INFLUENCE OF PRINCIPALS' CHARACTERISTICS ON INTERGRATION OF INFORMATION TECHNOLOGY IN MANAGEMENT OF HUMAN RESOURCE IN NYAMIRA COUNTY, KENYA

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DECLARATION

This research project is my work and has not been presented for a degree award in any other university

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DEDICATION

This research is dedicated to the great Almighty God, to my beloved husband George Ogechi whose encouragement, support and patience enabled me to complete this project. To my children Nancy and Nelly Moraa; may they be blessed in their education endevours to achieve it in great heights.

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Thank you all, may you be blessed bountifully.

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ABBREVIATION AND ACRONYMS

BOM	Board of Management
CEB	County Education Board
EFA	Education for All
FPE	Free Primary Education
FSE	Free Secondary Education
HRM	Human Resource Management
ICT	Information Communication and Technology
KEMI	Kenya Education Management Institute
KESSP	Kenya Education Sector Support Programme
MDG	Millennium Development Goals
MoEST	Ministry of Education, Science and Technology
NACOSTI	National Commission for Science, Technology and Innovation
PTR	Pupil Teacher Ratio
UK	United Kingdom
UNESCO	United Nations Educational Scientific and Cultural Organization.

ABSTRACT

The purpose of the study was to determine the influence of principals' characteristics on integration of information communication technology in management of human resources in Nyamira County Kenya. The study sought to investigate the following objectives. to establish the influence of principals' exposure to training in ICT, to establish the principals' level of education and to determine the influence the principals' age and the influence of gender on ICT integration. The theory that was used was the systems theory which enables us to understand the interplay between individual and institutional factors on integration of ICT in human resource management. The study used descriptive survey with a target population of 90 secondary school principals, 600 teachers and 30 chairpersons of board of management of secondary schools in Nyamira County. Out of whom 30 principals, 180 teachers and 30 board of management chairpersons were sampled using stratified proportionate sampling because the schools were stratified into category and type. The data collection tools were questionnaires for principals and teachers and interview schedule for board of management. The data was analyzed according to themes and objectives. Quantitative data was entered into the computer for analyzing using statistical package for social science (SPSS). The study revealed that principals' exposure is in consistent to ICT integration in management of human resources in public secondary schools in Nyamira County. Teachers' level of education showed inconsistency patterns between teachers level of education and ICT usage. Gender showed consistency in ICT integration in human resource management. Where 55 percent were male while 45 percent were female, these could be because male teachers and female teachers regard computer technology as male domain. Also age bracket 30-49 years showed high percentage respectively that principals integrate ICT than 50-60 years who had received their training before the introduction of ICT in the syllabus. Many schools were located in rural areas with 74.7 percent had not embraced ICT on integration of ICT in human resource management. Most of the teachers had trained early before the introduction of ICT. This led to the schools facing many challenges on ICT integration inadequate facilities 29.6 percent, computer breakdown 14.8 percent, inadequate funds 14.8 percent. This recommends that school principals should mobilize resources to increase the number of computers in schools that was 63 percent and train teachers on ICT as per the finding which was 11.1 percent and construction of computer laboratories which was 25.9 percent of the respondents. Teachers should change their attitude of 7.4 percent towards the use and integration of ICT in the in all aspects or teaching and learning institutions so as to achieve vision 2030 nationally. Female teachers should be encouraged to use ICT integration into human resource management. In conclusion its evident that demographic factors influence integration of information communication technology.

CHAPTER ONE

INTRODUCTION

1.1 Background to the study

The worldwide spread and evolution of Information Communication and Technology [ICT] has been rapid and challenging to top corporate and ICT management (Venkatesh & Morris, 2002). Information Communication and Technology in United States of America, Britain, Russia and German was included in the education sector mostly for administrative purpose (Mioduser, Turksapa & Leitner, 2000). In mid 1970s, America, Canada and Britain started piloting ICT in their schools as part of the teaching and learning resource. ICT was first integrated in education in 1980 and made compulsory in the developed nations (Tinio, 2003). It was assumed that the integration of ICT into education would revolutionalize outdated or old ICTs in education system (Waema, 2002).

Compared with developed countries such as United Kingdom (UK) the use of ICT in education programme in developing nations are slow and use ICT in small scale and experimental basis (Oliveira, 1989) Oliveira further states that ICT in developing countries is still evolving from traditionalist ICTs like printed books, postal services, the printing press, film radio broadcast and televisions. According to Waema (2002), several African countries like Egypt, Mauritius, Rwanda and South Africa have developed comprehensively national strategies to fully integrate ICT in

management of human resource. He pointed out that Egypt and South Africa are at par with developed countries like United Kingdom (UK) in ICT integration.

The Dakar framework for Action World Education Forum identified the use of ICT as one of the main strategies for achieving Education for all (EFA) goals (Odubuker, 2007). The view was supported by the Ministry of Education Science and Technology (MoEST) which view ICT as having the potential to support the implementation of Free Primary Education (FPE) and Free Secondary Education (FSE) and to address emerging challenges including crowded classrooms, high pupil teacher ratio (PTR) particularly in densely populated areas and shortage of teachers in certain subject areas and relatively in schools (Republic of Kenya, 2006).

According to Lee (1997) human resource is the set of individuals who make up the work force of an organization, while human resource management is a function in an organization designed to maximize employee performance in order to achieve organizational goals and objectives. Human resource management can be evaluated effectively with the integration of ICT. ICT will aid managers in the delegation of duties and monitoring the performance of each individual (Armstrong, 2002). The principal will be in a position to know the part of human resource that is performing well and the part that need reinforcement for better productivity. The integration of ICT shall help in recruitment and

selection, orientation, staff development, staff discipline, staff motivation, staff appraisal, staff maintenance and staff separation.

The Ministry of Education developed a Kenya Education Sector Support Programme (KESSP) in 2005 that featured ICT as one of the priority areas with the aim of mainstreaming ICTs into the teaching and learning process. The national ICT policy has made this intent impetus for the ministry to develop its sector on ICT in education. The ministry moved quickly and in June 2006, introduced the National ICT strategy for education and training.

The (MoEST) was given the mandate to lead the monitoring and evaluation strategies guided by overall government policies on education and ICT, specific education strategy document for implementing its mandate and global goal such as Education for All (EFA) and the Millennium Development Goals (MDGs). This mandate is carried out through a ministerial ICT committee that meets monthly and reports quarterly on progress. The committee is chaired by the permanent secretary and supported by ministry's ICT unit (Martin & Acuna, 2002).

Although the developing countries including Kenya have become aware of the invaluable role of integrating ICT in management of human resources, they have not been able to make significant progress in improving management through this medium. Computer education was introduced in secondary school years back, schools with computers only concentrate in

teaching basic computer skills and principals do not integrate ICT in management of human resource (Aduwa & Iyamu, 2005).

The principals' level of education matters a lot as it enables him in his managerial roles. The level of education can be Diploma, Bachelors or Masters Degree. The higher the educational level, the higher the competency and confidence towards his leadership role and can be able to direct and influence the human resource in the organization. The wider scope of education exposes the manager to information communication technology which enables him to integrate ICT in human resource management. The higher level of education results to higher competency leading to high confidence in integrating ICT in human resource management (Adesima, 2002).

There is a positive relationship between teacher's competency and teacher's satisfaction on ICT training programmes attained. Once the teacher is exposed to ICT training, he will be confident in using technology in management of human resources for example; he can use e-mail or short messages (sms) to advertise on recruitment, interview dates. He will find it easy, cheap and saves time (Adam, 2003.)

Gathano (2000) found that young teacher's attitude for computer use will be influenced by age on management of human resources. Age may for example affect manager's memory, understanding and adaptability to ICT integration. A manager at the age of retirement may not take a lot of

interest in the professional development of his staff or ICT integration. On the other hand a young manager may be enthusiastic to integrate the technology in order to improve existing conditions in his organization (Olembo, 1999).This corresponded with other studies showing that older teachers in profession are less confident with the use of computers on human resource management. The reason being, that they did not access the technology when training. Some of them the technology had not yet been introduced. Odera (2002) found that the young teachers are not affected by age. The authors conjectured that age may be a factor more pertinent for older teachers in profession than young teachers on management of human resource.

Al Khashab (2007) found no significant differences between males and females on the use of ICT in management of human resources. Females however, were significantly more interested than their male counter parts in receiving ICT training on management of human resources. Another example of inconsistence is on the studies between gender and actual usage of ICT on human management in schools. Studies by Yuen and Ma (2002) showed that there is a relation between gender and actual usage of computer on human resource management.

However, Sia (2000) reported that there was no significant differences in computer usage mean score based on gender. Farrel and Isaac (2007) noted that ICT are not gender neutral and that gendered power relations

are inherent in production, distribution and consumption of ICTS even within education system because they take place through institutions with socially embedded gender relations.

1.2 Statement of the problem

The emerging global advancements in technology have sharpened the focus of management towards innovation, initiative, accessing, progressing and applying large amounts of information and exercising appropriate judgment. ICTs have the potential to play a powerful role in enhancing principals' management of human resource (Plomp & Reinen, 2000).

According to Nyamira County Inspection report which was carried out in 10thFebruary, 2013 there was a problem of record keeping; the files with confidential details kept missing. But the principals who had integrated ICT had kept the records safe and were easily accessible. Among the 20 principals who attended the meeting only seven had integrated ICT (Nyamira County Office Report, 2013.)

During the General Annual Meeting in Nyamira county 5th March 2013 by the County Education Board (C.E.B), it was observed that most school principals could not present their human resource management details in Schools in power point form apart from a few who had integrated ICT. The County Education Board wanted to find out the enrolment, support staff details, the Board of Management (BOM) but they missed.

Due to this, it forced the CEB to recommend for a research to be done finding out why most principals had not integrated ICT in human resource management in schools. This made the researcher to investigate the problem and will base the research on demographic factors such as teachers level of education qualification, age, gender, ICT training and experience on the management in schools. The demographic variables may positively or negatively influence the integration of ICT on the school level.

1.3 The purpose of the study

The purpose of the study was to investigate the influence of principals' characteristics on integration of Information Communication and Technology in management of human resources in Nyamira County, Kenya.

1.4 Objectives of the study

The study was set to investigate the following objectives;

i. To establish the influence of principals' exposure to training in ICT on use of ICT in human resource management in public secondary schools in Nyamira County.
ii. To establish the influence of principals' age on the integration of ICT into human resource management in schools.

iii. To establish how the principals level of education in ICT influence the integration of ICT into human resource management in schools.
iv. To determine the influence of principals' gender on the integration of ICT in human resource management in schools

1.5 Research questions

The study was to answer the following research questions;

i. What is the influence of principals' exposure to training in ICT on human resource management in schools?
ii. To what extent does the principals' age affect integration of ICT in human resource management in schools?
iii. What is the influence of the principals' level of academic qualifications on ICT integration in human resource management in schools?
iv. What is the influence of principals' gender on the integration of ICT in human resource management in schools?

