated through certain channels over time among the members of a social system. Thus, innovation, communication channels, time, and social systems are the four key components of the diffusion of innovations.

Quaddus and Hofmeyer (2006) explained that studies on organizational innovation adoption occur in two stages. The first stage defined as the initiation stage, which is followed by the implementation phase. In the initiation stage, the organization develops an awareness of the innovation, forms an attitude towards it and evaluates the innovation. The actual adoption decision was found to occur between the initiation and the implementation phases.

According to London (2006), this transition from knowledge of innovation to its implementation is measured as a sequential process which encompasses the innovation's

rate of adoption. The adoption process may be affected by the type of innovation decision being made, which includes collective/ organizational and authoritarian / hierarchical.

On the other hand diffusion is the process by which an innovation is communicated through certain channels overtime among the members of a social system. (El-hadary 2001).According to Rogers (1995), an innovation is an idea or practice that is perceived as new by the adopting organization. Braun (2004), argue that Rogers Diffusion of Innovation Theory analyzed the process of diffusion, and mapped the impact of a combination of social, economic and technical forces on that process.

Looi (2004), suggested that the Roger's innovation diffusion theory is perhaps the most frequently cited in most research on diffusion of innovation. He further argues that the theory is considered valuable because it attempts to explain the factors which influence the adoption of an innovation and the manner in which new innovations are disseminated through social systems over time.

The theory is guided by four Main Elements (principles) which are innovation, communication channels, time and the innovation decision process .Rogers (2003), defines an innovation as an idea, practice, or project that is perceived as new by an individual or other unit of adoption. An innovation may have been invented a long time ago, but if individuals perceive it as new, then it may still be an innovation for them. The second element of the diffusion of innovation process is communication channels. According to Rogers (2003), communication is a process in which participants create and share information with one another in order to reach mutual understanding. According to Rogers (2003), the time aspect is ignored in most behavioral research. He argues that including the time dimension in diffusion research illustrates one of its strengths. The

innovation –diffusion process, adopter categorization, and rate of adoptions all include a time dimension. El-hadary (2001) emphasized that one of the major contributions of the diffusion of innovation theory is the innovation decision process, which starts with one's knowledge about the existence of innovation and ends with the confirmation of the adoption or rejection of the decision.

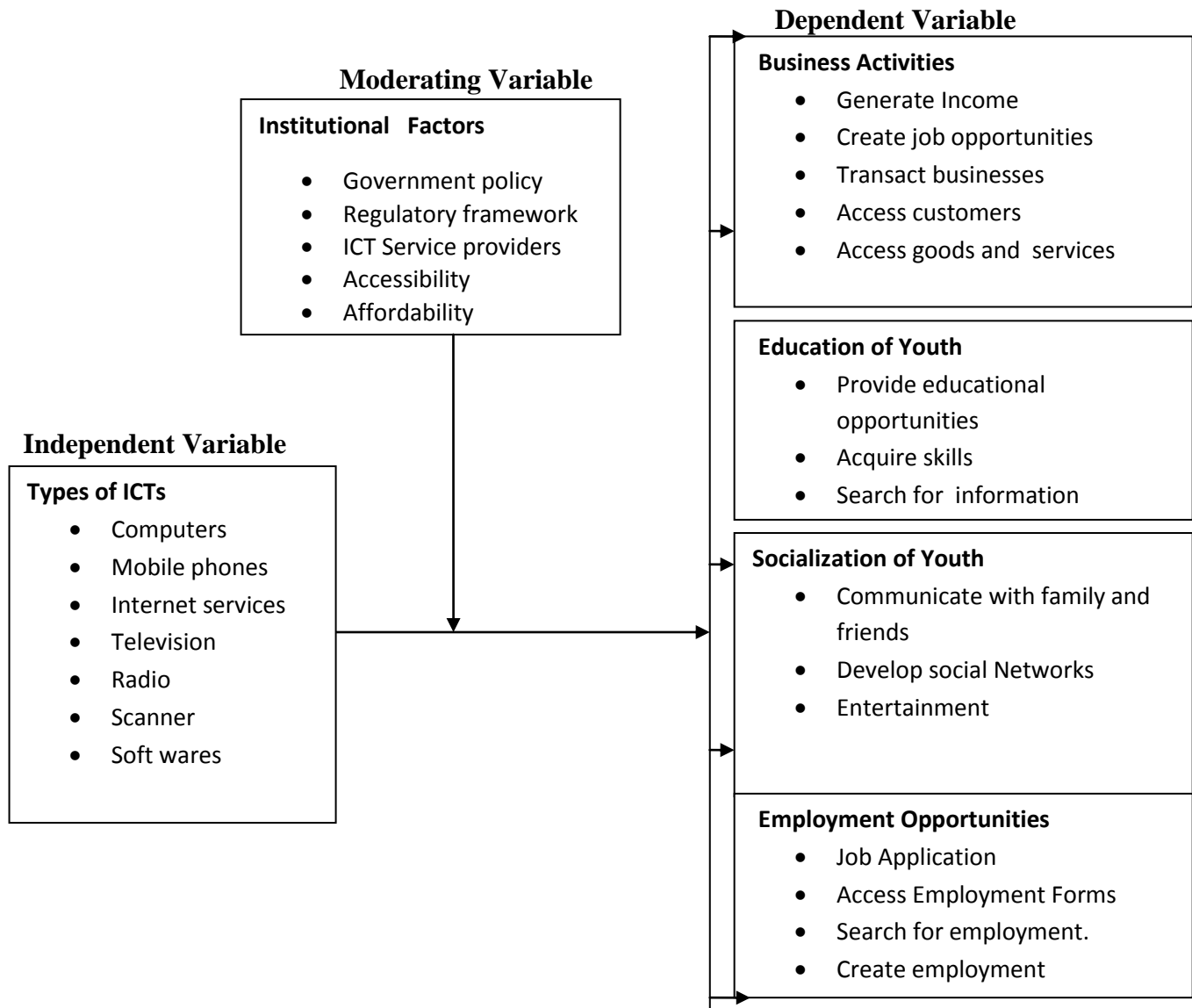
Rogers (2003) described the innovation – decision process as an information seeking and information processing activity, where an individual is motivated to reduce uncertainty about the advantages and disadvantages of an innovation .According to Rogers, the innovation –decision process involves five steps: knowledge, persuasion, decision, implementation and confirmation. These stages typically follow each other in a time-ordered number.

