

**FACTORS INFLUENCING ADOPTION OF ICT IN WOMEN ENTERPRISE
PROJECTS: NYERI COUNTY, KENYA**

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**A RESEARCH PROJECT REPORT SUBMITTED IN PARTIAL FULFILMENT OF THE
REQUIREMENTS FOR THE AWARD OF THE DEGREE OF MASTER OF ARTS IN
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2012

DECLARATION

This is my original research work and has not been submitted for an academic award in any other University.

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This research project report has been submitted for examination with my approval as the university supervisor.

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DEDICATION

This project report is dedicated to my wife Josephine for her unconditional love, my parents Mr. and Mrs. John Mbataru for their moral support.

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ABBREVIATIONS AND ACRONYMS

GEM	Global Entrepreneurship Monitor
ICT	Information and Communication Technology
MDG	Millennium Development Goals
SME	Small and Medium Enterprises
UN-ICT	United Nations Information and Communications Technology
WEP	Women Enterprise Projects
WEs	Women Enterprise

ABSTRACT

The purpose of the study was to investigate the factors influencing ICT adoption in women enterprises in Nyeri County, Central province; Kenya. It has highlighted the background information on ICT adoption situation from the global, African continent, regionally and in Kenyan situation. The study establishes the statement of the problem. It was guided by the following objectives; To establish how does, Age of entrepreneur, literacy levels in ICT use, Access to ICT resources, and Attitude towards use of ICT influences adoption of ICT in enterprise projects. The study sought to answer the following questions: How does; Age of entrepreneur, literacy levels in ICT use, Access to ICT resources and Attitude towards Use of ICT influences adoption of ICT in enterprise projects at NYERI town constituency, Nyeri County. The study has established the theoretical view which describes the theories which guide the study. Further an empirical review on past studies on the variables mentioned above, the gaps to be filled, the explanation of the conceptual framework and summary of the qualitative data was collected using open and closed questions self administered questionnaire after stratified sampling of the accessible population. Its target population was 173 women in enterprises and a sample size of 120 respondents who were selected using stratified random sampling. Chapter four dealt with the analysis, presentation and interpretation of data obtained in the study. The analysis was based on the objectives of the study. Major findings were rate of ICT adoption was low, literacy levels in relation to use of ICT among the women entrepreneurs was at the basic level. It was analyzed qualitatively and quantitatively using descriptive and inferential statistics. The frequencies and percentages were used to present the findings. The statistical package for social sciences, SPSS software was used as a tool to aid data analysis. Chapter five presented a summary of the major findings, discussions, conclusions and recommendations. Lastly, suggestions for further studies.

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Today's business world has been influenced by information and communications technology ICT and the application of ICT among business is widespread. Information and Communications Technologies are rapidly changing global production, work and business and trade consumers. In developed countries including United Kingdom and Australia enterprises especially, small and medium enterprises projects (SMEs) are increasingly adopting information and communications technology due to advent of personal computers (Alberto,B and Fernando L, 2007).

Adoption of the ICT is considered to be a means to enable enterprises especially SMEs to compete on a global scale, with improved efficiency and closer customer and supplier relationships, (Chong S and Pervan G 2001). The adoption of ICT is critical to SMEs as has become a major catalyst and enabler of organizational change, for example the way organization communicate, collaborate, and conduct transactions with their suppliers, customers and distributors (Golding et al, 2008).

According to Parichoh and Simpson (2007), affirms that enterprises have competitive advantage from advances in ICT though innovation, marketing efficiency and quality services and customer responsiveness. Some empirical studies by Barte and Doms (2000) and Medville el al, (2004), noted increased performance in terms of productivity, profitability and market share resulting from ICT adoption. According to Ongori (2009), emphasizes that the adoption of ICT by enterprises would change the way business operate in this era of globalization by increasing competition and innovations. Hence to become successful they

must have the ability to compete and dynamically respond to changing markets by being connected to digital market place. However, adoption of information and communication technology within small and medium enterprises is plagued with many problems.

There exist disparities in ICT adoption between enterprises in developed countries and in developing countries from the gender perspective (between men and women). Globally ICT adoption in SMEs is highest in developed world due to widening technological gap (Ihua, 2009). In developed countries ICT usage especially in SMEs is close to 82.4% compared to 26.4% in developing countries. (UN-ICT report, 2010). This indicates a widening gap due to digital divide. In Africa ICT adoption in small and medium vary with only approximately 28.2% of about 56 million registered small and medium enterprises across the continent (UN-ICT report, 2010).

Globally, the number of women entrepreneurs continues to increase steadily, (Muhammad N., 2009). They represent more than one third of all people involved in entrepreneurial activity global entrepreneurship monitor (Gem, 2004). Valencia, (2006) reports that 40.54% out of an estimated 73 million who are active entrepreneur in 34 Gem nations are women. But in relation to ICT usage only 16.2% have adopted information and communication technology. This is against the fact that growth in total number of female entrepreneurs out number that of male entrepreneurs but continued disparities in ICT usage between men and women. (Mass and Harrington, 2006). The definitions used to describe the small and medium enterprise sector in Kenya are based on the employment size. A small enterprise is defined as having 10-50 employees and a medium enterprise with 50 and above employees (Republic of Kenya, 1999).

According to Data from Ministry of Trade (2011), shows that there were approximately 1.6

million registered SMEs in Kenya, creating an employment for 5.1 million people. Out of these approximately 48% or close 0.8million are women owned. According to an earlier report employment within the sector accounted for 74.2% of total persons in employment contributing to up to 20.10% of country's gross domestic product (GDP), World Bank Report (2010). In regard to ICT adoption in Kenyan enterprises especially SMEs have been relatively low. According to small and medium enterprise survey report (2011), only about 24.6% percent of Small and medium enterprises used ICT extensively in their daily operations. This reflects a very low rate of ICT adoption among the estimated 1.6 million registered SMEs in Kenya. (Ministry of trade, ibid).

In Nyeri County ICT adoption in women enterprise projects is very low as well due to multifaceted factors(Ministry of trade,2004).According to, evidence from ongoing survey research by Waruru Susan, (2011) reveals financial constraints, low literacy levels in ICT use as factors inhibiting uptake of ICTs.

1.2 Statement of the Problem

According to McConnell, (2007), women have enormous potential to bring prosperity in the world and encouraging their entrepreneurship is very important. In Kenya, enterprise projects are creating employment and contributing to general economic growth. If there is adoption of ICT by women entrepreneurs, the economy would grow by 18.4 percent. (Ogori and Migiro, 2011).

Furthermore increasing ICT adoption in women enterprise projects can greatly accelerate economic growth in Kenya. In the present era of e-commerce and economic globalization adopting ICT to support enterprises regardless of their size is crucial (Ongori 2009).

In Kenya adoption of Information and communications technology in women, managed enterprises have remained low despite perceived benefits. Out of approximately 0.8million women managed enterprise projects only about 16 % have adopted information and communications. The quantitative factual data indicate a very low uptake of Information and Technology in their daily operations. This has necessitated the need for this study which therefore, seeks to establish the factors influencing adoption of ICT in women enterprise projects in Nyeri town Constituency, Nyeri County, Central province Kenya.

1.3 Purpose of the Study

The purpose of the study was to investigate the factors influencing adoption of information and communications Technology in women enterprise projects at Nyeri County.

1.4 Objectives of the Research

Specific Objectives

The study was guided by the following objectives:

1. To establish how age of entrepreneur influence adoption of ICT in women enterprise projects at Nyeri County, Kenya
2. To determine how literacy levels in use of ICT influence adoption of ICT in women enterprise projects at Nyeri County, Kenya
3. To examine how access to ICT resources influence adoption of ICT in women enterprise projects at Nyeri County, Kenya
4. To establish how attitude towards use of ICT influence adoption of ICT n in women enterprise projects at Nyeri County, Kenya

1.5 Research Questions

The following are the research questions guiding this study:

1. To what extent do age of entrepreneur influence adoption of ICT in women enterprise projects at Nyeri County, Kenya?
2. How does literacy level in use of ICT influence adoption of ICT in women enterprise projects at Nyeri County, Kenya?
3. How does access to ICT resources influence adoption of ICT in women enterprise projects at Nyeri County, Kenya?
4. How does attitude towards ICT use influence adoption of ICT in women enterprise projects at Nyeri County, Kenya?