1.6 Significance of the study

The study may be important to the policy makers of the county education board in Nyamira County to enable them access human resource in every school. The era being digital, it may encourage those in school. The teachers, and parents may benefit from the integration of ICT in running of the school and keeping clear accessible records unlike files which cold

miss or get destroyed. The study may provide information on ICT knowledge, competencies and skills which may enhance and aid principal's in their administration. The findings may assist MoEST to know the ICT skills principals have. This may enable the ministry to design the ICT training tailored to meet relevant skills required by principals for effective management of human resource in schools.

1.7 Limitations of the study

The Information Communication and Technology sector is highly dynamic and could change in a short span of time making the findings obsolete. To mitigate this set back, the term ICT was used largely to cover any new technology that may arise in course of research for instance e-learning. The limitation was minimized by including related research and ensuring that respondent's identity would not be disclosed for fear of being termed analogue.

1.8 Delimitations

The study concentrated on the individual factors influencing principals' integration of ICT in management in secondary schools. That is: exposure to training, age, academic level of education and gender in ICT. The study concentrated on public secondary schools in Nyamira County. The respondents of the study were principals, teachers and B.O.M chairpersons in secondary schools found on urban and rural schools in Nyamira County.

1.9 Basic assumptions of the study

The study assumed that;

i. The principals were conversant with various uses of ICT in the management of human resources.
ii. The information that was given by the respondents was not biased by ensuring that respondents' identity was not disclosed.
iii. The data which was provided by the respondents through the research instruments was timely.

1.10 Definition of significant terms

Academic qualification refers to teachers' highest official records of academic achievement.

Gender refers to the state of a secondary school teacher being male or a female.

Human resource refers to the set of individuals who make up the workforce of an organization.

Human resource management refers to the strategic and comprehensive approach to managing people and the work place, culture and environment.

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ICT integration refers to applying computer and internet technology to influence the ICT in management of secondary school by principals.

Information communication technology refers to any product that stores retrieves, manipulates transmits or receives information electronically in desktops computers, cellular phones, satellite system and internet.

Management is the process of designing, developing and effecting organization objective of human resources in order to achieve predetermined organizational goals.

Orientation refers to the act of showing a new employee the environment of the organization.

Selection refers to the process of finding the most qualified employees.

Staff development refers to acquisition of knowledge and skills of an employee.

Staff discipline refers to a method for improving problem employee work performance.

Staff motivation refers to the positive recommendations given to an employee.

Staff separation refers to when an employee leaves an organization or is terminated from an organization.

1.11 Organization of the study

The study was organized into five chapters. Chapter one comprised of introduction, background of the study, statement of the problem, purpose of the study, objectives of the study, research questions, significance, limitations of the study, delimitations of the study, assumption of the study and definition of significant terms and organization of the study. Chapter two included literature review in sub-sections of introduction, the concept of ICT, influence of age and experience on ICT integration, influence of exposure to training on usage on ICT integration, summary of literature review, theoretical framework and conceptual framework of the study.

Chapter three dealt with research methodology which consisted of introduction, design of the study, study population, sampling procedure and sample size, description of research instruments, reliability and validity, administration of research tools and data analysis techniques. Chapter four discussed on data analysis, work presentation and discussion of findings while chapter five contained summary of research findings, conclusion and the recommendations for further research areas.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter discusses the concept of Information Communication and Technology, gender and ICT integration into management of human resources, influence of principals' age on ICT integration on human resource management, effect of principals' level of education on ICT integration on human resource management; principals' exposure to training in ICT and ICT integration on human resource management, summary of literature, theoretical framework and conceptual framework.

2.2 The concept of Information Communication and Technology

In Malaysia, Indonesia, Vietnam in Asia and Pacific, teachers in primary, secondary and tertiary levels are trained in the use of ICTs in education with varying degree of scope. ICT was first integrated in education back in 1980 and made compulsory in the developed countries (Tinio, 2003). Old ICTs in education systems, (Waema, 2002), Philips and Merisotis (2002) state that when ICT integration in education was pointed out; educators embraced it despite of their demographic factors and declared it was a new educational technology.

A review of experience with ICTs in education project by Farrell (2007) found that in Africa, projects tend to follow a pattern of high levels of

initial motivation, followed by a drop off in stakeholders' interest and low levels of take up. Apart from South Africa, Egypt and Botswana the other African countries lag behind in modern information age. According to Amutabi, (2004) the impact of technology has been slow and sporadic because of a number of challenges which African nations face. The failure by African countries to recognize and exploit development potentials and opportunities of the information and technological revolution could seriously undermine capacities of these countries to embark on sustainable social economic development efforts in the emerging age. According to Olembo (1999) ICT is an important landmark for transforming Africa and other countries into knowledge and information based societies and resultant economic prosperity.

The Ministry of Education, Science and Technology policy is to integrate and train systems of ICT education so as to prepare learners and staffs of today for further economy growth. The Republic of Kenya policy is to see teacher training colleges, empower teachers to operate within all inclusive education so as to help achieve national and international goals of education by 2006 (Republic of Kenya, 2006). This is necessary for improving management, future participation, sharing of experiences learnt and best practices and for minimizing likely duplication of efforts (Hennessy, David & Wamatoke, 2010).

2.3 The concept of human resource management

Human resource management was previously known as personnel management, which was concerned with the activities of a single department. It was typically concerned with the administration of human. The function carried out by the department was recruitment and selection, reward, appraisal, development, grievance handling, retirement and registration. It was introduced and development in the bureaucratic set up in which importance was given to the organization first and administration of man power (Bean, 2000).

Now, human resources management may be defined as a process in which human resources are recruited and mobilized in such a way that it helps in achieving the objectives of the organization. Human dimension in management is concerned with human dimension in management under which the consideration is given towards recruitment and selection, development, motivation and maintenance of human resources in an organization it is one of the main functions of management which is related with the management of human energies and competencies. Human resource management helps to ensure that the right man for the right position and at the right time in a changing environment (Best, 2000.) The organization performance depends on efficiency of human resource working in the organization. Hence a proper set up should be taken for man power, planning, recruitment, remuneration, management and industrial relation. Due to these activities, there is need for ICT

integration in order to enhance the competencies in management in human resources.

Therefore human resource management is an act of managing and mobilizing people in the organization. It is done through the application of different practices and policies which ultimately values human resources and policies which ultimately values human resources as a major asset of an organization. It integrates personnel function into strategic management with the integration of ICT in human resource would enhance the performance of the man power.

2.4 Gender and ICT integration into management of human resources

Yuen and Ma (2002) found that there were differences between female's laptops concerning the use of e-mail. Venkatesh and Morris (2002) identified significant differences between females and males in introducing a system for information retrieval. They found that men emphasize more on perceived usefulness in determining behavioural intention to use, while women regarded perceived ease of use as a more significant factor in determining behaviour intention to use.

Al Khashab (2007) found no significant differences between males' and females' use of ICT in the management of the human resources. Females however were significantly more interested than their male counter parts in receiving ICT training. Another example of inconsistence is on the studies between gender and actual usage of ICT. Studies by Yuen and Ma

(2002) and Lee (1997) showed that there is a relationship between gender and actual usage of computer.

However, Sia (2000) reported that there was no significant differences in computer usage mean score based on gender. Farrell and Isaac (2007) note that ICT are not gender neutral and that gendered power relation are inherent in the production and consumption of ICTs even within education system because they take place through institutions with socially embedded gender relations.

2.5 Age and ICT integration in management of human resource

Age affects teachers' perception of ICT and its usage on management of human resources Haddad and Jurich (2005) identified that the younger, less experienced teachers use computers in a broad micro transformation fashion since principals probably more likely to be ICT proficient. They will have focused education courses and will be less constrained by prior attitude or habits than their older more experienced colleagues. Smith (2001) concluded that studies with wider range tend to report age effect. Studies had shown inconsistent results for instance Odera (2002) reported that out of the 12 studies that had been viewed between computer usage and age, 62 percent insignificant relationship and 38 percent found significant relationship.

Principals who are young tend to be more knowledgeable in the use of ICT in the management of human resources this is because some of them

underwent through education system when technology had been introduced. The work of supervision and monitoring the productivity of the workforce can be done on ICT and can easily indicate whether the school is gaining or losing by checking the trend record which is accessible that can enable the principal to control and direct the human resources (Briault, 2004).

Chisenga (2006) found that young teacher's attitude for computer use may be influenced by age. This corresponded with studies of in-service teachers to be less confident with using computers.Plomp and Reinen (2000) Studies Taiwenese in-service teacher's perceptions for using web-based technology and found that the older teachers to be less confident. However, for pre-service teachers (Smith, 2001) found a negative correlation of age to be weak. The authors concluded that age may be a factor more pertinent for older teachers in the profession.

2.6 Level of education and use of ICT in management of human resource

Chisenga (2006) noted that one reason that administration may not use computer technology was lack of access to computer hardware and software. The availability of computers may make principals more comfortable with technology. However the availability of technology requires that principals must possess skills and knowledge appropriate for their responsibilities. Principals are a strong determinant for the

integration of ICTs. The role of the principal as regards management of human resources using ICTs is a pointer determining how successful integration becomes (Al - Kashab, 2007).

Principals with high knowledge in computer have the ability to integrate ICT into the management of human resources which make their work of management easy. Amutabi (2004) in a research carried out, the results obtained regarding the Kenyan situation showed that the integration of ICT in the management of human resources depends on the level of principals' education. However, public secondary schools have no clear policy on ICT integration as compared to private schools. Secondary school principals should have ICT skills because they can act as change agents by encouraging and driving the adoption of ICT integrating management of human resources. This could be possible by keeping clear and precise records which can be easily accessible Briault (2004).

The relationship between principals' level of education and confidence level towards using ICT, the result indicate positive relationship between managers level of education and confidence level towards using ICT. High level of confidence results to the high level of competency (Waema, 2002). It can be concluded that teacher's confidence level towards the use of ICT training programmes. There is a positive relationship between teacher's competency and teacher's satisfaction towards ICT training programmes on the management of human resources. The findings show

that the level of teacher's satisfaction towards ICT training programmes influences the teacher's competency on the ICT integration of human resources. If the teacher is satisfied with the programme he will learn to enjoy ICT for pleasure and will also be sure of finding help and answers for his questions (Adam, 2003).

2.7 Managers' level of training and ICT integration on management of human resources

Training in the use of technology leads to effective usage of management in human resources. Odera (2002) in his study gave a reason to why school principals are reluctant to embrace technology that most of them received the education at a time when computers were not yet incorporated into the educational fields and they may have limited experience with technologies.

The lack of access to computers and computer training may be one of the major factors determining attitudes of school principals towards the use of computers. For effective use of computer technology, the administrator should have proper training. Once the manager is trained, he will be effective in recruitment and selection, induction, staff appraisal, staff maintenance and also will be able to keep clear records (Smith, 2001).

Sia (2002) said that the introduction of administrative technology needs participation in its planning and implementation, sufficient time and training must be given to administrators for successful integration of

computer technology. Through the ICT technology the principal will be able to control, direct and influence various sectors of the human resources towards achievement of the school goals and objectives. There are challenges that placing computers in schools is easy but putting them into functional use becomes difficult, ensuring that they are in proper working condition that will help in management of human resources.