Rogers (2003) described the innovation –diffusion process as uncertainty reduction process and proposes attributes of innovations that help to decrease uncertainty about the innovation. Attributes of innovations include five characteristics of innovations: relative advantage, compatibility, complexity, triability and observability

This theory is considered relevant to the research topic because information communication technologies are innovations that can be modified as need arises to suit the needs of the adopter .Considering the fact that young people are at the forefront of technology revolution, which is the driving force behind the global emergence and evolution of information and knowledge- based society and that youth are often the innovators in the development, use and spread of ICT since they adapt very quickly and are generally very eager to access the great quantities of local and global information made available through technological information .

2.7. Conceptual framework

The study was guided by the following conceptual framework showing the influence of application of information communication technologies on livelihoods of youth.



(Figure 2.7)- Conceptual framework showing influence of information communication technologies on livelihoods of youth

Operationalization of variables

The conceptual framework of the study was embedded to the diffusion of innovations theory. This relationship is depicted in (figure 2.7), that as youth adopt information communication technologies, this leads to improved livelihoods and as new innovations come into the market, the youth diffuse the old and new technologies to improve their livelihoods. Institutional factors (moderating variable), such as government policy and the service providers ensure accessibility and affordability through provision of infrastructure to create relative advantage for adopters.

Creation of business activities through use of ICTs such as computers, mobile phones, internet services among others, youths are able to initiate income-generating activities that will eventually empower them economically and enable them create job opportunities for others in their respective communities.

Access to continuous education is vital in improving the livelihood of youths. It is perceived that application of ICTs for education purposes can enhance their (youths') learning by being able to conduct research, pay fees and register for studies online as well as doing their assignments and submit them online. Thus access distance education at their own advantage.

Socialization of youth is a process which involves the traditional and modern approaches. It is believed that as the youth adopt ICTs, relationships between them and family as well as friends will be strengthened through communication, develop social networks and also be entertained.

Access to Opportunities through ICTs by youth transcends traditional paradigms. It is expected that by adopting ICTs, youths will have an easier way of accessing employment and other opportunities since they are able to apply for jobs online, access employment forms and equally search for employment and create employment.

2.8 Knowledge gap

Studies undertaken by Ochillo (2010), Ocholla (2011) focused on factors influencing Youth participation in community development and influence of Youth Enterprise Development Fund loans on economic empowerment of youth respectively, and Muchibi (2012) determinants of sustainability of Youth Enterprise Development Fund loans but there has been no attempt made to investigate on the influence of application of information communication technologies on livelihood generation strategies of youth which was the focus of this study.

2.9 Summary of Literature reviewed

The literature reviewed focused on the influence of application of information communication technologies on livelihood generation strategies of youth. The livelihoods of youth have a number of components. Some of the components identified in this study include creation of business activities, continuing education of youth, socialization of youth and access to employment opportunities.

Literature reviewed show that information technologies have a major influence on enabling youth to create business activities. In this section, the major benefits of information communication technologies are increase in accessibility to potential customers in terms of both marketing and direct sales. Experienced users of information technologies are likely to do online transactions and manage their online business

activities. The youth need application of modern technologies for socio- economic development (OECD, 2002).

The second component focused on influence of application information communication technologies on continuing education of youth. In this section, human capital was identified as a pertinent factor that can influence technology utilization. Those without online access are shut out of internet – based training and education .Information communication technology if carefully integrated in education has a potential to facilitate the acquisition of relevant life skills (Were et al, 2007).

The third component in this study focused on influence of application of information communication technologies on socialization of youth. Rapid development of information and communication technologies has had not only dramatic effect on the individual, but also on the family. Individuals who communicate through multiple mediums have stronger relationships (Yildrim, 2000).

The fourth component in this study focused on the influence of application of information communication technologies on access to employment opportunities by youths (World Youth Report, 2005). Information communication technologies are a powerful driver of growth and employment opportunities. The rate of unemployment among the youth who are the majority portion of the population can be addressed through development of national e-skills (EU Report, 2003).

Young people with the skills and training in information storage, retrieval and production with the use of information communication technologies have a better chance in employment opportunities (ILO, 2001). Therefore, there is need to develop and implement strategies that give young people everywhere a real chance to access decent

and productive work (UN, 2005). Public access to the internet and information communication technology training are needed to make the internet an effective channel to deliver information to the unemployed (Lindsay , 2005) .Involving youth in information communication technology projects is likely to give them work experience , and subsequently help them find a job (West and Garrido , 2008) .

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter described the research procedures and techniques which were used in this study. It constituted the research design, target population, sample size and sampling techniques that will be 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 study comprised 2200 youth who were members of registered youth groups within Kakamega Central Sub-County. According to the records by the department of Gender and Social Development Kakamega Central Sub-County

(2013), there were 110 registered youth groups with a maximum of 20 members. This translated into 2200 youth who formed the target population for this study.

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 and non-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 (see Appendix III). The sample size comprised 327 youths from the registered youth groups within Kakamega Central Sub-County. According to Krecjcie and Morgan table for sample size determination, a population of 2200 requires a sample size of 327.