1.6 Hypotheses testing

The study tested test the following hypothesis:

1. Ho: Age of the entrepreneur does not significantly influence adoption of ICT in women enterprise project at Nyeri County,

Ha: Age of the entrepreneur influence adoption of ICT in women enterprise projects at Nyeri County

2. Ho: Literacy levels in use of ICT does not significantly influence adoption of ICT in women enterprise projects at Nyeri County

Ha: Literacy levels in use of ICT do influence adoption of ICT in women enterprise projects at Nyeri County.

3. Ho: Access to ICT resources does not significantly influence adoption of ICT in women enterprise projects at Nyeri County.

Ha: Access to ICT resources does influence adoption of ICT in women enterprise projects at Nyeri County.

1.7 Significance of the Study

The study will help managers of enterprise projects with basis for formulating business strategies aimed at enhancing ICT adoption in their respective enterprise projects. The government including ministry of industrialization would use the study to assist in policy making and putting in place the necessary registration in order to enhance ICT adoption in women enterprises. Finally, the findings will contribute knowledge to aid researchers interested in a similar or related subject matter.

1.8 Limitations of the Study

This study was faced with several limitation(s), for instance many respondents thought that the research was to benefit researcher financially. The researcher explained clearly to the respondents that the research is for academic purpose.

1.9 Delimitations of the Study

The study was limited to factors influencing ICT adoption in women enterprise projects at Nyeri town constituency, Nyeri County, The study targeted 173 registered women enterprise (Ministry of Trade, Nyeri, Dec,2011) within Nyeri central business district which represented all other women enterprises in the entire counties. This was to minimize incorrect information. Finally the researcher limited independent variables under study to age of entrepreneur, literacy levels in ICT use access to ICT resources, and attitude towards ICT use.

1.10 Assumptions of the Study

Moreover, that the variables did not change in the course of the research period. Furthermore, the study assumed the respondents gave collect and valid information that assisted the researcher in obtaining valid data. Finally, it was assumed that the instruments for data collection was duly completed and returned in time.

1.11 Definitions of Significant Terms

Access to ICT Resources	In this study implies ability to access ICT resources such as ICT tools at ease.
Adoption	For the purpose of this study adoption means decision to use or not to use new technology on regular basis in an organised system.
Age	refers to ones stage in the life of an individual. In this study it implies the productive age of a person assumed to start at age of 15 years.
An entrepreneur	is defined as a person who is alone or with partners, have started, bought or inherit a business and is undertaking the related, financial, administrative and social risks and responsibilities and is participating in firm's day to day management.
Attitude towards ICT	refers to behavior that influences response positively or negatively to an innovation such as ICT Computer at basic, middle or advanced level.
Enterprise projects	For the purposes of this study enterprise projects will imply an enterprise having between employees. Have a time frame and have life cycle-start up phase, growth phase, maturity and decline.
Information and Communications Literacy level in ICT Technology	In this study information and communications Technology refers to proficiency in ICT knowledge. Ability to use is defined as any technology that facilitates communication and assists in capturing, processing and transmitting information electronically. The ICT tools consist of computers, internet, mobile phone, faxes. And EPMIS (Enterprise Management Information System)

1.12 Organization of the study

The study highlighted the background of the study, statement of the problem, research objectives, questions and hypotheses testing. In addition limitations, delimitations of the study, significance and operational definition of terms which are well explained

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter presents review of the factors influencing adoption of information and the communication technology in women enterprise projects. It discusses the theoretical view, literature review on ICT adoption from past studies on age of entrepreneur, literacy levels in ICT, access to ICT resources, and attitude towards ICT use, networking and legal and regulatory environment. It establishes the conceptual framework and relationship of the variables guiding the study. Furthermore, summary review of major issues, conclusions and gaps to be filled.

2.2 Theoretical overview of ICT Adoption in Enterprises.

Adoption of ICT is generally defined as uptake and use of Information and Communication Technologies such as computers, mobile phones, websites, internet and other wireless communication devices and networks, (Olatum and Mogotetsi,2010). From the definition, adoption means disposition towards use of ICT. The adoption of Information and Communication Technologies in Enterprises is influenced by a number of factors. In terms of business enterprise the most significant of these is profit. Other factors, according to Gray, (2006) include social, economic and to some extent attitudinal.

2.3 Theories guiding the study:

The study is guided by several theories that relates to adoption of ICT in enterprises.

2.3.1 Innovative Diffusion Theory (IDT)

The theory of diffusion of innovation by Rogers, (1995) provides perceptions that individuals may have of adopting an innovation such as ICT. The theory explains, predicts, and accounts for the factors which influence adoption of an innovation. This is in line with the studied variables. According to Rogers,(2003) individuals technology adoption behavior such as ICT is determined by his or her perceptions regarding relative advantage, compatibility, complexity and observability of an innovation,(Hikmet 2007). These constructs have relationship with the studied variables .For example compatibility was found to influence perceived usefulness of an innovation. This relates to attitude towards use of ICT.

2.3.2 Resource Based Theory

The resource based theory states that the basis for competitive advantage of a firm lies primarily in the application of the bundle of valuable resources at the firms disposal (Wernerfelt, 1984), including technology such as ICT. According to (Manoney and Pandian 1992) firm's ability to reach competitive advantage when different resources are employed and these resources cannot be imitated by competitors. This relates to access to ICT resources of ICT tools and funds. From this theory when enterprise projects have enough resources of funds and access to ICT tools they can easily adopt ICT in their operations and be able to develop and sustain a competitive advantage.

2.3.3 Normative and Descriptive Theory

According to Susan Waruru,(2011) the theory is used to predict and explain actual choices and to improve actual decision making. Susan Waruru,(2011) states that the theory studies rational choices which have influence in adoption of an innovation such as ICT. This is

because entrepreneurs having informed decisions about ICT can easily adopt ICT in their projects.

2.3.4 Theory of Planned Behavior

According to Eija,(2011) the theory of planned behavior suggests that the human behavior is governed by personal attitudes but also social pressures and a sense of control. In relation to the study; age and literacy levels are factors which in a way relates to this theory. The theory can be used to examine factors influencing adoption of ICT from the individual perspective.

2.3.5 Theory of Reasoned Action

According to Brown, Massey and Burkman,(2002) the theory states that both attitude and subjective norm are important determinants of people's intention to adopt and use ICT in enterprises. Further the intention to adopt and to continue using ICT is influenced by ones attitude. The theory states that an individual behavior is influenced by his or her behavior's intention which is influenced by his or her attitude towards behavior of subjective norm.(Venkalesh and Davis,2000).

2.3.6 Lewis change theory

The theory states that for change to occur there exists either driving or inhibiting forces. The driving forces promote change while inhibiting forces oppose change. This theory relates to the study because the factors which influence adoption of ICT in women enterprises are either driving or opposing ones. There could be many more but the above reviewed theories are conceived to have significant issues to guide the study.