2.8 Summary of literature review

The core factors that influence the integration of ICTs in education have been identified in many studies and project report such as the UNESCO meta-survey on the use of technologies in Asia and Pacific (Etta &Elder, 2005) and in the context of East Africa by IDRC in its thorough analysis of ICT policy make up in the region. United National University Murray, Lize (2005) and by the African Virtual University. A comparative study however has not been done in a particular country with diverse regional differences characterized by regional development factors enabling or constraining the implementation of ICT in education. In Kenya, it has diverse regions with diverse differences which made the researcher to do the study. So the researcher has decided to carry a research in a particular region that is Nyamira County.

2.9 Theoretical framework

The study is modeled along the systems theory as advanced by Von Ludwing (1968). It deals with complex interpersonal, inter group and human interaction without reducing perceptual phenomena to level of individual stimuli deals with individuals who corporate with a formal framework drawing resources, people, finance from their environment and putting back into their environment the products they produce.

One of the school management approaches is the systems theory approach. Odera (2002) defines systems theory as a set of element or parts, which pose some degree of dependence of identity at the time, form an integral part of larger whole. Following systems theory, the researcher considers the school as a whole. The principals' demographic characteristics form the sub-systems in the schools. The ICT is seen as an aid on the principals' administrative roles. In this study, the principals' characteristics such as level of education qualification, exposure to ICT training, age and gender may enable or hinder the manager from integrating ICT in management of human resources hence systems theory.

2.10 Conceptual framework

Conceptual framework is broad ideas and theories that help a researcher to properly identify the problem he's looking at. It helps to frame their research questions and find suitable literature. It helps the researcher to clarify research questions and aims.

Integration of ICT into management of human resources

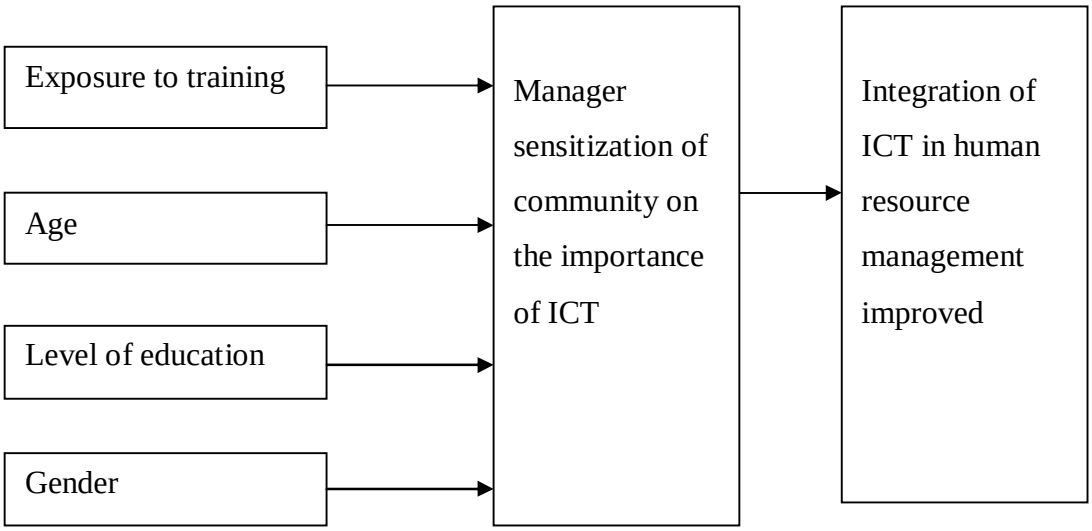


Figure 2.1 Managers' ICT Integration

Principals who are young are more inclined to integrate ICT into the human resource management of secondary schools this is because the education system they underwent had already the technology introduced. However, age alone may not be the only factor since there is a possibility of young people who could have technophobia while the same elderly may be quite familiar with the use of ICT in the human resource management.

A general observation has been made that men tend to be more inclined to ICT related aspects than female. This is because males have more time to interact with technology unlike females' tight schedule chores. In teaching experience, teachers under 10 years of teaching experience believe computers in the classrooms will be essential and hence they

would like to use them extensively. The level of education will find out that the computer literacy level among secondary school teachers may be low and it will be significant difference in computer literacy levels between teachers of different age groups and teachers with different years of computer experience with different software.

CHAPTER THREE

RESEARCH METHOLOGY

3.1 Introduction

The chapter explored research methodology under the following sub-heading: Research design, target population, sampling size and sampling procedure, research instruments, reliability of the instruments, validity of the instruments, data collection procedures and data analysis techniques.

3.2 Research design

Research design is the structure of any scientific work that gives direction and systemizes the research. The study will use descriptive survey research design which according to Orodho (2005) is a method of collecting information by interviewing or administering a questionnaire to a sample of individual According to Orodho (2005) descriptive research design is used because accurate information may be obtained for a large number of people with small sample. The design was be suitable for the study because it was used to explore and evaluate in details the influence of principals' characteristics on integration of information communication and technology in management of human resources.

3.3 Target population

Target population is particular group of people that is identified as the intended audience for the research. The target population for this study will consist of 90 secondary school principals, 600 teachers and 90 B.O.M. chairpersons in Nyamira County. They will be targeted since they are pivotal to planning integrating and evaluating ICT projects in their respective schools.

3.4 Sample size and sampling procedure

According to Mugenda and Mugenda (2003), a sample of 30 percent will be appropriate in social science study. The 30 percent of the total number will be sampled out to give 27 principals, 180 teachers and 27 B.O.M. chairpersons. The school will be selected using stratified proportionate sampling. Stratified sampling is the process of selecting a sample having different stratas and ensures that every strata is represented in the sample. The schools will be sampled out according to the category and type. Category will include; National schools, County schools and Regional schools, and the type of schools will include; Boarding school, Day school and Mixed school. The schools to be chosen are of the Ministry of Education public schools in Nyamira County.

3.5 Research instruments

The study utilized a self-administered questionnaire to collect responses from principals and teachers in appendices II and III respectively. A questionnaire is a collection of items to which a respondent was expected to react to in writing (Mumtaz, 2000). The purpose was to collect information over a short period of time. It was justified because the population was literate. The questions had open ended statements with information pertaining respondents, opinion on teachers and their influence on ICT. The interview schedule was used for the BOM chairperson. Appendix IV, main purpose was to collect information through verbal communication. The interview schedule enabled the researcher to obtain information on factors of ICT integration in human resource management, it also enabled the researcher to gain control over the line of questioning on interrogation on human resource management.

3.6 Validity of the instruments

Mugenda and Mugenda (2003) defined validity as the accuracy and meaning of inference, which are based on research results. The study will be a measure of degree to which data collected using particular instruments represents a specific domain of indicators or content of a particular concept (Omstein & Honkins, 1989). The researcher conducted pilot study on three schools from the sample. This was 1 percent of the sample, the researcher used results and comments of the pilot study, which were done in three public secondary schools

one from each sub-county. Items that failed to measure variables they were intended to measure were modified or discarded completely. The instruments were reviewed by two university lecturers who are specialists in the area of study. After this, alternations were made on items found to be ambiguous or irrelevant.

3.7 Reliability of the instruments

Mugenda and Mugenda (2003) define reliability as a measure of the degree to which a research instrument yields consistent results or data after repeated frail. Stratified proportionate method would be used where the school will be arranged according to category. That is the national schools, county schools and regional schools. The schools will be picked proportionally according to gender, boy schools, girl schools and mixed public secondary schools.

In order to improve the reliability of the instrument, the researcher employed the test, retest technique for principals'' and teachers' questionnaires, which administered twice to the respondents in its pilot sample. A Pearson's product moment correlation coefficient formula was used.

$$r = \frac{N(\sum XY - (\sum)X)(\sum Y)}{\sqrt{[N\sum(X)^2 - [\sum X^2)]\,[N\sum(Y)^2 - (\sum Y)^2}}$$

According to Mugenda and Mugenda (2003) a coefficient of 0.80 or more showed high reliability of data, the coefficient of principals was 0.76 and that of teachers was 0.79 while the board of management coefficient was 0.72 hence instruments were deemed reliable.

3.8 Data collection procedures

First, permission will be obtained from the National Commission for Science, Technology and Innovation (NACOSTI). A copy of the permit was given to the Nyamira County Director of Education. The researcher made a courtesy call to the heads of the schools to make an appointment. Data was collected through administering questionnaires to principals, teachers and interview schedule for the board of management. The researcher waited for the questionnaires to be filled by the principals and teachers and later conducted interview with the board of management chairperson.

3.9 Data analysis techniques

After data has been collected, there was close examination to ascertain that there was accuracy, competence and to identify those items wrongly responded to, spelling mistakes and blank spaces. Quantitative data was then entered into the computer for analysis using the statistical package for social science (SPSS).

This process the frequency and percentage, which were used to discuss the findings, find frequency distribution tables, pie charts, bar graphs were

used to present data while descriptive statistics such as percentages and frequencies were used to answer such questions. Quantitative data was analyzed according to the themes in the objectives.

CHAPTER FOUR

DATA ANALYSIS, INTERPRETATION AND DISCUSSION

4.1 Introduction

The purpose of the study was to examine the influence of principals' characteristics on integration of ICT in management of human resources. This chapter focuses on analysis and discussion of the research findings of the study. Questionnaires from the principals were checked for completeness and accuracy was determined as complete. 27 out of 30 questionnaires were returned, this was 90 percent. These findings are discussed under the following objectives of the study;

i. To assess how the principals' exposure to ICT affect management of human resource.

ii. To establish the influence of principals' age.

iii. To establish how the principal's level of education affect human resource management.

iv. To determine the influence of principals gender on management of human resource.

4 .2 Instrument return rate

The sample size of teachers was 180 but 150 returned the questionnaires. The response was 83.3 percent. The principals' questionnaires were 27 but

return rate was 24 questionnaires at a response rate of 90 percent. Questionnaire schedule was 180 teachers but 150 was conducted which gave 83.3 percent. The board of management return rate was 27 and 100 percent.

4.3 Demographic information of the respondents on integration of ICT on human resource management.

The data on principals' characteristics was collected to determine their effect on the integration of ICT on management of human resource. The researcher deemed it necessary to look into demographic information of the teachers as they make a person who he or she is. These variables are teachers' ICT training, level of education, age and gender.