3.4.2 Sampling Technique

The researcher employed simple random sampling to identify 16 youth groups from the registered groups of which all members were sampled. To attain the required number of youth groups, the researcher used proportionate sampling to allocate the 16 youth groups according to their registration in each location as shown in the table 3.1.

Table 3. 1 showing distribution of youth groups in Kakamega Central Sub-County

Location	Number of Registered Groups	Number Sampled	Membership	Percentage
Bukhungu	55	8	160	50%
Shieywe	30	3	60	27.27%
C. Butsotso	10	2	40	9.09%
E.Butsootso	10	2	40	9.09
S.Butsootso	5	1	20	4.55
Total	110	16	320	100%

3.5. Data Collection Instruments

Research instruments included questionnaires with a number of questions and statements that respondents answered by selecting the appropriate response among structured alternatives. The statements were brief with alternative responses. A 5 point Likert scale ranging from Strongly Agree, Agree, Neither Agree nor Disagree, Disagree, Strongly Disagree was employed with respondents asked to indicate their level of agreement with a given statement by way of an ordinal scale. 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 E). Section A contained demographic information whereas section B to E was used to collect information on formulated research objectives. The interviews were administered face to face. The researcher also used observation which was based on visual and auditory impression. This involved listening and seeing what respondents did and said. The questionnaire was employed to collect data because the study was mainly concerned with gathering the views and perceptions of the youth.

A questionnaire is the most suitable tool for survey research (Amin, 2005; Gay, 1987; Oso and Onen , 2009) .

3.5.1 Piloting of Instruments

A pilot study from three youth groups from the study area who were not part of the sample target was conducted by administering the questionnaire to a small sample of 60 respondents to determine whether or not the study would yield the expected results. 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 covered the objectives of the study. The main reason for piloting the questionnaire was to ensure that the items would detect the kind of responses the researcher intended 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

Validity of instruments was ensured through the use of experts and supervisors from the University of Nairobi. The questionnaire and the interview guide were given to the two supervisors to evaluate and rate each item in relation to the objectives of the study to determine whether they were relevant or not on the scale of 1 to 4 objectives. Content validity index was then determined from the assessors agreement scale of $\frac{n_{3/4}}{N}$, where the $n_{3/4}$ is the number of items marked 3 or 4 by both supervisors, and N the total number of items assessed. The items were modified until an acceptable validity index was attained.

3.5.3 Reliability of the Instruments

To establish reliability of the questionnaire, pre-testing through piloting was done and the respondents used in the pilot study not used in the actual study. The reliability of the tools was based on the estimates of the variability among the items. 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.

In the process of test-retest, the researcher noted down and discussed with research assistants and respondents and interpreted circumstances upon which arguments were made. This ensured that all sentiments were scrutinized before being accepted as valid findings of the study.

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 the County Commissioner and the County Director of Education Kakamega County to conduct the research and at the time of the study, the researcher made courtesy calls to the respective County Officials as well as to the Sub-County Youth Development Officer and the Sub-County Gender and Social Development Officer

.Before proceeding to conduct the study, the researcher recruited and trained two research assistants on questionnaire and interviewing skills. During the training sessions, each item in the questionnaire was discussed to ensure that they were understood well. The researcher also sent letters of transmittal to youth groups identified for interview and booked appointments with them.

3.7. Data Analysis Techniques

For purposes of this study, the researcher adopted descriptive statistics such as frequencies, percentages and tables to analyze qualitative data. Descriptions were derived from responses to items in the questionnaires and interviews. The responses were put into categories and themes or codes so as to answer the research questions. The percentages of responses for each category of responses were then calculated. The calculations were used to make statements about the results, identified findings and made conclusions.

To analyze quantitative data, the researcher used graphs, frequencies, percentages, modes and means, with the aid of SPSS (Statistical Package for Social Sciences) program. The data was correlated using ANOVA and inferential statistics. The researcher developed a coding system in relation to objectives of the study and minimized errors through double data entry into the computer program (SPSS).

Data analysis is a whole process which starts immediately after data collection and ends at the point of interpretation and processing of results (Leedy ,2003).

The most commonly used method of reporting descriptive survey research is by developing frequency distributions, calculating percentages and tabulating them appropriately (Singleton, 2003).

3.8. Ethical Considerations

To ensure that the ethical standards are adhered to, the researcher observed confidentiality especially from the information given on questionnaires. The respondent's information could not be passed on to a third party unless they were involved in the study.

The names of respondents were not written on the questionnaires thus, participants remained anonymous throughout the study. The researcher sought consent of respondents before administering or conducting interviews. The researcher and her enumerators introduced themselves by giving personal identification cards and letters of introduction and stated their mission and purpose of the study

Mugenda (2008), observes that ethical issues in research encompasses the analyses and employment of concepts such as right and wrong , good and evil and transparency , accountability and responsibility . He further states that , in the research process , ethics focus on the application of ethical standards in the planning of the study ; data collection and analyses, dissemination and use of the results .

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION, INTERPRETATION AND DISCUSSION

4.1 Introduction

This chapter presents the findings of the data analyzed beginning with data on questionnaire response return rate, Demographic data and study objectives. The response return rate is presented in frequency counts and percentages. Demographic data, which is the respondents personal information has been simplified and presented in a table in frequency counts and percentages as well. Finally, the chapter presents a systematic analysis of objectives both in descriptive and inferential statistics as explained in chapter three. Presentations are in tables and thereafter discussion, and interpretation of the findings.

4.2 Questionnaire Response Return Rate

The information entails the respondents that gave the full information concerning the questions asked in the questionnaire. Individual respondents were therefore approached from each youth group and the response return presented as shown in table 4.1

Table 4.1 Response Return Rate.