2.3.7 ICT Adoption Framework

From the reviewed theories the following is a theoretical framework:

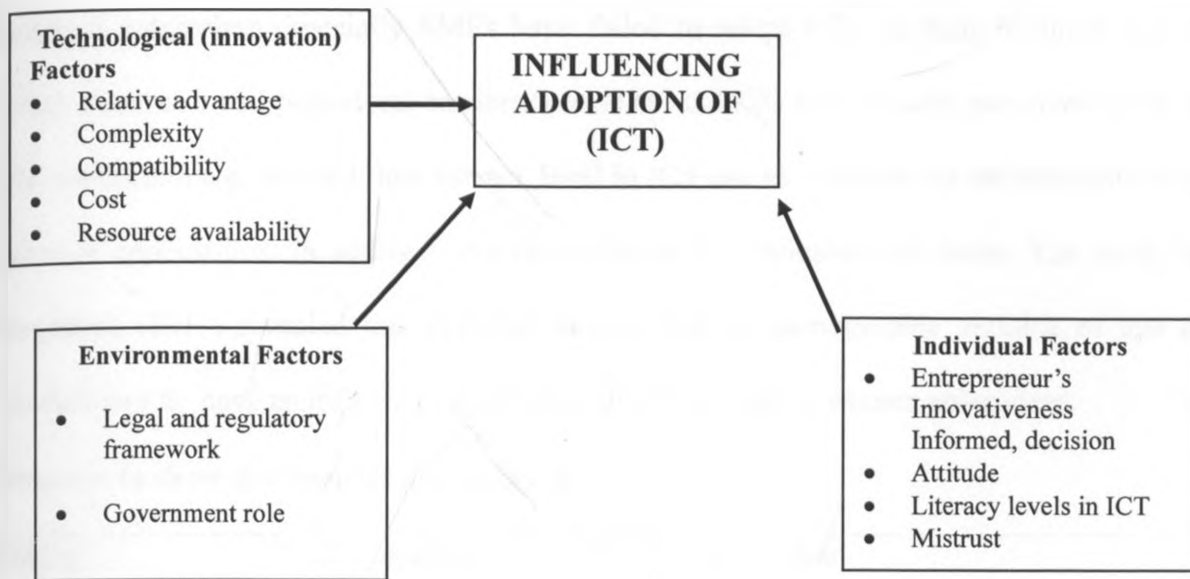


Figure 1: Conceptualized Theoretical Framework Source: Author 2012

The frame work suggests that economic factors of resources availability cost of ICT tools influences adoption of ICT in enterprise projects. Similarly, individual factors which are mostly attitudinal or behavior such as mistrust, do as well influence adoption of ICT in enterprise projects. Further environmental factors such as social pressure, networking and Government policies serves as intervening and moderating factors in the adoption of ICT in enterprises especially small and medium enterprises,(SMEs).The frame work shows that both economic, social attitudinal or behavioral factors interplay to influence adoption of an innovation specific to an enterprise. This relates to the studied variables in the study.

There are three main levels or stages of adoption. They comprise of the basic level whereby entrepreneurs have adopted basic ICT tools such as computers, mobile phones, and use of emails for basic communication. The second level is the middle one where more complex ICT tools are used. They comprise of static website, and practice of electronic commerce besides the tools at basic level. Lastly, the advanced level. This level is characterized by

complex ICT integration in the business such as business to business online transactions and use of complex software in the business processes. (Kerese, Latu and Koh, (2008). Women managed enterprises especially SMEs have failed to adopt ICTs in their business due to social, economic and behavioral barriers.(kerese,et al.,2008) they include perceived costs of ICT connection e.g. Internet, low literacy level in ICT use as indicated by unfamiliarity with software applications. In addition, inaccessibility to ICT resources of funds. The study by Mugambi, (2011) revealed that personal factors such as demographic variable of age of entrepreneur do have an influence on adoption of ICT as well in women enterprises.

Diagram to show the theories and authors

Theory	Author	Year
Innovative Diffusion Theory	Rogers	1983
Resource Based Theory	Wernerfelt	1984
Normative and descriptive Theory	Shepsle Bonchek	1997
Theory of Planned Behaviour	Taylor and Todd	1995
Theory of Reasoned Action	Ajzen and Fishbein	1980
Lewins change theory	Lewins	1951

Figure 2: Theories and Authors Source: Eija Korpelainen, 2011

2.4 Age of entrepreneur and ICT Adoption

Age refers to the specific life stage of an individual. In this study it's limited to the working productive age on assumption that it starts from 15 years. According to Ongori and Migiro, (2011) age has a positive influence in ICT adoption. In SMES Ongori and Migiro, (ibid)

acknowledges that the younger entrepreneurs are more likely to adopt ICTS in their SMES than older ones. This is because the youthful entrepreneurs are more flexible in implementing new ideas, concepts and technological innovations. Further their literacy level is likely to be in the intermediate level. In addition the youthful female entrepreneurs are enthusiastic in implementing new ideas and concepts thus accelerating ICT adoption in SMES (Mohammad and Ismail, (2009). According to study by Damanpour and Scheneider,(2009) the younger entrepreneurs owners are likely to be more willing to take risks as well as more receptive to adopting new ideas than their older counterparts. This is because older entrepreneurs are more anchored to traditional routines and are more risk averse compared to the younger ones. Al-Qirim,(2007) acknowledges that older female entrepreneurs are more likely to resist change interms of new technological innovations such new ICT tools than younger female entrepreneurs. This is in consistent with Reza, Robyne and Belle, (2011) who also argued that that older entrepreneurs resist change and prefer traditional technologies such as just fixed telephone lines or face to face communication. They avoid complex ICT tools. A study done by Olumide and Richard, (2010) on assessment of demographic factors acknowledged that age has significant influence on adoption of information and communications technology. The study done by Talebi,Ghavami and Irandust,(2011) acknowledges that though no significant study were conducted found out that older entrepreneurs are still very active in introducing innovations in a range of areas. This suggests that firms managed by older entrepreneurs may not be resistant to change. An entrepreneur may be in a middle class age bracket but has a higher literacy level.

2.5 Literacy Level in ICT use and ICT Adoption

According to Junaidah, (2007) literacy levels in ICT use refers to having an end user proficiency of the basic computer knowledge specifically, how it functions, how to input and

retrieve the information and how to navigate. In this study, however concentrates on the basic skills of ICT composing reading and sending emails message besides the use of mobile phones. According to Yu.C, (2006) literacy levels influences adoption of ICT in small and medium enterprises. Yu C, (ibid) acknowledges that higher ICT literacy levels promote faster adoption of ICTS in SMES. Conversely, the lower the levels of literacy in use of ICT the slower the rate of ICT adoption. According to a study by Mair and Nair-Reichert,(2007) indicates uptake of ICT particularly mobile phones and computers which implies internet access, shows that it is lack of basic literacy in ICT although mobile phones are virtually known. Ongori (ibid) and Mair and Nair (ibid) acknowledge that majority of female entrepreneurs are at the basic ICT literacy level. A study by Frempong, (2007) on literacy levels and ICT uptake in South Africa found that female managed enterprises where owners are at the middle level of ICT literacy had higher usage of complex ICT tools such as internet, static websites managed information's and enterprise management systems. This is because complex ICT tools were knowledge intensive. Therefore require users to have a certain level of formal education in ICT to be able to use them efficiently in a business situation. (Vala, Jacquil and Mike, (2010).

According to MacGrego (2007), Women managed small business enterprises tend to avoid ICT into their business, if it is seen as complex to use. This is because SMEs always lack basic computer literacy skills such as ability among work force to use ICT tools such as internet. (Spectrum, 2007). Further the ability of managers or owner with basic ICT's literacy definitely increases the opportunity of ICT use amongst SMEs. Thug and Yap (2008) found that managers with basic literacy level in ICT have a positive effect on adoption of ICT within a business.

The study done by Cragg and King (2006), acknowledged that female managers of SMEs tend to have low literacy levels and proficiency to use information and communications technology devices such as internet in their enterprises. The study further revealed that lack of suitable technical and managerial staff with sufficient ICT literacy even the basic level workforce was closely linked with the unsuccessful adoption of new technology in an enterprise. From the results of study by Cragg and King (ibid) found out that one of the strongest inhibiting factors for Women managed small enterprises oriented enterprises to adopt information and communication technology was lack of sufficient ICT literacy beyond the basic level. Cragg and King (ibid), acknowledge that very few female entrepreneurs have attained advanced ICT level. But lack of basic and low computer literacy greatly influences adoption of ICT. (Costel et al, 2007).