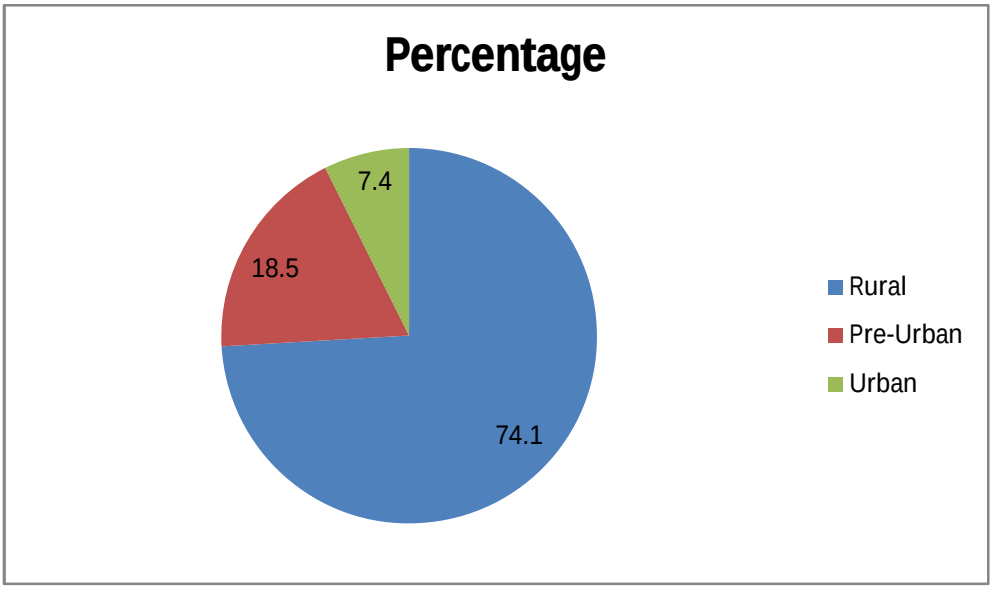
4.3.1 The location of the school

The location of the school was vital as it influences integration of ICT because some of the rural schools had principals who are exposed but could not integrate ICT to human resource management because they lacked electricity. Thus there was need for the researcher to determine how the location of the school influences the integration of ICT into human resource management.

Table 4.1 Location of the school as indicated by the principals

School location	Frequency	Percentage
Rural	20	74.1
Pre-urban	5	18.5
Urban	2	7.4
Total	27	100

Figure 4.1 Managers' training in ICT



The researcher study sought information on the location of the school from the principals in order to find out its influence on the integration of ICT in management of human resources in public secondary schools in Nyamira County. The findings of the study revealed that: 74.1 percent of the respondents were in rural schools, 18.5 percent were in the pre-urban schools and 7.4 percent were in urban schools. From the finding there was an indication that majority of the principals were from rural schools and

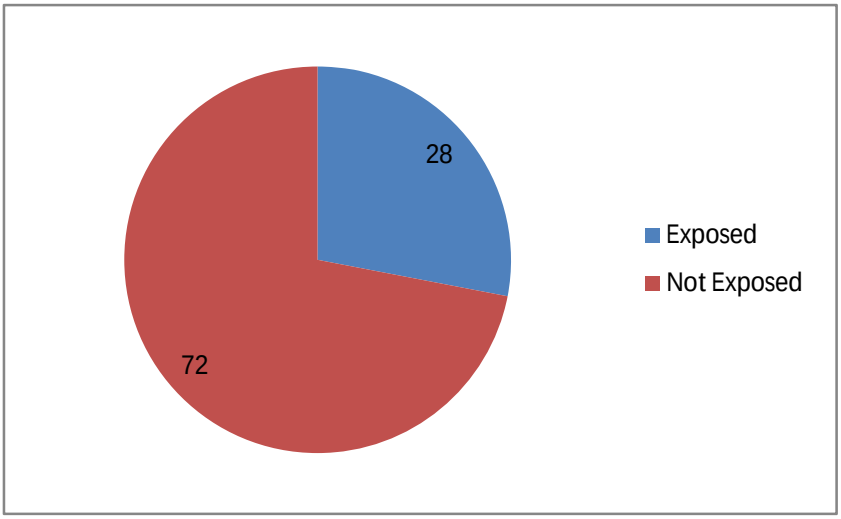
small percentage from urban schools where gender was taken into account in giving responsibility to principals. The 74.1 Percent of the rural schools lack electricity to install ICT by most principals in their schools, while 7.4 percent of the urban schools have installed ICT since they had electricity supply in their schools.

4.3.2 Manager's exposure to training on ICT

Training is very important as it enable one integrate ICT. Those principals who were exposed to training in ICT found it easy to integrate ICT to human resource management.

The respondents' professional qualification on ICT integration on human resource management is presented in figure 4.2

Figure 4.2 Teachers' exposure to training in ICT



Ten of the 27 were exposed to ICT and 8 of them had integrated ICT into human resource management. They had integrated activities like recruitment, selection and discipline records of employees. However, they

had not integrated records of motivation and employee development records. Training plays an important role in teachers' use of ICT in management of human resources. The researcher sought to find out the level of training in ICT in order to establish its effects on the integration by teachers in public secondary schools. Most respondents came up with an opinion that most teachers should be exposed to training to enable schools have efficiency in management of human resources.

From the study most teachers had not trained in the use of ICT in management of human resources, some of the teachers who had trained up to diploma level on management of human resources while majority of the teachers had trained to undergraduate level. Most diploma holders, when ICT was introduced had the syllabus on ICT as compared to undergraduates and untrained teachers. The level of education will influence the computer literacy level among secondary school teachers may be low and there will be significant difference in computer literacy levels between teachers of different age groups and teachers with different software. The principals will benefit on the management of human resource especially in recruitment, selection, staff development and staff maintenance.

4.3.3 Age of teachers

The age of teachers only affected those who had trained early before the introduction of the technology but for those who had trained they could integrate ICT and operate computers despite their age.

Table 4.2 Age of the teachers

Age (years)	Frequency	Percentage
20 – 29	30	25
30 – 40	50	41.7
41 – 49	28	23.3
50 – 60	12	10
	120	100

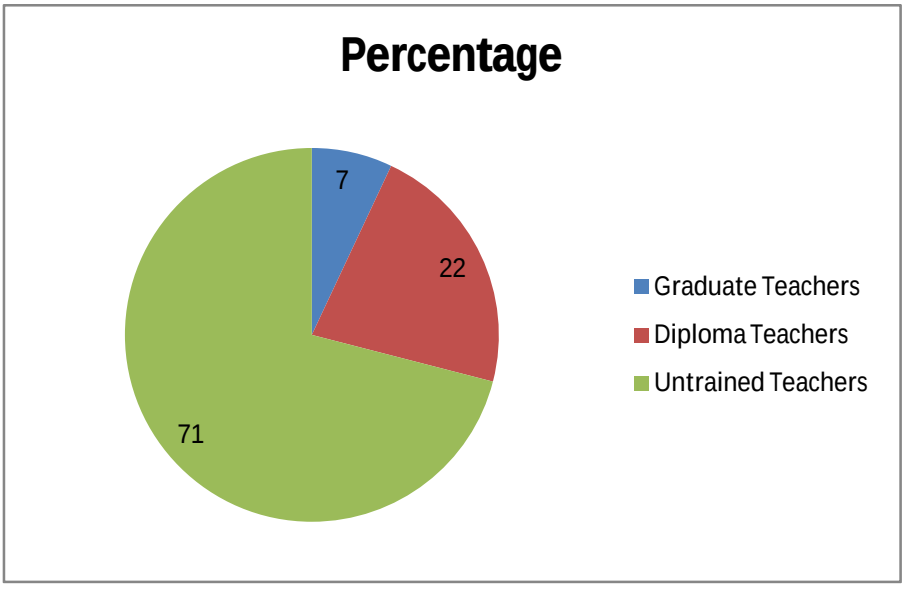
From the table, it was revealed that the majority of the respondents were between the age of 30 – 40 which represented 41.7 percent. However, age 50 – 60 had the least respondents representing 10 percent which indicated that they were resistant to change to the new technology of ICT integration on human resource management because they lacked skills, competency and technical problem.

From the findings, the number of teachers decreases by an increase in age in the integration of ICT in managing human resource because at the age 20 – 40 years teachers are newly employed and some are under contract by the board of management. Close to retirement, the number is reduced because the teachers shift to other jobs since there is limited upward mobility in the teaching profession. In the old age many teachers prefer

early retirement and engage themselves in their own business. The majority of respondents aged 20 – 40 years use computers in a broader micro-transformation fashion since principals are more likely to be ICT proficient on management of human resources on recruitment, selection and employment.

The qualification on ICT training enabled principals to integrate ICT unlike those who had not trained they had a problem in integrating ICT into human resource management.

Figure 4.3 Teachers' qualification on ICT integration in human resource management



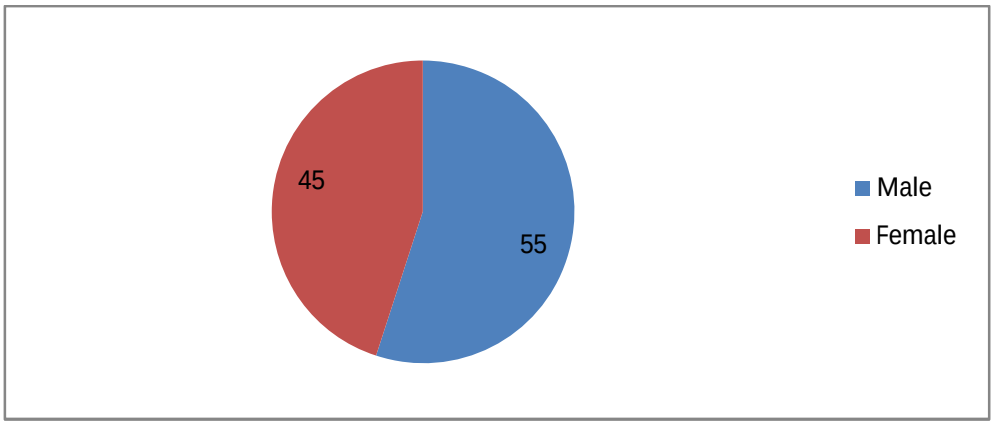
The figure shows that most teachers are not ICT trained. Majority of the trained teachers are diploma holders followed by the graduate teachers. Principals with the high level of knowledge in the computer on management of human resources have the ability to integrate human

resource activities into ICT, which makes management easy. From the findings, majority of 44 percent of the teachers were graduates while 36 percent were diploma teachers and small proportion of 20 percent had masters' degree in education. This information shows that majority of teachers who are knowledgeable in ICT are diploma holders 22 percent and 7 percent graduate teachers who were employed recently. ICT is the most recent technology that was not taught in the university there before. The availability of the technology requires that principals must possess skills and knowledge appropriate for their responsibilities.

4.3.4 Gender of teachers and integration of ICT in human resources management.

Gender and integration of ICT into human resource management has influence on ICT integration because male teachers have more time to interact with computers unlike female teachers who have a tight schedule chores.