Response return	frequency	Percentage
Youth	307	93.9
Total	307	93.9

Table 4.1 clearly indicates that 307(93.9%) responses were obtained from the sampled respondents. The total expected sample was 327(100%). The feedback shows that the

sample was well achieved and thus the views will form a good numerical estimation of the required results.

4.3 Demographic Characteristics of the Respondents

Respondent’s demographic data was sought through the questionnaire. They were asked to indicate their age, level of education and gender. The results are presented as shown in the tables below.

4.3.1 Gender of the Respondents

The researcher sought to find the gender of the respondents in relation to the influence of ICT. The respondents were therefore asked to state their gender. The results are presented in table 4.2.

Table 4.2 Gender of the respondents

Variable	Category	Frequency	Percentage	Total frequency (%)
Gender	Male	167	54.4	307(100)
	Female	140	45.6	

Table 4.2 presents the gender data of the respondents. From the table, most of the sampled youth were male, 167(54.4%), because in most youth groups, most of those who were registered were male. Female were 140(45.6%).

4.3.2 Age of the respondents

The various age brackets of the respondents in relation to ICT influence was also determined by the researcher. The age brackets were in five categories as shown in table 4.3.

Table 4.3 Data on the age of the respondents

Variable	Category	Frequency	Percentage	Total frequency
Age	Below 20 Yrs	22	7.2	307(100)
	21-25 Yrs	67	21.8	
	26-30 Yrs	89	29.0	
	31-35 Yrs	51	16.6	
	36-37	78	25.4	

Table 4.3 entails the age of the respondents. It is clearly outlined that most of the youth were aged between 26-30 years, 89(29.0%). The second in category were those aged between 36-37 years, 78(25.4%). The least registered youth were below 20 years old, 22(7.2%).

4.3.3 Education level of the Respondent

The education level compared with the level of ICT influence of the respondents was also sought out by the researcher. Each respondent clearly outlined his/her level of education as shown in table 4.4.

Table 4.4: Education level of the respondents.

Variable	Category	Frequency	Percentage	Total frequency
Education Level	Informal	127	41.4	
	Primary	126	41.0	
	Secondary	44	14.3	
	College/University	10	3.3	307(100)

Results from table 4.4 indicate that majority of the youth had informal education, 127(41.4%), followed by those who had attained primary level education, 126(41.0%). Very few had secondary and college education, 44(14.3%) and 10(3.3%) respectively.

4.3.4 Occupation of the respondents

The researcher also wished to establish the various occupation levels of her respondents. The different levels were in five categories and each respondent listed his/her occupation. The results are as highlighted in table 4.5.

Table 4.5: Data on the occupation of the respondents.

Variable	Category	Frequency	Percentage	Total frequency
Occupation	None	39	12.7	
	Student	146	47.6	
	Casual Employment	44	14.3	
	Self Employment	62	20.2	
	Formal Employment	16	12.7	307(100)

It is evident from table 4.5 that in most of these groups, majority were students, 146(47.6%). Those who were self employed were 62(20.2%) and those who were casually employed were 44(14.3%). There were very few who were formally employed, 16(12.7%).

Generally, the sample is a good representation of the youth that could give good information on information communication technology's effect on education, employment, socialization and creation of business activities.

4.4 Influence of Information Communication technology on Youth's Livelihood

The main purpose of the study was to establish the influence of application of information communication technologies on livelihood generation strategies of youth in Kakamega Central Sub- County. They were asked to share their views on the extent to which application of information communication technologies influenced creation of business activities, continuing education, socialization and access to employment opportunities in Kakamega Central Sub-county. The results are discussed as per the objectives in tables.

4.4.1 Information Communication Technology and Creation of Business Activities

To establish the extent to which application of information communication technologies influence creation of business activities by youth in Kakamega Central Sub-County, sampled youth were asked to share their views on how ICT had enabled them create more income generating activities, contributed to creation of job, transaction in business, improved access to customers and access to services. The results were tabulated in frequency counts and percentages as shown in table 4.6

Table 4.6 Influence of ICT on Creation of Business Activities

Item	SA f(%)	A f(%)	N f(%)	D f(%)	SD f(%)	mean	std
ICTs have enabled me to create more income generating activities	96(31.3)	136(44.3)	46(15.0)	17(5.5)	12(3.9)	2.07	1.02
The use of ICTs in my business has contributed to creation of job opportunities for youth	94(30.6)	132(43.0)	55(17.9)	16(5.2)	10(3.3)	2.07	0.99
Transaction of business in my youth group has greatly improved due to the use of ICTs	97(31.6)	126(41.0)	64(20.8)	12(3.9)	8(2.6)	2.05	0.96
The use of ICTs has greatly increased access to customers for my youth group	93(30.3)	133(43.3)	49(16.0)	23(31.3)	9(2.9)	2.09	1.01
The use of ICTs has greatly improved access to goods for my youth group	91(29.6)	127(41.4)	66(21.5)	15(4.9)	8(2.6)	2.09	0.97
The use of ICTs has greatly improved access to services for my youth group	110(35.8)	120(39.1)	48(15.6)	19(6.2)	10(3.3)	2.07	1.02

KEY SA-Strongly Agree; A-Agree; N-Not sure; D-Disagree; SD-Strongly Disagree

From table 4.6, 136(44.3%) of the respondents agreed that ICT has lead to an increase in the number of income generating activities, 96(31.3%) strongly agreed and only 12(3.9%) strongly disagreed. In addition 132(43.0%) of the respondents agreed that the use of ICT has contributed to the creation of job opportunities to the youths, 94(30.6%) strongly agreed while 10(3.3%) strongly disagreed on this. The use of ICT has been focused all round by organizations, the study findings basing on the use of ICT in transacting of

business in youth groups, 126(41.0%) agreed, 97(31.6%) strongly agreed however 10(3.3%) strongly disagreed on this. For in any economic environment commodities can be of goods or service form, the use of ICT to access goods and or services by youths was tested by the researcher, the study findings showed that 127(41.4%), 120(39.1%) agreed, 91(29.6%), 110(35.8%) strongly agreed furthermore 8(2.6%) and 10(3.3%) of the respondents strongly disagreed that the use of ICT has improved youth groups over the access of goods and services.