Indeed many SMEs owner managers in Kenya are not familiar with the basic knowledge and skills for using ICT tools beyond the mobile phones. From the results of a study done by Arendt (2008) revealed there are reluctance among women enterprise owners managers to invest in on training their employees because these owner managers are afraid that following the completion of such training and having improved their qualification these employees will leave and find employment in large companies that offer better salaries.

According to Tan and Macaulay (2007), acknowledges that one of the main reasons for not adopting the internet is lack of internal expertise and the information associated with the new ICT innovation. According to Huyer and Haflain, (2007) state that access to education in science and technology is considered a male domain in many cultures. Huyer and Haflan (ibid) affirm that training in ICT skills such as use of computers is rarely gender sensitive or tailored to woman's needs. It is sometimes delivered by a male trainer who has embedded

perceptions about women capabilities in these fields. Similarly, Sattam and Sami,(2011) observe that women managed enterprises especially, SMEs possess basic ICT skills therefore cannot use complex ICT tools such as financial management systems or engage in electronic procurement. Consequently ICT adoption in women SMEs becomes very low. In a study done by Huger, (2010) acknowledges that there is no correlation between the saturation of ICT In Kenya and attainment of Information and Communication Technology literacy to those in small and medium enterprises. This makes ICT adoption in women enterprises in Kenya to remain a challenge. According to Herman and Mridula, (2010) in a study on adoption of ICT in women owned SMEs in Mauritius acknowledge that women entrepreneurs who make use of ICT use only basic day to day operations such as writing emails. Very few who take full advantage of opportunities offered by the internet such as online selling, buying and networking.

2.6 Access to ICT Resources

Access to Information and Communications Technology resources refers to obtaining financial, human expertise and ICT tools or devices at ease.

2.6.1 Funds

Funds refer to capital or monetary resources required to meet objectives of an enterprise, online business dictionary (2011). One important challenge that women enterprises often face is access to capital. (Mathew, 2010). Lack of adequate financial resources places significant constraints on SMEs development in terms of new technological adoption in their operations.

According to Cook and Nixon, (2000) observe that notwithstanding the recognition of the role of SMEs play in the development in many developing countries, SME development is always constrained by limited availability of financial resources to meet a variety of

operational and investment needs such as ICT adoption, or related infrastructures. According to Ongori, (2009), financial constraints are a major determinant to ICT adoption among women managed SMEs. He argues that small and medium enterprises have limited ability to make huge ICT infrastructure investment in their firms due to lack of sustainable financing options.

In a study by Singh and Belwal, (2008) on women enterprises in South Africa and Ethiopia reveals common reaction when asked what they perceive as constraints in their business especially in ICT investments. The responses were access to funds is a major constraint to ICT adoption. The study acknowledge that adopting ICT is not one time costs because there are ongoing costs of maintenance and upgrading the ICT infrastructure. For example, purchasing new software.

Women entrepreneurs experience difficulties in accessing finances on credit to invest in ICT infrastructure in their SMEs. Potential providers of finance require collateral as a guarantee or security for their money. Unfortunately, majority of entrepreneurs lack collateral such as land ownership title. Furthermore, inadequate financial record keeping and consequent failure to make good use of available financial information makes female SMEs owners unable to access loans from lenders such as banks.

The study done by Hammod, (2006) on Electronic commerce in the textile and apparel industries revealed that SMEs owners are sole proprietors who tend to have less distinct separations between the finances of the entrepreneur's business activities and those of her own personal household transactions. As such the lenders become hesitant to extend credit to women entrepreneurs. Further, the availability of good information on enterprise finance and

governance is a prerequisite for the preparation of a bankable business plan which can be used as a partial substitute for fixed asset, collaterals on the financial supply side. Unfortunately many SMEs have shortcomings and management weakness, therefore viewed as evidence of financial indiscipline by loan appraisers (Susan W, 2011). Consequently it becomes hard for women entrepreneurs to secure funds for their SMEs. A study done by Dixon, Thomson, and McAllister, (2007) affirms that perceived cost plays an important role in determining ICT adoption in women SMEs. The study reveals small and medium enterprise will less likely adopt Information and Communication Technology when its initial set up cost is high. From the findings of various information system researchers, (Sayel and Rahman, 2006) found out that there is direct and significant relationship between costs and adoption of ICT. The lower the cost of adoption of new innovation such as Information and Communication Technology the higher the likelihood of its adoption. Similarly, the higher the cost of Information and Communication Technology application the less the likelihood of its adoption. The cost is the total amount that will cost the business organizations to adopt a new technology (Dixton, et, al, ibid). Kuleyi, (2009) acknowledges that many women SMEs in Kenya struggles with high cost of ICT implementation hence they mostly ignore the adoption of ICT and rather use their resources for other activities that would bring about fast profits. He asserts that enterprise owner managers also try to determine the investment rate of return as ICT Investments are carried out over a relatively long period of time.

2.6.2 ICT tools

Information and communications Technology tools refers to commonly used ICT tools in business. They include personal mobile phones, computers, and internet, e-mail, websites and fax machines. According to Ongori, H, (ibid) SMES are most likely to adopt ICT at a faster rate if they access ICT tools and devices at ease. Many SMES owner managers do not access

the internet, connections easily due to the high taxation and high costs associated with the internet service providers' connection fee. In a study by Sophia Huyer and Nancy Hafkin,(2007) on engendering the knowledge society found that women entrepreneurs have limited access to shared ICT facilities such as internet, or tele-centres or e-commerce centers due lack of financial resources to pay the providers in order to access them. However accessibility to ICT is gradually becoming easier with opening of more tele-centres at counties. Further use of smart phones that are business or e-commerce tailored are becoming available though costly for entrepreneurs especially those in small and medium enterprises. In a study conducted by GEM,(2009) revealed that there is increased accessibility of mobile phones among female entrepreneurs though majority of the phones used are normal ones which requires basic operational knowledge. According to the study there was minimal use of smart phones by the entrepreneurs that are internet enabled. So access to ICT tools to a greater extent influences adoption of ICT. However this must go hand in hand with increased ICT literacy in their use.

2.6.3 Human Resource

According to Mutula and Brakel, (2006) the availability of human capital within and outside the organization is a driving force in ICT adoption in SMES. The human capital availability acts as facilitating factor in ICT adoption capital with the required ICTs skills tends to adopt ICTS at a high rate because they are more receptive to new ideas and techniques.(Maguire, Koh and Magry, 2007). This has encouraged SMES to purchase and implement new systems which enables SMES to cope with new ideas and technologies. For example new software installations .

2.7 Attitude towards use of ICT and Adoption of ICT

Attitude refers to predisposition or tendency to respond positively or negatively towards a certain idea, (Cassim and Boon, 2011). Attitude influences the choice of an action and response to an innovation. Attitude in this study imply perceived risks in relation to adoption of technological innovation in an enterprise. According to a study by Kimwele, Waweru and Kimani, (2010) on information technology Security, reveals that small and medium Entrepreneurs have resistance to ICT adoption because of the fear of electronic crime within the enterprise. Electronic crime takes the form of hacking, fraud during online transactions and physical damage key parts of ICT infrastructure. According to Ongori, (2009) concurs with Kimwele et al., (ibid) in that many entrepreneurs owner manager perceive the risks of ICT adoption as too great to undertake. This is because generally do not trust Information and Communication Technology related transactions for fear of loss of money through fraud during online transaction. Ongori, (ibid) asserts that insecurity of online business is a major barrier to ICT adoption in SMEs. This is because of exposures to frequent fraud.