Figure 4.4 Influence of teachers' gender on ICT integration



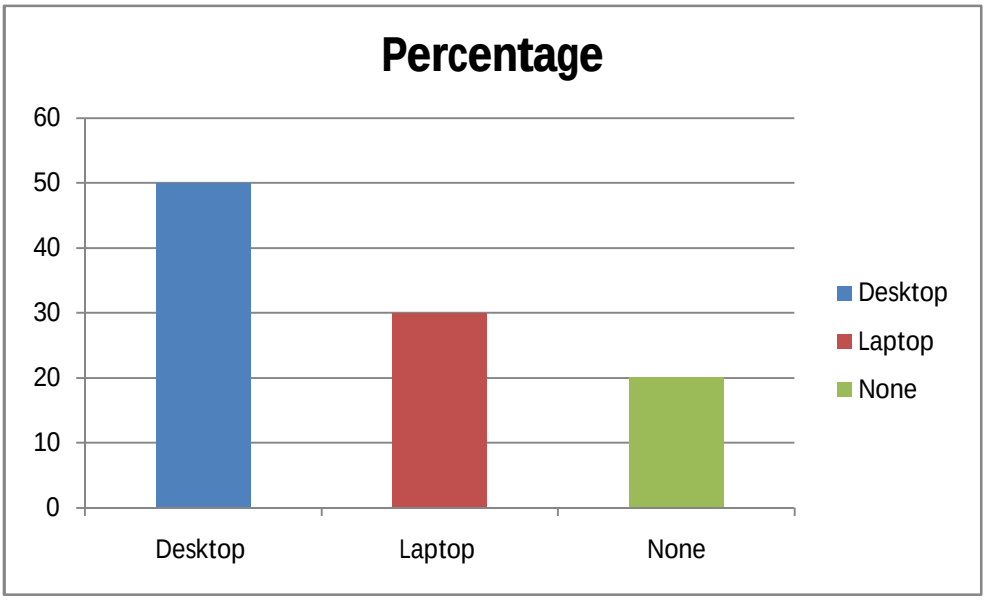
According to the figure 4.1, 55 percent were male while 45 percent were female. The findings revealed that majority of teachers were male while the small proportions of the respondents were female on the integration of ICT in management of human resources. Men emphasized more on perceived usefulness in determining behavioral intention to use ICT in management of human resources, while women respondents use perceived easy of use as a more significant factor determining behavioral intention to use ICT in management of human resources. This could be because male teachers and female teachers regard compute technology as male domain which varied with the age of principals.

4.3.5 Types of ICT in schools used by principals in human resource management.

There are many types of ICTs in schools but the most commonly found were desktop computers, laptops and cellular phones. The researcher sought to find out whether principals use ICT while selecting their human resource. Some principals use the ICT to select the most qualified human resource.

The figure 4.4 shows the findings of the types of ICT in public secondary schools.

Figure 4.5 Types of ICT in schools as indicated by the principals.



The findings on types of ICT used in the integration of human resources by principals in public secondary shows that majority of the respondents indicated that there were desktop computers in public schools. The other percentage noted that there were laptops in public schools. From the findings, the principals reported that there were various types of ICT in public schools which are not used in the management of human resources. This was an indication that ICT has not been integrated in the public secondary schools. The desktop computers in most schools indicate that they are used in monitoring the human resource.

4.3.6 Use of ICT in selection

Table 4.3 Use of ICT in selection

Selection	Frequency	Percentage
Yes	12	44.4
No	15	55.6
Total	27	100

Planning and organizing for selection of the employees of an organization. In selection, the principals target at getting the most qualified individual in the needed area. All principals targeted in this study (100 percent) indicated that they had some deficit in human resource right from the teachers to the support staff.

According to table 4.3 shows that most of the respondents do not use ICT in selecting employees for the schools since they are ICT illiterate. The findings of the study indicated that 44.4 percent of the school board of management use ICT in selection while 55.6 percent do not use ICT in selection of human resource in school. This was as a result of lack of electricity, poor infrastructure and lack of enough knowledge on integration of ICT on management of human resources.

4.3.7 Ways ICT integration has assisted in acquiring human resources.

The use of ICT has enabled principals to acquire relevant skilled manpower because it is through technology they make public aware of the

human resource needed, through email, announcements and advertisements.

Table 4.4 Sources of acquiring human resource by use of ICT

Sources	Frequency	Percentage
Government	27	60
Board management	10	22
Community	6	14
Others	2	4
Total	45	100

From the above table, the highest source of human resource in school is Board of Management that is the school. However, other sources are least sources of human resource. The statistics in table 4.4 indicates that the school boards of management are the main source in supply of human resource in public secondary schools that they give 60 percent with the integration of ICT management on human resources. They use ICT to acquire human resource from the government a small proportion of 22 percent. It can be observed that the government gives a small proportion because some schools were established on community initiatives.

Some of these schools do not receive government human resource. The results underscore the government policy to shoulder the expenses that parents carry.

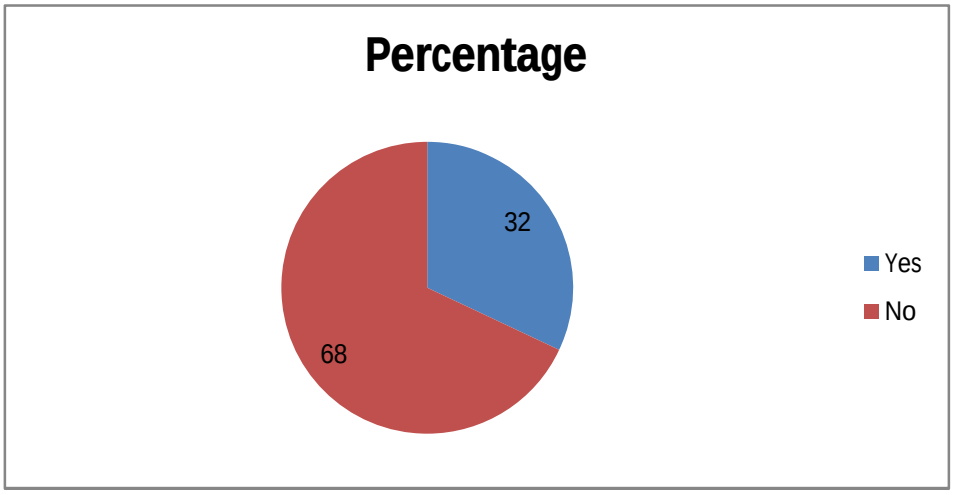
4.3.8 Use of ICT in selection and record keeping on human resource management.

It is through the integration of ICT that some principals have kept clear and accessible records, they have embraced ICT in keeping disciplinary record file, appraisal records and transfer records.

The research was set to find out whether principals use ICT in record keeping.

The findings were represented in the figure 4.9

Figure 4.6 Use of ICT in selection and record keeping in human resource management.



According to figure 4.5, 68 percents of the respondents said that they did not use ICT integration in selection and record keeping of human resources by the management. The majority of the principals do not use ICT in selection and record keeping. This is due to the fact that ICT is a new technology which most principal do not have skills on how to operate it. For those few principals who use ICT in selection and record keeping,

the data was of valuable importance because they could access all the information of management that was stored in computers and was quite efficient in management. The management of human resources improved because all details of an employee could be retrieved any time of need.

Table 4.5 Use of ICT to monitor management of human resources

Integration of ICT has enabled the principal to know the skills their human resource if missing through the performance and this has enabled them to plan for replacement or in service course.

ICT usage	Frequency	Percentage
Recruitment	5	18.5
Development	2	7.4
Motivation	6	22.2
Maintenance	4	14.8
Do not use	10	37.7
Total	27	100

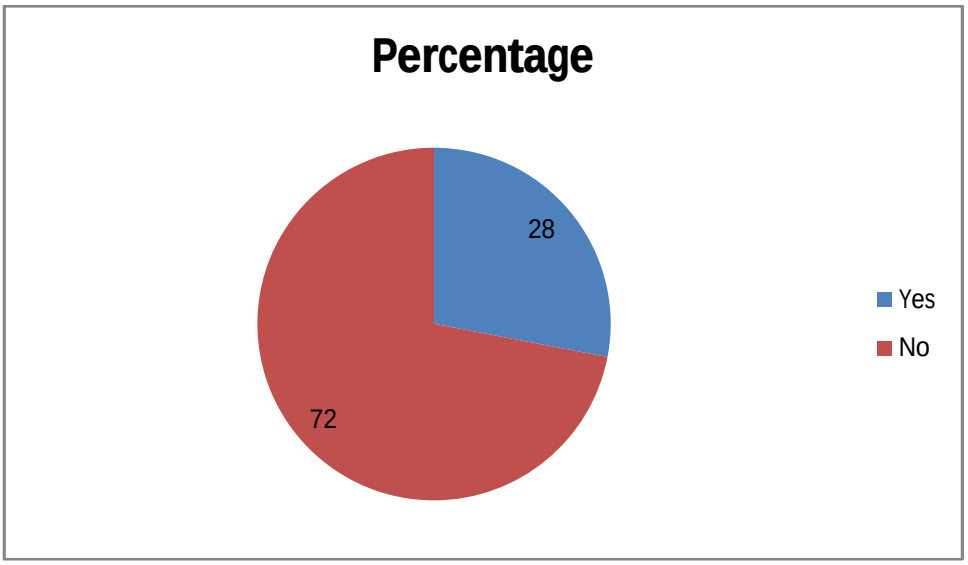
The table 4.1 represents the findings on how ICT is used to monitor management of human resources in secondary schools.

The majority of teachers do not use ICT in monitoring management of human resources representing 37.1 percent while 22.2 percent used ICT in motivation of human resources. 18.5 used it in recruitment of human resources. The teachers in public secondary schools with ICT are mainly using it in monitoring management of human resources. Majority of the managers do not use ICT since they are ICT illiterate.

4.3.9 ICT training courses undertaken and management of human resources.

Training course in ICT has enabled the principals to integrate ICT in human resource management.

Figure 4.7 ICT training courses undertaken in human resource.



ICT training courses are very important for the teachers to enable them integrate ICT into management of human resources in public schools. The researcher sought to find out the number of teachers who have undertaken training courses of ICT. The findings of the study are represented in the figure 4.9.1

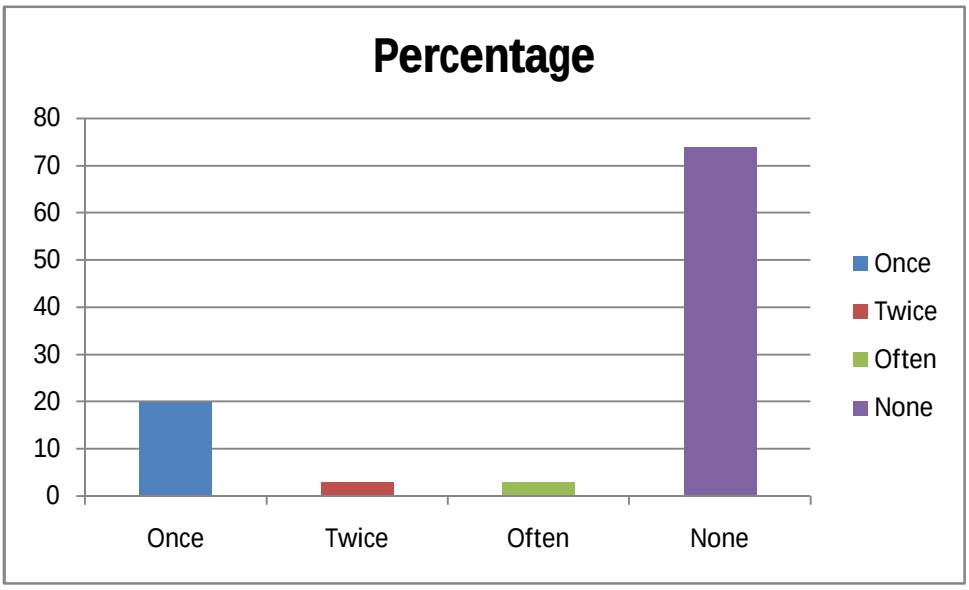
As indicated in the figure 4.9.1, majority of the respondents have not taken any form of ICT training courses representing 74 percent, while 26 percent of the teachers revealed that they have undertake some form of ICT training. During the interview schedule conducted with teachers, majority of them argued that training of in-service courses of ICT has improved

ICT integration in public secondary schools. Other teachers were of the opinion that ICT training has made teachers to be enlightened on the use of ICT in carrying out research.