A one way analysis of variance was also carried out to find the influence of ICT on the age of the respondents' ability to create business activities. The results were presented in a simple line graph as shown in Table 4.7

Table 4.7: Influence of ICT on the creation of business activities by different ages.

		Strongly Agree f(%)	Agree f(%)	Some How Agree f(%)	Disagree f(%)	Strongly Disagree f(%)
Age	below 20 yrs	10(3.3)	3(1.0)	8(2.6)	1(0.8)	0(0.0)
	21-25 yrs	35(11.2)	17(5.5)	10(3.3)	4(1.1)	1(0.3)
	26-30 yrs	29(9.4)	27(8.8)	15(4.9)	2(1.5)	5(1.6)
	31-35 yrs	25(8.1)	14(4.2)	2(0.7)	6(0.2)	4(1.3)
	36 and above	33(10.7)	33(10.7)	20(6.5)	3(2.1)	0(0.0)
Total		132	94	55	16	10

From table 4.7 above, 35(11.2%) of the youth aged between 21 and 25yrs strongly agreed that ICT has an influence on business creation activities while 1(0.3%) of the same strongly disagreed.

Generally, results from the table above depict that ICT has a high positive influence on business creation activities.

Post hoc comparisons also revealed that there was no difference in the respondent's years in their ability to create business activities. These results are in line with the World Youth Report (2003), which found out that, in terms of economic activity, information communication technologies are expected to increase accessibility to potential customers in terms of both marketing and direct sales. Howard et al (2001), also observed that more experienced users of ICT in the form of internet are much more likely to do online transactions and manage their online business activities compared to more recent adopters of the internet. The findings by the Microsoft Corporation Report (2007), also supports the view that information communication technologies offer special opportunities to stimulate growth and increase innovation in every local setting, thereby enabling individuals and institutions to increase more productivity with the global economy and the wider world

4.4.2 Information Communication Technology and Continuing Education

To explain the extent to which application of information communication technologies influence continuing education of youth in Kakamega Central Sub-County, youth were asked whether ICTs had provided learning opportunities for them as youth. They were also asked if ICT had enabled them acquire more skills, and whether it had assisted members of their youth groups in searching for information. The results are presented in table 4.8

Table 4.8 Influence of ICT on Continuing Education.

Item	SA f%	A f%	N f%	D f%	mean	SD
ICTs have provided learning opportunities for me as a youth	153(49.8)	111(36.2)	23(7.5)	10(3.3)	1.74	.96
The use of ICTs has enabled me to acquire more skills	151(49.2)	113(38.8)	21(6.8)	10(3.3)	1.76	.99
ICTs have greatly assisted me in searching for information	150(48.9)	114(37.1)	17(5.5)	15(4.9)	1.78	1.0
ICTs have greatly assisted members of my youth group in searching for information	139(45.3)	123(40.1)	22(7.2)	11(3.6)	1.80	.98

Table 4.8 shows that 153(49.8%) strongly agreed, 111(36.2%) agreed while 10(3.3%) disagreed that the use of ICT has provided learning opportunities to their knowledge. From the study findings, 151 (49.2%) strongly agreed, 113(38.8%) agreed to the fact that the use of ICT has enabled youths in Kakamega acquire more skills however, 10(3.3%) of the study population disagreed on this fact. Use of technology as depicted in the study literature, has been known to affect the knowledge aspect of individuals. From the study findings, 150(48.9%) strongly agreed, 114(37.1%) agreed while 15(4.9%) disagreed on the virtue that ICT had assisted them in searching for information. The means were also low, an indication that most of the respondents strongly agreed or agreed to the influence of ICT to their academic work.

Pearson's correlation was also carried out to find the relationship between education and Influence of ICT. The results are presented as shown in table 4.9.

Table 4.9 Correlation between Influence of ICT and level of education

		Influence of	
		ICT	Education Level
Influence of ICT	Pearson Correlation	1	.738**
	Sig. (2-tailed)		.000
	N	307	307
Education Level	Pearson Correlation	.738**	1
	Sig. (2-tailed)	.000	
	N	307	307

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

The results revealed a high positive significant correlation between ICT influence and level of education, ($r=.738^{**}$, $p<.01$). This clearly shows that the higher the level of education one has, the more they value the influence of ICT on business creation activities. The two variables i.e. influence of ICT and education level is highly associated and significant. This implies that the respondents attributed the influence of ICT to progress in their studies. These results are in line with observation by Kiiski and Pohjola (2002), who noted that tertiary education had a positive significant influence on the utilization of information communication technology. Those without online access are shut out of internet –based training and education (Norris and Conceicao , 2004) . Were et al (2007), also found out that information communication technology if carefully integrated in education, has a potential to facilitate the acquisition of relevant life skills that buttress the development process in the prevailing economic and information order. It provides educational opportunities through distance learning. It is therefore clear that ICT has greatly had a positive impact on the education level of the youth in Kakamega Central Sub-county.