In an empirical study by Mureithi, (2006) which sought to investigate factors affecting internet use among female micro entrepreneurs in Kariobangi, found that many enterprises considers other communication tools besides the mobile phones only once they perceive the business to have grown. In a study by Susan Waruru, (ibid) on women entrepreneurs and e-commerce found out that there exists negative perception on adopting information and communications technology in enterprises because of experiences that have been encountered by women. These are lack of trusted raw material, correct finished products and secure trading sites in the internet. Furthermore there is negative perception on use of internet because of experienced differences between commodities ordered online and those received. These issues deter most entrepreneurs from adopting ICT in their enterprises to practice a

secure electronic commerce. Such scenarios create negative attitude towards Information and Communication Technology adoption. The study by Sahonya, (2010) found out that female enterprises as owner Managers detest from adopting ICT in their SMEs because they fear employees who may possess technical know how of the underlying technology and its operations. Sahonya (ibid) states that such employees can be a threat than a good human resource investment to the enterprise. . They can easily involve in ICT related crimes such as financial fraud, breach of data security such as accessing owner manager vital business secret information- product or market information. Therefore many enterprises detest from adopting Information and Communication Technology all together. According to Department of Trade and Industry,(2006) many electronic crime are costly to the SMEs because requires installations such as virtual private networks (VPN) which allows secure business-to-business –communications. Such costs are beyond the reach of women entrepreneurs. Consequently, they end up not adopting information and communications Technology related devices.

2.8 Networking and ICT Adoption

Networking refers to the activity of building relationships and connecting with others for various reasons, they are channels through which entrepreneurs get access to resources for business start up, growth and success (Daniel, 2004). According to Mazzarol, Reboud and Soutar, (2009) networks are recognized to contribute to entrepreneurial capacity by extending the individual asset base of human, financial and technical capacity. The argument indicates that social networks of business owners also play a crucial role in driving or inhibiting ICT adoption in enterprises especially SMEs, For example in communities where culture is viewed as a key factor, particular cultural traits and values attached to resources and investments may influence ICT adoption in different ways. (Beckinsale and Ram 2006).In

addition, the size and type of social structures as well as the nature of social links and preference for personal friendship and contacts, (Beckinsale and Ram *ibid*), may have positive or negative influences on ICT adoption in enterprises. Gray, (2006) proposed that in terms of positive influence social networks are crucial to enterprise owners for sharing information, business experience and technical knowledge especially if the SME are experiencing resource constraints which inhibit ICT adoption. In addition, the formal training and effective innovation as well as growth. This concurs with Gibbs, Sequeira and White, (2007) in that the exploitation of intangible resources like social networks may help equalize the playing field for women business owners and help offset resource constraints. The study by Manuelli, Latu and Koh, (2007) on social networks and ICT adoption acknowledged that information filters through the networks and depending on the nature of the networks and the roles of its opinion leaders, new innovations are adopted. Opinion leaders are key decision makers such as women enterprise owner managers who have a vital role to play in purchasing, planning and making Information and Communication Technology adoption decisions. (Manuel et al., *ibid*).

2.9 Legal and Regulatory Environment

Legal and regulatory environment refers to laws regulations and policies that have been developed by the state and local government in order to exert control over business practices, (Wangechi Grace, 2009). According to Tokma, (2001) the adoption of Information and Communication Technology in Women managed Enterprises is very much dependent on the operating environment. Operating environment comprises of policy, legal and Institutional framework in which enterprises function. According to Stoneman and David, (1986) the Impact of government policies and initiative has been shown to have direct and indirect stimulation to the supply of information which produces faster technology diffusion. A

negatively biased policy; for example gender biased is likely to adversely affect the success of ICT adoption in Women Enterprise projects. In addition, unfavorable environment can make enterprises uncompetitive without adopting Information and Communication Technology Apulu and Latham (ibid).Conversely, a favorable operational environment spurs faster adoption of ICT in enterprise, such as availability of reliable telecommunications infrastructures put for by the government, Apulum and Latham, (2009). Regulatory environment on the other hand is necessary in order for SMEs to have an environment that support affordability, availability and reliability of ICT. (Awe, 2005).

2.10 Conceptual Framework.

This section provides a schematic presentation of interrelationship between variables in the context of the problem being investigated. In this case, there are various major variables which influence ICT adoption as shown diagrammatically.

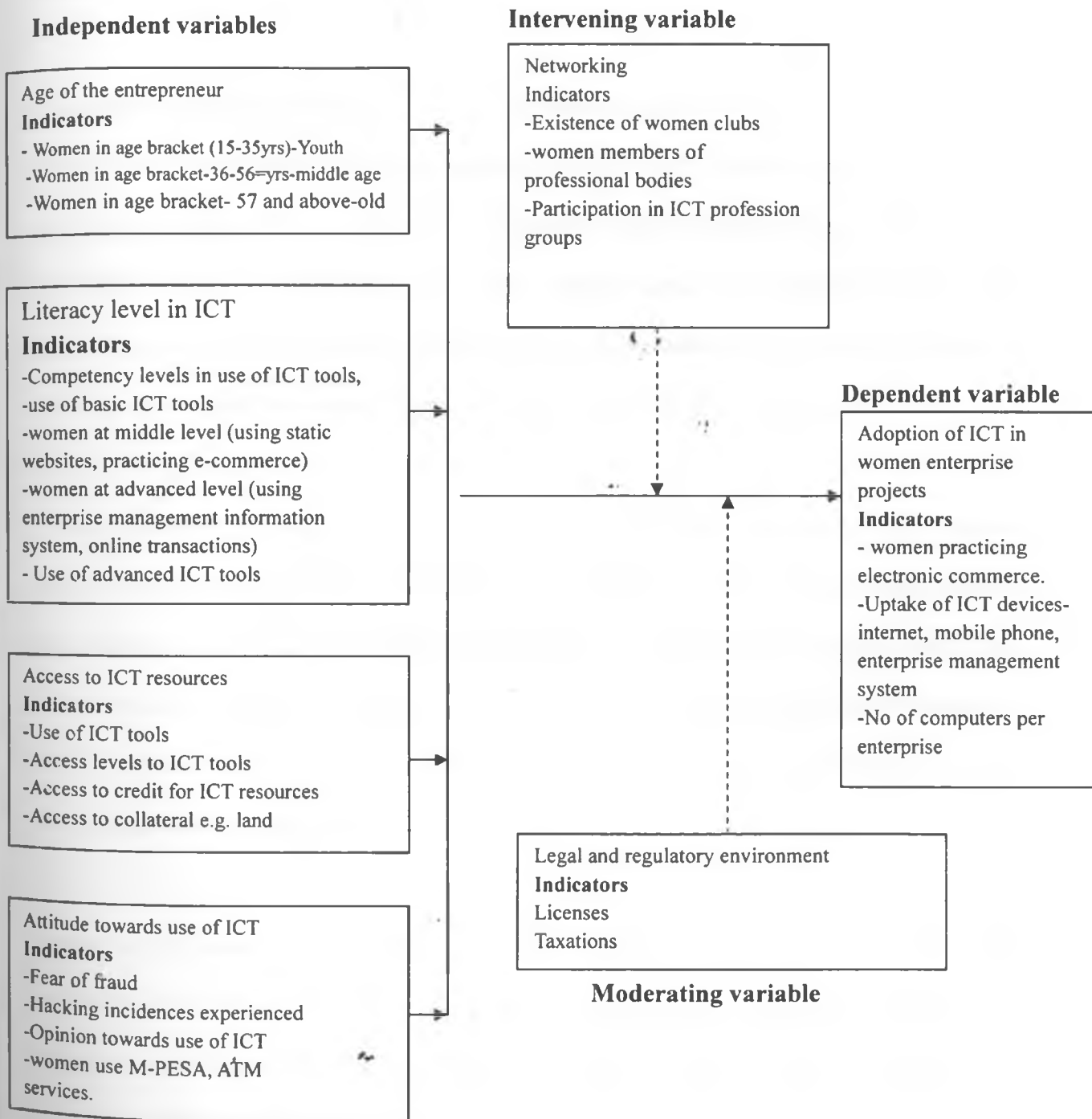


Figure 3: Conceptual Framework: Author 2012

A conceptual framework is an abstract or general idea inferred from specific instances. It requires explanations to be understood. In the study adoption of ICT in women enterprises was conceptualized as dependent variable, while Age of entrepreneur, literacy levels in ICT use, Access to ICT resources and Attitude towards use of ICT were used as independent variables

The study endeavored to establish how age influences adoption of ICT. It was assessed in terms of how the different age groups were responding to ICT innovations. Younger ones were easily adopting ICT more compared to the middle aged and the old. This is because they are more flexible in implementing new ideas, concepts and technological innovations as revealed in the empirical review. The indicators of age are women at age group 15-35years, those age group 36-56 years and lastly women from age group 56years and above.