4.4.1 Findings on how frequent ICT training is undertaken

The frequency of training could enable one to be more competent in integration of ICT as one will be able to command or retrieve information. The researcher sought to find out how frequent ICT training courses are undertake and the findings are as presented in the figure 4.8.

Figure 4.8 Finding on how frequent ICT training courses are undertaken on management of human resources.



Majority 74 percent of the respondents indicated that they have not trained in any form of ICT in-service course. The other respondents, 20 percent said that they have gone for ICT training but only once in a year. 3 percent of the respondents indicated that they have gone for the course twice a year, and a similar percentage of 3 percent revealed that they have gone

for the course quite often. This shows that the majority of the teachers in public secondary schools have not undertaken any form of training courses. This has led to poor integration of ICT into management of human resources in public secondary schools.

4.4.2 Demographic characteristics on ICT integration on management of human resources.

Gender is inherent but can affect the integration of ICT into human resource management as it is shown that more male principals integrate ICT than female teachers in human resource management.

Table 4.6 Gender and use of ICT in management of human resources in schools

Gender	Yes	Percentage	No	Percentage
Male	80	55.3	20	6.7
Female`	20	13.3	30	26.7
Total	100	68.6	50	32.4

According to the findings, males are conversant with ICT integration in human resource management than female. From the findings 53.3 percent of the male teachers had 13.3 percent of the female teachers indicated that they use ICT in management of human resources while 26.7 percent female teachers said that they do not use. From the research findings, it is noted that there is more usage of ICT by the male than female teachers. This is supported by Lee (1997), who stated that male teachers were more active in computer usage. This is in consistent with Waema (2002),

Vanketesh and Morris (2002) who reported that there was no significant difference in computer usage mean-score based on gender.

4.4.3 Age of the respondents and use of ICT in management of human resources

The age of teachers only affected those had trained earlier before introduction of ICT.

Table 4.7 use of ICT in management of human resources

Age	Integrated	Percentage	Not Integrated	Percentage
30 – 49 Years	8	30	2	7
50 – 60 Years	5	19	12	45
Total	13		14	100

From the table 4.6 for those who were exposed to ICT, they integrated ICT despite their age bracket because 30-49 years, 8 principals integrated ICT while 2 though exposed did not embrace ICT integration. 80 percent of the age bracket 40-49 integrated ICT. Age bracket 50-60 years, 5 Principals exposed to ICT integrated into human resource management. This was 29 percent, while 12 were not exposed to ICT and did not embrace ICT integrated and this was 71 percent. From the findings therefore, it gives a suggestions that principals that were exposed to ICT could integrate ICT into human resource management despite their age. As revealed from the teachers respondents in the bracket 30-40 years use ICT more than other age groups.

This indicated that there was no significant relationship between age and use of ICT in management of human resources. This is consistent with Young (2000) who reported that out of 12 students that had been reviewed 62 percent suggested that there was no significant relationship between age and computer usage.

4.4.4 ICT training course undertaken in management of human resources management

Diploma holders are more as compared to graduate trained principals. This was due to the fact that in Diploma ICT was introduced early in the syllabus as compared to graduates ICT was introduced more recently.

Table 4.8 ICT training course undertaken in management of human resources

Level of training	Female	Male
Yes		
Diploma	30	20
Undergraduate	20	13.3
None	50	33.3
No	13	8.7
Diploma	7	4.7
Undergraduate	30	20
Total	150	100

The table 4.7 shows that the diploma teachers have a higher percentage than graduate teachers. This could be initiating ICT courses were initially offered up to diploma level. It is recently that ICT courses have been

introduced at degree and masters level, for example computer science, computer technology among others. Those indicated that there is a relationship between ICT training and its usage. This is consistent with studies done which found out that with regard to having attended formal computer relationship between usage of computer and computer training (Sia, 2000.)

4.4.5 Teachers' level of education on ICT in management of human resources.

The level of education influences integration of ICT inconsistently in that those who trained in Diploma are more than graduates and master levels.

Table 4.9 Principals' level of education

Level of Education	Integrated	Percentage	Not Integrated	Percentage
Diploma	4	14.7	3	11
Bachelors	10	37	6	22
Masters	2	7.4	1	4
Others	1	3.7	0	0
Total	27		10	100

From the findings, the majority of graduate teachers had the highest level of ICT training compared to masters' teachers. Table 4.8 indicated that graduate teachers use ICT integration in management of the human resources of 37 percent followed by the Diploma teachers closely unlike the master teachers. This shows inconsistent between teachers level of

education and ICT usage. This is consistent with the study done by (Sia, 2002) who conducted a study among urban secondary school principals in Mivi, Sarawak to determine the level of computer literacy and computer anxiety. The study findings indicated that integration of ICT on human resource literacy levels among secondary school teachers were low and there was no significant difference in computer literacy levels. Masters took the least number of principals' integrated ICT. This means that investigations should be carried out on education and ICT integration.

4.4.6 Major weakness in human resource management practice

Human resource management practices include selection and record keeping. Principals who had trained had no problem in record keeping as compared to those who had not.

Table 4.10 Human resource management practices

Response	Frequency	Percentage
Yes	20	74
No	7	16
Total	27	100

From the qualitative and quantitative data obtained in the study, major weakness were identified in areas of recruitment, selection, development, motivation and maintenance by the integration of ICT as based on principals, responses indicated that some principals do not possess adequate human resources management on ICT to enable control and

direct the human resources effectively. About 74 percent of the principals do not hold employee details and agreements leading to foot stepping of activity performance. Although most of them about 60 percent have attended management training at KEMI, the aspect of human resource management by ICT was not effectively addressed according to the principals. (KEMI, 2011)

About 16 percent of the principal indicated that there were incidences of slow or delayed services give by the human resource, making it difficult for the schools to run smoothly hence hampering the good performance of schools. This has a marked effect on efficiency level that could promote the achievement of the school goals and objectives. In terms of recruitment it was observed from the respondents that the principals are overstrained as the key personnel in handling a complexity of tasks. Instead of delegating some of the duties to their junior staff such as depute principals, the principals seem to handle all activities making him overburdened and making his administration wave. This makes it important for the principals to embrace integration of ICT in management of human resource.

4.4.7 Comparison of human resource management practices by category of schools

Different categories of schools had different ICT equipment. Most boarding schools had integrated ICT in human resource management

because they had electricity connection. The study examined similarities or differences in human management practices in the target schools.

The schools are subdivided by category of boarding, day and combined day and boarding.

Table 4.11 Comparison of schools in integration of ICT into human resource management.

School category	Frequency	Percentage
Boarding school	11	43
Day school	9	24
Combined Day & Secondary	7	33
Total	27	100

The statistics or the table 4.10 indicates that staff qualifications in the various schools categories do not have major differences. However, boarding schools have higher percentage of graduate principals, day schools have slightly lower compliment of graduate principals. In terms of human resource management, 77 percent of the principals did not have any formal training in human resource management. There are slight variations in enrolment levels in the target schools. However, day schools have higher enrolment ate of between 400 – 700 students. The type of school like the national schools have higher enrolment rate of between 600 – 800 students and the human resource needed is slightly higher than day schools.

4.4.8 Integration of ICT on recruitment of human resource.

The following were found in most schools; desktop computers, email, laptops and cellular phones.

Table 4.12 Forms of ICT used

Form of ICT	Number of schools	Percentage
Cellular phones	20	74.1
E-mail	4	14.8
Laptops	3	11.1
Total	27	100

Some secondary schools use ICT in management of human resources. The cellular phone is used extensively through calls and writing short text messages (sms). 74.1 percent of the target school, principals use cellular phones to make some connections with the human resource. 14.8 use e-mails. This was practical in urban schools because the computers and electricity are available. Unlike rural schools some have to travel long distance to access he compute and more so, some schools even lack electricity in that they use generators for their lighting system. A small number of 14.8 percent use e-mail in the management of human resources. From the table 74.1 percent use cellular phone because the findings show that it is convenient as the person is able to get the information whenever one is unlike other ICT available. The cellular phones become the most commonly used by most principals. Some of the principals prefer the use

of laptops though a small percentage of 11.1 percent from the findings, the laptop for those principals using them, they said that laptops are convenient for them as they can easily walk with them.

4.4 Strategies put in place for expansion of integration of ICT into management of human resources

The study sought to find out the principals' opinion on the strategies put in place for expansion of ICT into management of human resources.

Table 4.13 Strategies for expansion of ICT in schools

Strategy	Frequency	Percentage
Increase in number of computers	27	63
Train teachers on ICT	3	11.1
Construction of computer laboratories	7	25.9
Total	27	100

The findings revealed that acquiring more computers would lead to expansion of ICT in public secondary schools as reported by 63 percent of the respondents. It is also through construction of computer laboratories that the use of ICT will expand in public secondary schools as indicated by 25.9 percent of teachers' respondents who participated in the study. Training teachers in ICT in public secondary schools, expressed by 11.1 percent of the respondents who participated in the study. During the interview, other respondents argued that public schools should have adequate forms of ICT integrated into human resource management and

also the government should give donations to facilitate integration of ICT into management of human resource in public secondary schools. The strategies put in place to expand on the use of ICT in public secondary schools are very important in ensuring proper integration of ICT into management of human resources in these schools.

4.5 Challenges faced in ICT integration of into management of human resources.

ICT integration faces many challenges like lack of trained personnel inadequate funds and breakdown of computers.

Table 4.14 presents findings on the challenges faced in ICT integration into management of human resources in schools.

Challenges	Frequency	Percentage
Negative attitude by teachers	2	7.4
Inadequate facilities	8	29.6
Compute breakdown	4	14.8
Inadequate funds	8	29.6
Lack of trained personnel	4	14.8
None	1	3.7
Total	27	100

There are many challenges facing ICT integration on management of human resources in public secondary schools. Inadequate facilities and inadequate funds in ICT integration on human resources in schools are the major challenges as 29.6 percent of the respondents indicated.