4.4.3 Information Communication Technology and Socialization

The researcher was also interested in establishing how ICT had influenced socialization among the youth. They were therefore asked to share ways in which ICT had helped them. First, they were asked to share whether it had strengthened relationship among their group members, eased communication in their families and friends and whether it had enabled them develop networks beyond their communities. The results were presented in frequency counts and percentages

Table 4.10 Influence of ICT on Socialization

Influence of ICT	SA f%	A f%	N f%	D f%	SD f%	mean	std	mean	std
Strengthened relationships Group Members	144(46.9)	119(38.8)	27(8.8)	9(2.9)	8(15.6)	144	119	1.8	0.92
Eased Communication in our Family	126(41.0)	122(39.7)	32(10.4)	16(5.2)	11(3.6)	126	122	1.9	1.02
Communication with friends made easier	146(47.6)	120(39.1)	20(6.5)	13(4.2)	8(2.6)	146	120	1.8	0.94
enabled me to develop social networks beyond my community	153(49.8)	109(35.5)	25(8.1)	11(3.6)	9(2.9)	153	109	1.7	0.96
enabled my youth group to develop social networks beyond my community	149(48.5)	113(36.8)	27(8.8)	8(2.6)	10(3.3)	149	113	1.8	0.96
ICTs have provided me with various entertainment options as a youth	135(44.0)	119(38.8)	29(9.4)	8(2.6)	16(5.2)	135	119	1.86	1.04

From the findings in table 4.10, the results clearly shows that ICT has strengthened the relationships among groups as supported by 144(46.9%) of the respondents. 126(41.0%) of the respondents also observed that ICT had eased communication in their families.

Indeed, the permeation of the internet technology into homes has created the opportunities for some families to either fall apart or come together (Molosi, 2001) findings revealed this. The role of ICT among friends was also found to be high as observed by 146(47.6%) of the sampled youth. There was a general observation that ICT had enabled them develop social networks beyond their communities, 153(49.8%) of the respondents supported this. In addition, ICT had provided them with entertainments as noted by 135(44.0%) of the respondents. It is thus generally clear that ICT has contributed largely to socialization status of the youth in Kakamega Central Sub- County. According to Yildirim (2000), the rapid developments in technology have made tremendous changes in the way we live, as well as the demands of society, findings that concur with the present findings. Mehra et al (2004), also found out that the major use of the internet is related to distributing information that can be used to empower people within marginalized segments of society. This shows that ICT has had a great influence on the social life of the youth in Kakamega Central Sub- County.

4.4.4 Information Communication Technology and Access to Employment

In order to assess the extent to which application of information communication technologies influence access to employment opportunities by youth in Kakamega Central Sub-county, the youth were asked to state whether ICT had created employment opportunities for them, fastened the job application process, and whether employment was convenient for them through the internet. The results are presented in frequency counts and percentages in table 4.11

Table 4.11 Influence of ICTs on Access to Employment

Item	SA	A	N	D	SD	mean	std
ICTs have created employment opportunities for me as a youth	153(49.8)	111(36.2)	23(7.5)	10(3.3)	10(3.3)	1.7	.96
Job application is now faster and easier for me due to ICTs	151(49.2)	113(36.8)	21(6.8)	10(3.3)	12(3.9)	1.7	.99
Access to employment forms has been made easier for me through websites	150(48.9)	114(37.1)	17(5.5)	15(4.9)	11(3.6)	1.7	1.0
Search for employment is now more convenient for me through the internet	139(45.3)	123(40.1)	22(7.2)	11(3.6)	12(3.9)	1.8	.99

KEY SA-Strongly Agree; A-Agree; N-Not sure; D-Disagree; SD-Strongly Disagree

The results in table 4.11 indicate that ICT has created employment opportunities for many youth as supported by 153(49.8%). Job application was also faster and easier due to ICTs, 151(49.2%) attributed to this. Majority of the sample respondents, 139(45.3%) found search for employment more convenient through the internet since access to employment forms through the website was easier.

Pearson Correlation coefficient was also carried out to find out the relationship between ICT and employment. The results are presented as shown in table 4.12 below.

Table 4.12 Correlations between employment and ICT

Employment and ICT		Employment	ICT
Employment	Pearson Correlation	1	.760**
	Sig. (2-tailed)		.000
	N	306	306
ICT	Pearson Correlation	.760**	1
	Sig. (2-tailed)	.000	
	N	306	307

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

The results in table 4.12 reveal that there was a high significant positive correlation between employment and Influence on ICT, ($r=.760$, $p< .01$). This implies that employment was majorly a result of ICTs high influence. Hence information communication technology has been increasingly used to promote youth employment. These results concur with the findings of (World Youth Report, 2005). That ICT is increasingly being used to improve access to education and employment opportunities, which supports efforts to eradicate poverty. Other previous findings also supports these findings, for instance the UNDP Report (2012-2015) found that ,the increasing adoption of ICTs in everyday life , and the growing market place for digital goods and services are creating opportunities for youth to find employment that transcend traditional paradigms.

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 establish the influence of application of information communication technologies on livelihood generation strategies of youth in Kakamega Central Sub- County. The findings in this chapter are summarized in this section according to the objectives of the study.

The findings have revealed a positive influence of ICT on the creation of business activities; To begin with, a closely tied mean over the ability of the ICT adopters to create business activity was realized in the ANOVA results in chapter four. The results also indicated a high percentage of the respondents associating the business creation with the increased use of ICT. Majority of the respondents, 136(44.3%) stated that ICT had helped them to create more income generating activities. They also stated that, the use of ICT in their business had contributed to creation of job opportunities for them, 132(43.0%). Business transaction through ICT also saw them create more business activities,

126(41.0%). Access to services and access to goods was also found to be a result of influence of ICT.

The results indicated that ICT had a strong influence on the continuing education of the respondents. For instance, a high correlation between influence of ICT and education level was achieved, ($r=.738$, $p<.01$). an implication that the more the use of ICT the better the education status of the respondents. The results also revealed that ICT had provided learning opportunities for the youth as supported by 153(49.8%) of the respondents. The results also show that ICT had enabled them acquire more skills,. Furthermore, ICT had assisted the youth in searching for information both individually and as a group, 150(48.9%) and 139(45.3%) respectively. The influence of ICT on education was therefore positive on the education status of the respondents.