Literacy level in Use of ICT is conceptualized as independent variable. It has positive influence towards adoption of ICT in women enterprise projects. The higher the literacy level the higher the rate of adoption of ICT in enterprise projects and the opposite is true. The indicators of the studied variable are women at basic level, women at middle level and lastly those at advanced level. It will be measured by asking the respondents which literacy level do they belong based on complexity of the ICT tools.

Access to ICT resources is another independent variable considered in this study. The availability of ICT resources such as ICT tools enhanced positively towards adoption of Information and Communications Technology in enterprises. Similarly, access to funds such as credit to purchase the ICT tools such as computers, fax machines, and paying internet service providers. Inaccessibility of funds due to lack of credit and collateral was found to be a

barrier since women entrepreneurs incur costs for installing the internet from internet service providers and purchase and installation of software such as enterprise management systems. The indicators of access to ICT resources are presence of computers, use of mobile phones, presence of internet, fax machines. Furthermore, the availability of credit and collateral.

Attitude towards use of ICT is another independent variable that was considered in this study. Attitudes towards use of ICT may have positive or negative influence on adoption of ICT .In this study it has a negative influence on adoption of Information and Communications Technology in enterprise projects. This is because women entrepreneurs fear being victims of fraud .Further their business information secrets such as products information financial information being accessed by the wrong persons especially through the internet. The indicators of attitude in this study are fear and opinion levels towards use of ICT in the business enterprise projects. The attitude can either be positive or negative.

2.11 Summary

From the literature reviewed it has been observed that adoption of ICT in enterprises greatly influences their performance and accelerates economic growth. Globally, enterprises regardless of their size in developed world have adopted ICTs. However due to digital divide the situation is different in Africa and in Kenya. Literature reviewed show that access to resources of finance and ICT tools influences adoption of ICT where mobile phones being the widely used ICT tool. Attitudes negatively influence the adoption of Information and Communication Technology in women managed enterprises while networks may positively influence realization of adoption of Information and Communication Technology. It is evident from the literature surveyed that the factors are social, economical and demographic ones in relation to adoption of Information and Communication Technology.

The research gap show that many researches have been done on Information and Communication Technology adoption but in regard to factors influencing Information and Communication Technology adoption in women managed enterprise projects have not been adequately addressed. Consequently, factors influencing Information and Communication Technology adoption require sustained attention since adoption of Information and Communication Technology in women managed enterprises positively improves performance of their enterprises. This study therefore is set out to assess how these factors influence the adoption information and communications Technology in women managed enterprise projects at Nyeri County.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter outlines the type of research methodology to be applied. It mentions the type of research design, sample and sampling procedure method, target population, Accessible population and sample size. Further data collection procedure and analysis, research instruments the study adopted. It has also focused on validity and reliability of instruments and ethical issues.

3.2 Research Design

The research used a descriptive survey strategy. According to Kothari, (1985), descriptive design allows the researcher to describe record, analyze and report conditions that exist or existed. The research study used both quantitative and qualitative approaches. The data was collected to study the factors influencing adoption of ICT in women enterprise projects at Nyeri County. The quantitative approach is used in this study because it provides in depth understanding of information while the quantitative approach provides summary information on many characteristics: Hair, Money, Samuel and Page (2007).

3.3 The Target Population

The target population is that which researcher wants to generalize the results of the study (Mugenda and Mugenda, (2003) .The population for the study comprises of the MSEs Women entrepreneurs in Nyeri County. According to the report from the ministry of trade (Nyeri office, as of Dec, 2011), there are 173 registered women owned MSEs. Out of these 63 are in the service sector like hotels, 89 are in trade sector while 21 are in the manufacturing sector. Consequently 173 was accessible population which formed the basis of the study.

Table 3.1 Population Frame

Category	Accessible Population
Service Sector	63
Trade	89
Manufacturing	21
Total	173

Source. Ministry of Trade, 2011

3.4 Sample Size and Sampling Procedure

The study adopted a stratified random sampling method. The reason for the choice of this method is because the target population consists of categories of women entrepreneurs in service sector, trade and manufacturing.

3.4.1 Sampling

Sampling is the process of obtaining information about the entire population by examining only part of it (Kothari, 1985). Copper and Schindler (2003), describes sampling as the procedure by which some elements of a given population are selected as representative of the entire population. The primary purpose of sampling is that by selecting some elements of a population the researcher can draw conclusions about the whole population. The significance of sampling comes from the fact that the precision of conducting the sampling procedures will determine the extent to which the research findings are generalisable. The study utilized probability sampling in order to give all the individuals in the population equal chances of being selected. The research study employed the stratified random sampling in the selection

of the respondents. The stratified sampling is used to in order to obtain a representative sample. According to Kothari the target population is divided into sub populations that are individually more homogenous than the total population. They are called strata. In relation to this study, target population was categorized into three sub-populations or strata referred to as business profiles.

3.4.2 Sample Size

To obtain the sample size an online calculator was utilized to come up with a sample size. (Raosoft, 2004).

The sample size and the margin of error are obtained as follows

$$X = Z(c/100) \sqrt{r(100-r)}$$

$$n = N \times (N-1) \frac{E^2 + X^2}{X^2}$$

$$E = \left\{ \sqrt{\frac{(N-n) \times n}{(N-1)}} \right\}$$

From the formula above, N is the population size and r is the fraction of responses we are interested in while Z(c/100) is the critical value for the confidence level c. By using the online calculator (Raosoft, 2004) and entering population size of 173 in business enterprises, with a margin of error of 5% and 95% confidence level the recommended sample size generated was 120. To obtain the proportionate sample size per stratum the desired sample size was weighted against the target population then multiplied by the target population per each stratum. The method assumes that at least a minimum of 75 percent of the response rate is achieved. It is based on normal distribution.

Table 3.2 Sample frame and proportionate sample size per stratum

Category	Accessible Population	Sample Size per stratum
Service sector	63	44
Trade	89	61
Manufacturing	21	15
Total	173	120

3.5 Data Collection Method

A self administered used as data collection instrument was used as data collection instrument both open ended and closed ended questions were used. The use of questionnaires was to enable the respondents to remain anonymous and be honest in their responses (Cooper and Schindler, 2003). The choice of the questionnaire was based on the fact that it is easy to analyze the collected data statistically.

3.6 Research Instrument

As mentioned in the data collection method the research study used questionnaire as research instrument. The questionnaires were administered on drop and pick basis in the month of June.

3.7 Instrument Validity

Validity is the degree to which an instrument measures what is supposed to measure. Kothari, (1985). It is the degree to which results obtained from the analysis of the data actually represent the phenomenon under study. The validity was enhanced through appraisal of the tools and verification by the supervisor who is an expert. Furthermore, the questionnaire was be subjected to test-retest to detect any deficiencies in it. The necessary improvements were made. In this study content validity was used in order to measure the degree to which data

collected using questionnaire represent only specific domain of indicators. The supervisor was consulted to assess the questionnaire to ensure it measured the concept was intended.

3.8 Instrument Reliability

Mugenda and Mugenda, (1999) define reliability as a measure of a research instrument yields consistent results or data after repeated trials. According to Joppe, (2000) reliability is the extent to which results are consistent overtime.

To test reliability the researcher used consistent and systematic questions in the questionnaire. This was done order to ensure that they test relevant variables.