The other major challenge facing ICT integration on management of human resources in public secondary schools is computer breakdown and lack of trained personnel as indicated by 14.8 percent of the respondents. Negative attitude by the teachers was the other problem as 3.7 percent of the respondents stated 1 percent of the respondents noted that there were no challenges facing ICT integration on management of human resources in public secondary schools and this resulted in poor integration on management of human resources in public secondary schools.

4.6 Measures put in place to overcome the challenges faced in ICT integration into management of human resources.

The principals are determined to integrate ICT as it enables them to perform their management duties efficiently.

Table 4.15 measures put in place to overcome challenges faced in ICT integration into management of human resources.

Measures	Frequency	Percentage
Use of computers often	1	3.7
Request for donations	15	55.6
Train in ICT	2	7.4
None	8	29.6
Total	27	100

The researcher sought to find out measures put in place to overcome the challenges faced in ICT integration into management of human resources. The findings were as presented in table 4.12

According to table 4.12, 55.6 percent of the respondents requested for donations especially from the government to enable ICT integration into human resource management in public secondary schools. The other measure supported by the respondents was repair of damaged computers as reported by 29.6 percent. Use of computers often and training in ICT were other measures suggested by respondents as indicated by 3.7 percent of the respondents. Various measures suggested by the respondents are very important since they enhance ICT integration into management of human resources in public secondary schools.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS.

5.1 Introduction

The chapter presents a summary, conclusions, recommendations and suggestions for further research. The main focus of the study was investigating on the influence of principals" characteristics on integration of information, communication technology in management of human resources in Nyamira County, Kenya.

5.2 Summary of the study

The data collected from the study was to answer the question of the influence of principals' characteristics on integration of information communication technology in management of human resources in Nyamira County, Kenya. The study indicated that teacher's gender influences ICT integration while age, level of education and level of training showed inconsistency relationship.

The study found out that majority of principals and teachers were front rural schools as expressed by 74.1 percent of the respondents. ICT integration is more effective in urban schools than rural schools. From the study, more respondents were males are expressed by the teachers' respondents. The teachers' respondents were mainly the age of 30 – 40 years as reported by 50 percent respondent had no training in ICT.

Most of the teachers lived in rural areas compared to pre-urban and urban areas. Regarding level of education, majority of 44 percent were diploma holders, 71 percent of the teachers had not taken any form of ICT management.

Male respondent used ICT more than female respondent; therefore gender had influence on integration of ICT on management of in human resource in secondary schools. The study indicated 53.3 percent of male teachers used ICT in research when monitoring management of human resources. The relationship of age and JCT integration on management of human resources showed inconsistent results and therefore according to the study age does not influence integration of ICT in management of human resources. Majority of teachers respondent 71 percent had not undertaken ICT training or any form of ICT in service training which influenced their usage of various forms of ICI in different ways. The level of education and ICT integration showed inconsistent results in that in different uses of ICT in management of human resources.

According to the research findings, majority of the teachers did not use any form of ICT in their schools as indicated by 52 percent of the teachers' respondents. Other teachers indicated that they use some forms of ICT in their schools such as laptops, desktop computers, and cellular phones among others. The majority of the teachers who were respondents reported that they did not use ICT to monitor human resource. Majority of teacher respondents 74.1 percent reported that they had not been through any form

of ICT in-service training. Those who underwent any form of training only did it once in a year as reported as 74.1 percent of the respondents. On the question whether teachers use ICT in recruitment and selection of human resource, majority 55.6 percent revealed that they do not use ICT in recruiting and selecting the human resource.

Despite the slow integration of ICT in management of human resources in various public secondary schools, there were strategies putting in place for expansion of ICT in these schools. Some of these strategies were, increase the number of computer as indicated by 63% of the respondents. Training of teachers on ICT, having adequate forms of ICT and requesting the government to offer donation to public schools to facilitate ICT integration in management of human resource in public secondary schools.

ICT integration in management of human resource in public secondary schools is faced with various challenges such as inadequate facilities and inadequate funds for installation as reported by 29.6 percent of the respondents. Other challenges facing integration of ICT in management of human resources in public secondary schools included negative attitude towards ICT by the teachers, lack of trained personnel, high cost of installation and maintenance of computers and computer breakdown. There were only a smaller proportion of respondents 3.7 percent who said that there were no challenges facing ICT integration in management of human resources in public secondary schools.

The measure that is put in place to overcome the challenges faced in ICT integration, the respondents suggested on the use of computers more often requested for donations to purchase ICT facilities, repair broken computers to enhance ICT integration in schools. Training teachers on ICT would enhance the integration of ICT in public secondary schools on management of human resources.

5.3 Conclusions

From the study, it is evident that teachers' demographic factors influence the integration of ICT in management of human resources in secondary schools. Gender influence on JCT integration that more male teachers had integrated ICT, while age does not influence the integration of ICT into human resource management because those who had trained they are able to integrate ICT despite their age, level of education cuts across all the age groups that those who had trained were able to integrate ICT exposure to training enabled teachers to integrate ICT unlike those who had not been exposed. Many schools especially in rural areas have not yet embraced ICT mainly because the teachers lack adequate knowledge on die use of ICT, have negative attitude towards ICT integration into management of human resources in secondary schools. Other factors influencing integration of ICT in management of human resources in secondary schools are inadequate facilities, lack of funds and untrained personnel among other labors. To ensure ICT integration management of human in

secondary schools mere should be enough ICT facilities and continuous training of the teachers on ICT in their schools.

5.4 Recommendation

The recommendations of (he stud}- are as represented below;

1. Public secondary schools should support training on the use of ICT in management of human resource to 11.1 percent to enable the young teachers to have enough skills on ICT so that they can compete globally.
2. Public secondary schools should construct computer laboratories to facilitate ICT training as per the respondent to 25.9 percent to assist the integration of ICT into management of human resources.
3. Gender being inherent female teachers should be encouraged lo embrace ICT by training more and integrating it into human resource management in public secondary schools.

5.5 Suggestions for further research

A similar study should be carried out to analyze other characteristics influencing ICT integration in management of human resources in public secondary schools.

A further study to be conducted to investigate on education and ICT integration.

A research in a different context to determine the effect of teachers' demographic variables on ICT integration.

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APPENDICES

APPENDIX I: LETTER OF INTRODUCTION

Agnes Bonareri

Abuga,

University of Nairobi,

Kikuyu Campus

P.O Box 92.

Kikuyu

Dear Principal,

RE: REQUEST TO FILL QUESTIONNAIRE FOR RESEARCH PURPOSE

I am a postgraduate student at University of Nairobi and I request you kindly to fill the attached questionnaire, respond to all items please. The research topic focuses on the **influence of principals' characteristics on integration of Information Communication Technology in management of human resource** in Nyamira County, Kenya. Please allow me to collect data in your school. Thank you for your cooperation.

Yours sincerely,

Agnes Bonareri

Abuga.

APPENDIX II: QUESTIONNAIRE FOR PRINCIPALS

This questionnaire is designed to gather information on the influence of principals' characteristics on integration of information communication technology on management of human resources. You are kindly asked to tick (√) the appropriate response or respond as indicated. Do not write your name or any form of identification. The information you give will be confidential and will only be used for the purpose of this study. Kindly respond to all items.

1. What is your gender? Male ( ) Female ( )
2. Which is your age bracket? 20 – 29 yrs ( ) 30 – 39 yrs ( )
   40 – 49 yrs ( ) 50 – 60 yrs ( )

3a. What is your highest academic qualification?

Diploma ( ) B. Ed ( ) M. Ed ( )

b. What is your academic qualification in ICT?

Certificate ( ) Diploma ( )

Others (specify)……..

4. Have you taken any form of ICT training course? Yes ( ) No ( )

5. Where did you attend your ICT training and which qualification did you obtained?

Training Agency	Duration of Training	Level of Training
1. …… 2. …… 3. ……		

6. Which type of ICT do you have in your school that assists you in management of human resources?

ICT	Available	Not Available	Quantity	In working condition	Not in working condition
1. Cellular Phones					
2. Desktop computers					
3. E-mail					
4. C.C.T.V					
5. Radios					
6. Laptops					
7. Overhead Projectors					

7. Which strategies have put in place for integration of ICT during the recruitment and selection of human resource in your school?

……

……

8. Do you prepare for the orientation and induction of recruited staff using ICT integration? Yes ( ) No ( )

Please explain

…… ……..

……

……..

9. Has ICT integration enabled you to improve in

(i) Staff development Yes ( ) No ( )

If yes, Please explain …….....

……...

(ii) Staff communication Yes ( ) No ( )

If yes, Please explain …….....

…….

(iii) Staff motivation? Yes ( ) No ( )

If yes, please explain…….....

……

10. In the management of human resource, do you have a quick and effective monitoring of performance management and appraisal?

Yes ( ) No ( )

If yes, please explain ……

……

11. How has ICT integration assisted you in monitoring the instruction and supervision of each employee in order to achieve the organizational goals?

……

……

……

12. Identify any challenges faced in the integration of ICT in your school.

……

……

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……..……

…….

13. Suggest ways that we can use to improve the ICT integration in your school.

……

……

……

……

Thank you for your cooperation

APPENDIX III: QUESTIONNAIRE FOR TEACHERS

This questionnaire is designed to gather information on the influence of principals' characteristics on integration of information communication and technology on management of human resources. You are kindly asked to tick (٧) the appropriate response or respond as indicated. Do not write your name or any form of identification. The information you give will be confidential and will only be used for the purpose of this study. Kindly respond to all items.

1. What is your gender? Male ( ) Female ( )
2. Which is your age bracket? 20 – 29 yrs ( ) 30 – 40 yrs ( )
   41 – 49 yrs ( ) 50 – 60 yrs ( )
3. What is your profession qualification in ICT?
   Certificate ( ) Diploma ( )
   Others (specify)……
4. (a) Have you taken any form of ICT training courses?
   Yes ( ) No ( )
   (b) If yes, specify the courses trained……
   ……

5. Which type(s) of ICT does your school have that assists you in teaching and learning?

Type of ICT	**Available**	**Not Available**
Cell phone		
Laptops		
C.C.T.V		
Radio		
Overhead Projectors		

6. How frequent does the school organizes training on the use of different types of ICT in school? (Tick the appropriate one)

   3 months ( ) 6 months ( )

   1 year ( )

   Others (Specify)……..

7. Which type(s) of ICT do you use in your school in teaching and learning of ICT in school?

   Computer ( ) Laptops ( )

   Overhead projectors ( )

   Others (Specify) ……..

Thank you for your cooperation

APPENDIX IV: INTERVIEW SCHEDULE FOR THE BOARD OF MANAGEMENT

1. How is planning and record keeping procedure done with the integration of ICT in your school?

   ……

   ……

   ……

   ……

   ……..…….

2. How does BOM use ICT integration to assist your school in acquiring human resource?

   ……

   ……

   ……

   ……

   ……..…….