The findings of this study clearly reveal that there is a high influence of ICT on socialization among the youth. First and foremost, the results show that ICT has greatly increased relationships among the family members. Majority of the respondents stated that ICT has strengthened the relationships among groups as supported by 144(46.9%) of the respondents. There was also easy flow of communication among the families, 126(41.0%) of the respondents also observed. It is therefore true that internet has created the opportunities for some families to either fall apart or come together (Molosi, 2001) findings revealed this. ICT has therefore played a big role in harmonization of friends by 146(47.6%) of the sampled youth. There was a general observation that ICT had enabled them develop social networks beyond their communities, 153(49.8%) of the respondents supported this. In addition, ICT had provided them with entertainments as noted by

135(44.0%) of the respondents. ICT can therefore be generalized to have a positive impact on the social status of the youth.

The findings clearly show a larger percentage of the youth attributing ICT to creation of employment opportunities. First, ICT itself has created employment opportunities for many youth as shown in the findings. 153(49.8%) of the respondents strongly supported this, and only a small percentage could not find a relationship between ICT and employment. In addition, Job application is now faster and easier for many youth due to influence of ICTs, 151(49.2%) supported this. The results also indicated that access to employment forms and employment is now convenient. Pearson correlation coefficient also revealed strong correlation between employment creation and Influence of ICT. According to the EU report (2003), information communication technologies are a powerful driver of growth and employment opportunities. In his findings, Lindsay recommends that public access to the internet and information communication technology training are needed to make the internet an effective channel to deliver information to the unemployed (Lindsay , 2005) . ICT therefore had impacted on the employment creation among the youth.

5.3 Conclusion

The findings of this study clearly reflected the day to day events in the global world that has been turned into a village. To begin with, ICT has encroached into the present generation, presenting an opportunity of a quick and dynamic growth of many sectors beginning with creation of business activities. The present findings show that ICT has had positive impact on business activities among the youth. Apart from connecting them from different spheres of the world, there is generally improved sales and quick

access to customers. The recent inventions in fact, make access to goods kilometers away in very few minutes. Information sharing has also increased among the youth thus leading to sharing of profitable ideas that enhance creation for better business activities.

The present results are in line with the previous findings and there is no obscurity about the influence of ICT on education. The high influence of ICT on education as revealed in the correlation is a confirmation of the results. Presently, education highly depends on the flow of information, which is best described under the elements that encompass ICT sector. Education among the youth has highly increased, including those who come from poor backgrounds. This is due to the fact that ICT is at the disposal of every individual. Most youth find it easier to cope up with their education due to the presence of improved ICT in the current world (from the analysis results). There is therefore the possibility that with the increasing trends of growth in the ICT sector, more youth are going to learn beyond the current status. Previous findings also support this.

The social world is the result of ICT, as revealed by the findings of this study. It has increased good relationships among the families and friends. Groups, especially youth groups have found it easy to communicate due to influence of ICT. Search of information through googling, mobile phones, internet and media is the order of the day. Even though it has its own negative impacts, the positive influence far surpasses the negative influence. There is increased sharing of information among people thus making life more comfortable. It can therefore be concluded that ICT has had a positive impact on the social life of the youth.

Lastly, the influence of ICT towards employment is clear. Young peoples' involvement in information communication technology activities gives them work

experience, which subsequently help them find a job, according to the findings. Creation of job opportunities will eventually have a positive impact on the country's economic status. It is therefore clear that continued growth in the ICT sector will be a solution to most of the problems that are related to unemployment among the youth. Most of them may also not be dependent on their parents but will rather be independent, a resultant effect of influence of ICT among the youth..

5.4 Suggestions for further Studies

No studies have been carried out on the influence of ICT in reduced cases of domestic violence, these studies could be timely if taken into consideration.

Studies should be carried out on the negative impacts of ICT, though in this findings, the researcher dealt with the positive impacts on business, education, socialization, and employment access.

Studies should also be carried out on the impact of ICT on economic growth apart from education

I also suggest that this study be replicated in other sub-counties to give a broader picture on the influence of application of information communication technology on livelihood generation strategies of youth in the entire 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.

The government should empower the youth in their use of ICT, by providing them with the material requirements and other necessary requirements for the youth to improve in their ICT knowledge and enhance access to markets. This may lead to creation of more business opportunities and in the process create jobs by the youth themselves and in the long run reduce the problem of dependence on parents and relatives by young people .

The government should facilitate use of internet and other ICT materials in primary and public secondary schools to enhance research and usage of ICT in education at early stages among young people. This will enhance their ability to utilize ICT, promote innovations and prepare young people for life long learning

The government should through public - private partnerships provide youth in rural and poor urban set ups with public information communication technology facilities in order to improve on access to information and communication and thereby strengthen interaction among youth.

The government should also provide public venues such as cyber- cafes , telecentres and libraries where youth can browse and access the internet in order to search for jobs and access job application forms. This will ensure that the less fortunate youth are not disadvantaged in the job market.