3.9 Data Analysis Procedure and Presentation

Data analysis consists of examining categorizing; tabulating or otherwise recombining the evidence to address the initial prepositions of the study (Yin, 1994).The data collected was cleaned and coded. This was to enhance basic statistical analysis. The data analysis involved quantitative and qualitative methods (numerical and descriptive). Qualitative data was analyzed based on content analysis. Data was analyzed with the help of electronic spreadsheet SPSS Program which has analysis tools. The collected data was presented using statistical techniques which included percentages and frequency distribution tables.

3.10 Ethical Issues

The principle of voluntary participation was be strictly adhered to. The respondents were not coerced into participating in the research. They were informed about the purpose of the study.

The researcher obtained permission to carry out the research from the relevant authority.

3.11 Summary

Research methodology used was survey research .the target population which was drawn from trade, service and manufacturing sectors, the sample size, sampling procedure. It mentions the data collection method or procedure, the instrument validity and reliability. Finally the data analysis procedure and presentation, ethical issues and operationisation of the studied variables.

3.12 Operationalization of Variables

Objective	Independent Variable	Indicator	measurement	Measurement scale	Methods of data analysis
1.To establish how age of entrepreneur influence adoption of ICT in women enterprise projects at Nyeri County	1. Age of entrepreneur	- women of age bracket(15-35)yrs-Youth - women of age bracket(36-56)yrs-middle aged - women age bracket (57yrs and above-old)	-Number of women of age bracket(15-35)yrs- Youth -Number of women of age bracket(36-56)yrs- middle aged -Number of women of age bracket(57 and above)-old	Ratio Ratio Ratio	Descriptive- Correlation analysis -frequencies distribution tables
2. To determine how literacy levels in use of ICT influence adoption of ICT in women enterprise projects at Nyeri County	2. Literacy level in use of ICT	-competency levels in use of ICTs -use of basic ICT tools-computers,Internet.e-mail -Use of complex ICT tools e.g. enterprise management system software.	-Number of women at basic level -Number of women at middle level -Number of women at advanced level	Ratio Ratio Ratio interval	Descriptive- Correlation analysis, frequencies Inferential-hypothesis testing -correlation analysis
3. To examine how attitude towards use of ICT influence adoption of ICT in women enterprise projects at Nyeri County	3. Access to ICT resources	-access levels to ICT tools -Access to credit -women accessing credit	-rate of access -rate of access -number of women accessing credit	Ratio Interval Ratio	Descriptive- frequencies Inferential-correlation analysis, hypothesis testing
4. To establish how attitude towards use of ICT influence adoption of ICT in women enterprise projects at Nyeri County	4. Attitude towards use of ICT	-usage levels to ICT tools -Entrepreneurs practicing e-commerce-mobile and online transactions. -opinion towards use of ICTs tools	-rate of use - rate of practice Opinion levels (negative or positive)	Ratio Ratio Ratio	Descriptive- frequencies Inferential-correlation analysis
5. Dependent variable	5. Adoption of ICT in women enterprise projects =dependent variable.	-regular use of ICT tools in the enterprise projects	-rate of ICT tools uptake	Ratio	Descriptive

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION AND INTERPRETATION

4.1 Introduction

This chapter presents the findings of the study. The chapter covers the response rate, background information, age of the respondents and ICT adoption, literacy levels and ICT adoption, access to ICT Resources, and attitude towards ICT. The responses were analyzed using descriptive statistics and data presented in tables.

4.2 Response Rate

Out of 120 questionnaires which had been administered to the interviewees, 112 of them were returned for data analysis. This translates to 93% percent return rate of the respondents. Overall, the response rate can be considered to have been high because the researcher self administered the questionnaires himself to the respondents. The chapter describes how the findings of the study on the sampled population were analyzed and presented. This is with respect to the respondents, business profile and factors that influence the adoption of ICT in entrepreneur projects which are: age of the entrepreneur, literacy levels in ICT use, access to ICT resources and attitude towards use of ICT. A number of tables were drawn to show how different kinds of results were interpreted according to study objectives.

4.2.1 Data analysis and Results

The following are the analysis of the data and results. Out of the 120 questionnaires distributed 112 questionnaires were received from the sampled respondents from 120. This represented a response rate of 93.3% (93%). All the 112 questionnaires were fit for analysis.

Out of the 120 questionnaires distributed, 112 were filled and returned a response rate of 93%, the study recorded a high response rate of 93% and according to Linder and

Wingerbach,(2002) states surveys that have high response rates provide a measure of reassurance that the findings can be projected to a population from which the sample is drawn.

Out of the 112 respondents received and fit for analysis, 41 were in the service category representing 34.5% ,61 were in the trade sector representing 50.4% while 10 were in the manufacturing sector representing 8.9% of the respondents. The traders represented the largest portion of the overall respondents in the sample therefore most of the questionnaires were administered to them. The traders comprised most of the women entrepreneurs in enterprise projects therefore it was important a large number of them to respond in order to provide crucial information for this study. Similarly, those in the service sector.

Table 4.1 Response Rate

Respondent	Questionnaires issued	Questionnaires returned	Percentage of overall questionnaires returned
Service	44	41	34.2%
Trade	61	61	50.8%
Manufacturing	15	10	8.3%
Total	120	112	93.3%

4.3 Profile of the studied population in terms of years they have been in business

Table 4.2 Years in business enterprise

Years	Frequency (n)	Percent
Less than 5	23	20.54
5-10	35	13.39
11-15	22	31.25
16-20	17	19.64
20 and above	15	15.18
Total	100	100.0

Table 4.2 shows that, most women enterprises started have been in existence for more than

five years and only 20 per cent were started less than 5 years ago.

4.4 Adoption of ICT –Dependent variable

The study aimed at assessing the level of ICT adoption among women entrepreneurs. It was important because it provided information on the dependent variable. The findings are tabulated in the table below.

Table 4.3 Rate of adoption of ICT in Women enterprise Projects

Rating	Frequency (n)	Percent
Very high	0	0
High	3	3
Moderately	24	21
Low	77	69
Very low	8	7
Total	112	100.0

Table 4.3 shows that 77 percent rate adoption of ICT in their business as low, 21 percent moderately, 7 percent as very low while only 3 as high. This shows that ICT adoption among women entrepreneurs is low because from low to very low adds up to 76% compared to from moderately to very high which adds to partly 25%. This is in agreement with the empirical findings on the studied variable.

4.5 Age of Entrepreneur and ICT Adoption

The researcher wanted to establish the age of the entrepreneurs' and how it influences adoption of ICT in entrepreneurship. First, by establishing their age groups.

Table 4.4 Age of Women Entrepreneur

Years	Frequency (n)	Percent
18-29	12	10.7
30-39	22	19.6
40-49	21	18.75
50-59	32	28.57
Over 60	26	23.21
Total	112	100.0

Table 4.4 indicates that, majority of women in business were not young. Between 50-59 years had the highest percentage of 28%, followed by over 60 years with 23%, 40-49 with 18%, 30-39 with 19% and 18-29 accounting to paltry 10%. It can be deduced that young women aged less than 39 years do not actively engage in entrepreneurship.

4.5.1 Influence of Age on Adoption of ICT

The researcher wanted to establish views from the respondents on whether age do influence the adoption of ICT in enterprise projects based on a likert scale from, “strongly agree to strongly disagree”

Table 4.5 Influence of Age on ICT adoption

Age influence ICT adoption	Frequency (n)	Percent
Strongly Agree	27	24
Agree	22	20
Neutral	38	34
Disagree	12	11
Strongly Disagree	13	11
Total	112	100.0

Table 4.5 shows that 24 percent strongly agreed that age influences adoption of ICT technology, 20 percent agreed while 34 percent were neutral. Those who strongly disagreed and disagree represent 11 percent each. This indicates that, women entrepreneurs, (44 percent) felt that age was factor in adoption of ICT technology in their ventures. This accords with Olumide and Richard, (2010) who acknowledged that age has a significant influence on adoption of Information and Communication Technology. Those who were neutral stated that they have neither stand nor idea whether age does influence adoption of ICT.