3. Which ways has ICT integration assisted your school in acquiring human resources?

   ……

   ……

   ……

   ……

   ……..……

4. How does BOM use ICT integration in monitoring the performance of human resources in your school?

   ……

   ……

   ……

   ……

   ……..…….

5. How has ICT integration help to identify operational problem in the management of human resource in your school?

   ……

   ……

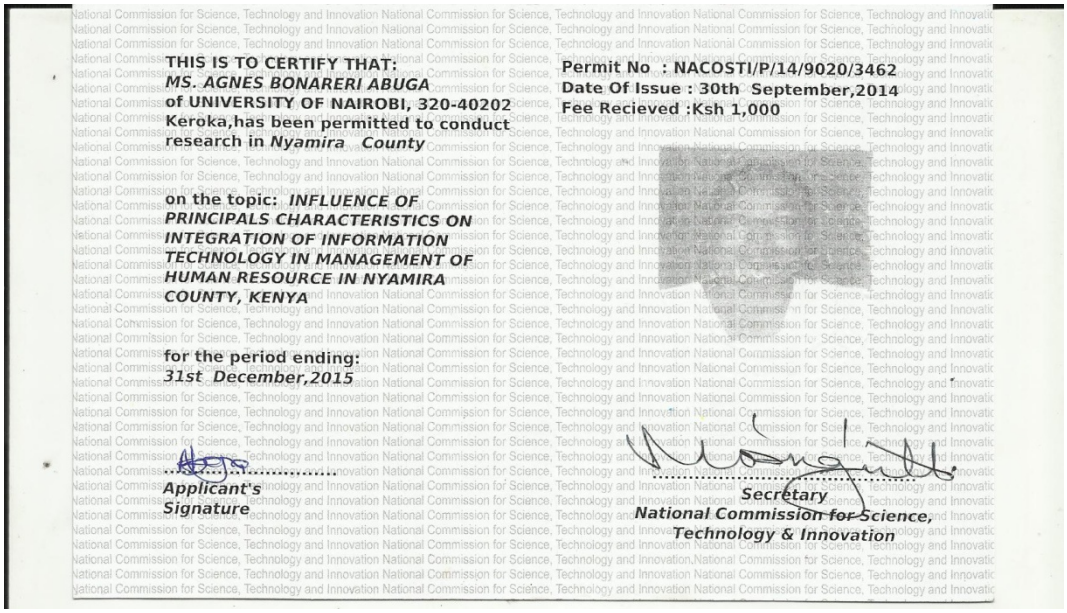
   ……

   ……

   ……..…….

Thank you for your cooperation

APPENDIX V: RESEARCH PERMIT



THIS IS TO CERTIFY THAT:
MS. AGNES BONARERI ABUGA
of UNIVERSITY OF NAIROBI, 320-40202
Keroka,has been permitted to conduct
research in *Nyamira County*

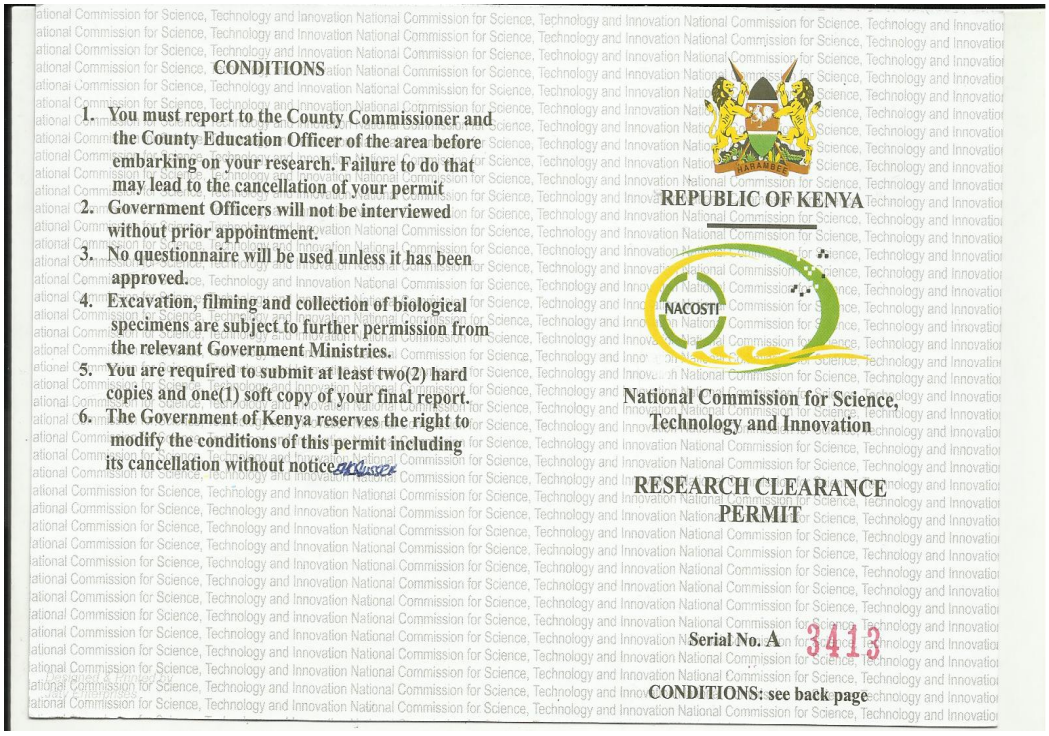
on the topic: *INFLUENCE OF PRINCIPALS CHARACTERISTICS ON INTEGRATION OF INFORMATION TECHNOLOGY IN MANAGEMENT OF HUMAN RESOURCE IN NYAMIRA COUNTY, KENYA*

for the period ending:
31st December,2015

Permit No : NACOSTI/P/14/9020/3462
Date Of Issue : 30th September,2014
Fee Recieved :Ksh 1,000

Applicant's Signature

Secretary
National Commission for Science, Technology & Innovation



CONDITIONS

1. You must report to the County Commissioner and the County Education Officer of the area before embarking on your research. Failure to do that may lead to the cancellation of your permit
2. Government Officers will not be interviewed without prior appointment.
3. No questionnaire will be used unless it has been approved.
4. Excavation, filming and collection of biological specimens are subject to further permission from the relevant Government Ministries.
5. You are required to submit at least two(2) hard copies and one(1) soft copy of your final report.
6. The Government of Kenya reserves the right to modify the conditions of this permit including its cancellation without notice

REPUBLIC OF KENYA

NACOSTI

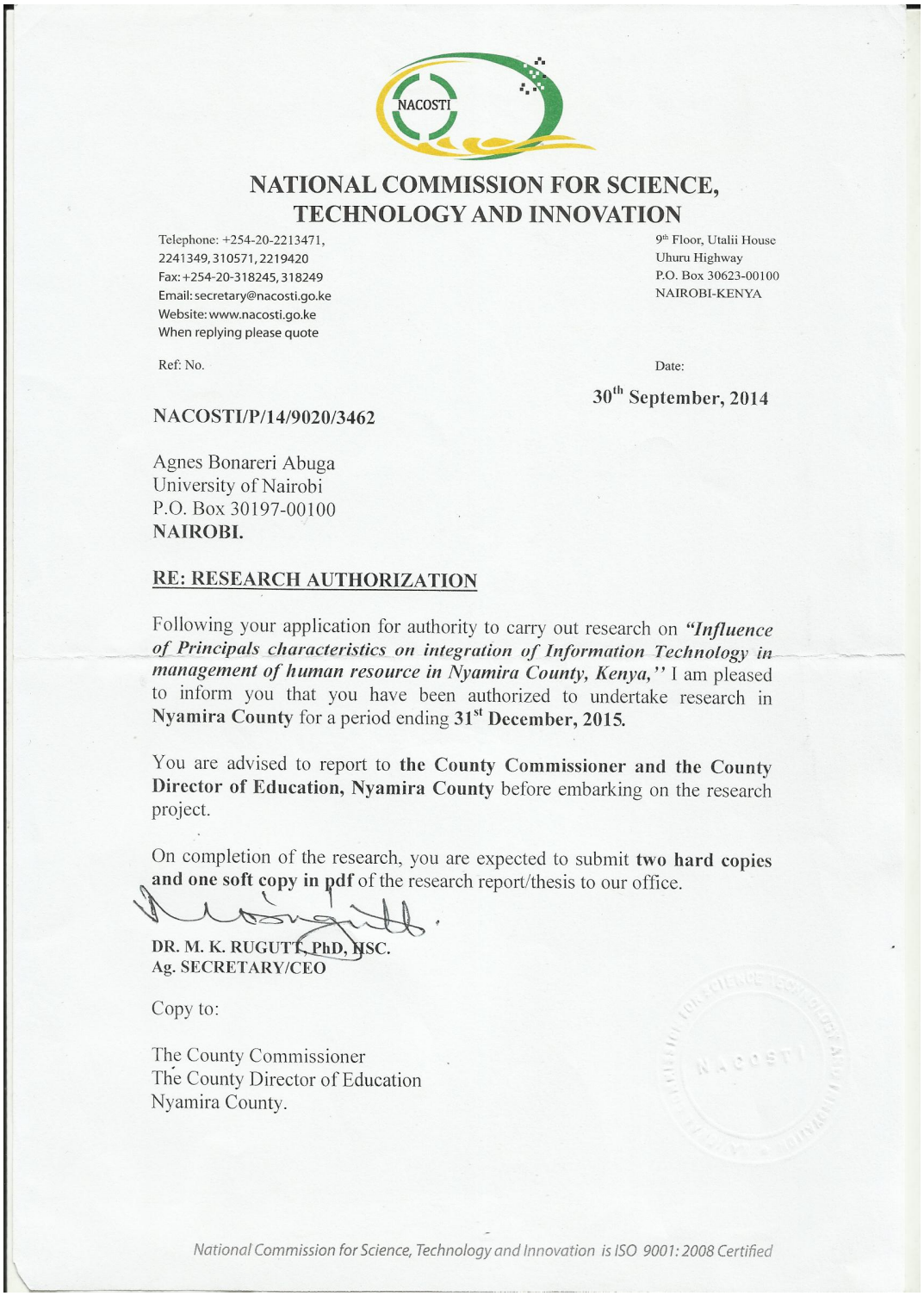
National Commission for Science, Technology and Innovation

RESEARCH CLEARANCE PERMIT

Serial No. A 3413

CONDITIONS: see back page

APPENDIX VI: RESEARCH AUTHORIZATION LETTER



NACOSTI

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/14/9020/3462

Agnes Bonareri Abuga
University of Nairobi
P.O. Box 30197-00100
NAIROBI.

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on ***"Influence of Principals characteristics on integration of Information Technology in management of human resource in Nyamira County, Kenya,"*** I am pleased to inform you that you have been authorized to undertake research in **Nyamira County** for a period ending **31st December, 2015.**

You are advised to report to **the County Commissioner and the County Director of Education, Nyamira 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. RUGUTT, PhD, HSC.
Ag. SECRETARY/CEO

Copy to:

The County Commissioner
The County Director of Education
Nyamira County.

National Commission for Science, Technology and Innovation is ISO 9001: 2008 Certified