5.6. Contribution to the existing body of knowledge

OBJECTIVES	SUB-THEMES
Establish the Influence of application of information communication technologies on creation of business activities	<ul style="list-style-type: none"> • Generate income • Create job opportunities • Transact business • Access customers • Access goods and services
Explain the influence of application of information communication technologies on continuing education of youth	<ul style="list-style-type: none"> • Provide educational opportunities • Acquire skills • Search for information
Examine the influence of application of information communication technologies on socialization of youth	<ul style="list-style-type: none"> • Communicate with family and friends • Develop social networks • Entertainment
Assess the influence of application of information communication technologies on access to employment opportunities by youth	<ul style="list-style-type: none"> • Job application • Access to employment forms • Search for employment • Create employment

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APPENDICES

APPENDIX 1

LETTER OF TRANSMITTAL

OCHIENG' BENTA APIYO

P O BOX 59-50100

KAKAMEGA

CELL-PHONE NO-0720236988

EMAIL – ochiengbenta@gmail.com

Dear Respondent,

RE: PARTICIPATION IN RESEARCH

I am Benta Apiyo Ochieng' a Master of Arts student at the University of Nairobi in Project Planning and Management Registration Number L50/82210/2012. I am undertaking a study to establish the influence of application of Information Communication Technologies on livelihoods of youth in Kakamega Central Sub-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,

Ochieng' Benta Apiyo

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 application of Information Communication Technologies on livelihoods of Youth in Kakamega Central 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 Youth Group 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

Code	Gender	Tick
1.	Male	
2.	Female	

2. Age in years

Code	Age (Years)	Tick
1.	Below 20	
2.	21-25	
3.	26-30	
4.	31-35	
5.	36 and Above	

3. Level of Education

Code	Level of Education	Tick
1.	College/University	
2.	Secondary	
3.	Primary	
4.	None of the above	

4. Occupation

Code	Nature of Occupation	Tick
1.	Formal Employment	
2.	Self-Employment	
3.	Casual- Employment	
4.	Student	
5.	None of the above	

SECTION B (Creation of business activities)**Kindly put a tick in the box that best reflects your opinion**

Code	Item	SA	A	N	D	SD
1.	ICTs have enabled me to create more income generating activities					
2.	The use of ICTs in my business has contributed to creation of job opportunities for youth					
3.	Transaction of business in my youth group has greatly improved due to the use of ICTs					
4.	The use of ICTs has greatly increased access to customers for my youth group					
5.	The use of ICTs has greatly improved access to goods for my youth group					
6.	The use of ICTs has greatly improved access to services for my youth group					

SECTION C (Continuing Education of youth)**Kindly put a tick in the box that best reflects your opinion**

Code	Item	SA	A	N	D	SD
1.	ICTs have provided learning opportunities for me as a youth					
2.	The use of ICTs has enabled me to acquire more skills					
3.	ICTs have greatly assisted me in searching for information					
4.	ICTs have greatly assisted members of my youth group in searching for information					

SECTION D (Socialization of Youth)

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

Code	Item	SA	A	N	D	SD
1.	ICTs have strengthened relationships between me and members of my youth group					
2.	Communication between me and my family has been made easier due to ICTs					
3.	Communication between me and my friends has been made easier due to ICTs					
4.	ICTs have enabled me to develop social networks beyond my community					
5.	ICTs have enabled my youth group to develop social networks beyond my community					
6.	ICTs have provided me with various entertainment options as a youth					

SECTION E (Employment Opportunities)

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

Code	Item	SA	A	N	D	SD
1.	ICTs have created employment opportunities for me as a youth					
2.	Job application is now faster and easier for me due to ICTs					
3.	Access to employment forms has been made easier for me through websites					
4.	Search for employment is now more convenient for me through the internet					

Thank you for answering the Questions

APPENDIX III

Table for Determining Sample Size from a Given Population

Population Size		Sample
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), determining sample size for research activities in Educational and Psychological Measurements

APPENDIX IV

LETTER FROM THE UNIVERSITY



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

Our Ref: UON/CEES/KSM/4/13

Your Ref:

Telephone: 057-2021534 Ext. 28626

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

11TH November, 2014

TO WHOM IT MAY CONCERN

RE: OCHIENG BENTA APIYO - REG NO. L50/82210/2012

This is to confirm to you that the above named **Ochieng Benta Apiyo** is a student of the University of Nairobi, College of Education and External Studies, School of Continuing and Distance Education undertaking Masters in Project Planning and Management in Kisumu Campus and she has successfully completed her course work and examinations as required.

In partial fulfilment of the requirements for the Masters in Project Planning and Management, **Benta** is undertaking research for her Masters Project. We therefore request you to allow her access the data/information she may need for the purpose of her study. Any assistance, information or data collected is needed for academic purposes only and will therefore be treated in strict confidence.

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

Thank you.

Dr. Raphael O. Nyonje, PhD
RESIDENT LECTURER
KISUMU CAMPUS



ISO 9001: 2008 CERTIFIED

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APPENDIX VI

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.

Date:

30th September, 2014

NACOSTI/P/14/8247/3451

Ochieng Benta Apiyo
University of Nairobi
P.O. Box 30197-00100
NAIROBI.

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on *“Influence of application of Information Communication Technologies on livelihoods of Youth in Kakamega Central Sub-County, Kenya,”* I am pleased to inform you that you have been authorized to undertake research in **Kakamega County** for a period ending **30th November, 2014.**

You are advised to report to **the County Commissioner and the County Director of Education, Kakamega 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.


DR. M. K. RUGUTI, PhD, HSC.
Ag. SECRETARY/CEO

Copy to:

The County Commissioner
The County Director of Education
Kakamega County.

**APPENDIX VII
RESEARCH PERMIT**

**THIS IS TO CERTIFY THAT:
MISS. OCHIENG BENTA APIYO
of UNIVERSITY OF NAIROBI, 0-50100
kakamega, has been permitted to
conduct research in Kakamega County**

**Permit No : NACOSTI/P/14/8247/3451
Date Of Issue : 30th September, 2014
Fee Recieved : Ksh 1,000**

**on the topic: INFLUENCE OF
APPLICATION OF INFORMATION
COMMUNICATION TECHNOLOGIES ON
LIVELIHOODS OF YOUTH IN KAKAMEGA
CENTRAL SUB-COUNTY, KENYA**

**for the period ending:
30th November, 2014**




**Applicant's
Signature**


**Secretary
National Commission for Science,
Technology & Innovation**