The researcher set to find out the qualitative information on age and adoption of ICT by asking the respondents, what comments they have on use of ICT tools besides mobile phone within their enterprises. They had the following to say, “ICT is for the young women entrepreneurs not for us old. Younger entrepreneurs are capable of using complex ICT tools.”ICT is a recent development for young people. The internet belongs to the young women entrepreneur not for as old. They are better trained on unlike us old(Respondent 4)

This information was a common response from older persons, of age group sixty years and above and few of age fifty to fifty-nine. This concurs with Damanpour and Scheneider, (2009) who argued that younger entrepreneurs are less likely to resist change as well more receptive to adopting new ideas as compared to their older counterparts.

4.6 Literacy in use of ICT and ICT adoption

The researcher wanted to establish the literacy levels in use of ICT based on the level of the skills from, no skill to very advanced.

Table 4.6 Level of ICT literacy

ICT Literacy	Frequency (n)	Percent
No ICT Skills	0	0
Basic	95	85
Middle	15	13
Advanced	2	2
Very Advanced	0	0
Total	112	100.0

Table 4.6 indicates that 85 percent of women entrepreneurs had basic skills in ICT meaning they are able to use mobile phones, fax and email, 13 percent middle level skills, meaning they are able to use internet and do on-line transactions as well as able to do basic ICT roles. Only 2 percent had advance skills and were able to use complex ICT tools and do e-commerce. None of the respondents had very advanced skills or no ICT skills at all.

Table 4.7 Use of ICT application Tools

The researcher wanted to find out the type of ICT tools used by the respondents and the rate of their usage in order to get more information on their literacy levels.

ICT TOOL	Very Often	Often	Moderately	Rarely	Very Rarely Used
Mobile Phone	109(97.32%)	0	0	0	3 (2.7%)
Computer	30(21%)	20(18%)	6(5%)	3(3%)	51(45%)
Internet	9(8.%)	11(10%)	6(5%)	1(1%)	85(76%)
Website	3(3%)	7(6%)	8(7%)	5(4%)	89(79%)
EMIS	0	0	0	0	112(100%)
Aggregate	25.8%	6.8%	3.4%	1.6%	60.54%
Percentage Average Use					

Table 4.7 shows that, 97 percent of women very often use mobile phones in their enterprises and only about three percent rarely use them. Twenty one percent of women very often use computers, 18 percent often use them, while majority 45% very rarely use computers in managing their enterprises. On internet use, 76 percent very rarely use internet in managing their enterprises while less than 8 percent very often use internet, 10 percent often use while paltry 5 percent moderately used internet. The same was in the case of websites. As of Enterprise management information system 100 percent very rarely use. This implies that, majority of women use mobile phones as an ICT tool in managing their enterprises. Computer is also another tool that is used.

On aggregate, ICT tools usage stands at over 60 percent very rarely use ICT tool in their business, 22 percent very often use ICT tools while less than 10 percent range between often use, moderately use and rarely use. Reasons for high percentage of mobile phone as ICT tool as shown in Table 4.3, was mobile phones were cheap in terms of cost and easy to use as

they do not require complex ICT literacy skills. Computers were also seen to improve efficiency. This is in agreement with empirical review.

4.6.1 ICT Tools Mostly used in Enterprises

Table 4.8 ICT Tools mostly used in Enterprises

ICT Tools	Frequency (n)	Percent
Mobile Phones	86	77
Email	38	34
Internet	20	18
Static Website	12	11
EMIS	0	0

From Table 4.8 77 percent of women entrepreneurs used mobile phones in their venture as ICT tool, 34 percent use E-mail, 18 percent internet, 11 percent use static website while none used Enterprise management information system. Reason given for the level of usage was inaccessibility of some tools like static websites, expensive to use some tools like internet in business, low ICT literacy levels and cost of ICT tools.

Table 4.9 Literacy and ICT Adoption

Influence of Literacy on ICT adoption	Frequency (n)	Percent
Strongly Agree	78	69
Agree	22	19
Neutral	12	11
Disagree	1	1
Strongly Disagree	0	0
Total	112	100.0

The researcher also wanted to establish the views of the respondents on the influence of literacy on adoption of ICT on a likert scale from, strongly agree to strongly disagree.

From Table 4.9 above shows that, 69 percent of the respondents strongly agreed that ICT literacy influence on adoption of ICT in women businesses, 19 percent agreed, 11 percent were neutral while only one percent disagreed.

4.7 Access to ICT Resources and adoption of ICT

Access to ICT resources was critical in the adoption of ICT since will determine the rate of ICT use in the enterprise. The researcher was interested in establishing how accessibility influenced ICT adoption in enterprises and therefore reviewed how often ICT resources are accessed.

Table 4.10 Access to ICT Resources

Access to ICT Resources	Frequency (n)	Percent
Very Often	1	1
Often	17	15
Occasionally	48	42
Rarely	44	39
Very Rarely	2	1
Total	112	100.0

Table 4.10 shows that, 42 percent of respondents occasionally access ICT resources, 39 percent rarely access ICT resources, 15 percent often while only one percent very often and very rarely often access ICT resources.

Table 4.11 Influence on Access on Adoption

Access to Resources on ICT	Frequency (n)	Percent
Yes	106	94
No	1	1
Don't Know	5	4
Total	112	100.0

From Table 4.11 94 percent of respondents felt that access to ICT resources influence adoption if ICT, 1 percent felt that access to resources does not influence adoption of ICT, and 4 percent did not know.

Since credit was one of the identified resources that influence the adoption of ICT in enterprises, the researcher was interested in establishing the views of the respondents on access to the same, on a scale from “extremely inaccessible to extremely accessible”.

Table 4.12 Access to Credit for ICT

Access to Credit	Frequency (n)	Percent
Extremely Inaccessible	37	33
Inaccessible	54	48
Don't Know	6	5
Accessible	13	12
Extremely accessible	2	2
Total	112	100.0

Table 4.12 indicates that 81percent of the respondents felt that credit for acquiring ICT tools is inaccessible, 5percent did not know while paltry 14 percent felt credit was accessible. The researcher sought to find out opinion of the respondents on access to by asking them to comment on access to credit, a common response was; access to credit funds is a major constraint to ICT adoption. This is because to install an internet is costly. Again majority like we young entrepreneurs do not have collateral to act as security in securing a loan from a bank like Kenya Women Finance Trust. These accords with Singh and Belwal,(2008).

4.8 Attitude towards use of ICT and adoption of ICT

Attitude towards use of ICT in enterprises was of interest to the researcher as it influenced adoption of ICT positively or negatively. The attitude determines the success or failure of adoption of an innovation. The researcher sought to determine the respondents' attitude towards ICT on a scale from "very negative to very positive."

Table 4.13 Attitude and ICT Adoption

Attitude towards ICT	Frequency (n)	Percent
Very Negative	16	14
Negative	27	24
Don't Know	23	21
Positive	28	25
Very Positive	18	16
Total	112	100.0

Table 4.13 shows that 16 percent had very positive attitude towards ICT adoption, 25 percent were positive, 21 percent did not know, 24 percent had negative attitude while 14 percent had very negative attitude towards adoption of ICT in their enterprises.

The reasons negative attitude for the ICT was: Risky to invest, difficult to handle ICT tools, afraid of fraud and low literacy levels.

Table 4.14 Attitudinal factors on ICT adoption

Factor	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Fear of Fraud	67(59%)	34(30%)	8(7%)	21(19%)	1(1%)
Loss of secrecy	71(63%)	28(25%)	7(6%)	5(4%)	1(1%)
Hacking	50(45%)	47(42%)	10(9%)	4(4%)	1(1%)
Access to market	35(31%)	46(42%)	25(22%)	4(4%)	2(2%)
Aggregate %	39.6%	34.75%	11%	7.75%	1.25%

The researcher was interested to know attitudinal factors of fear of fraud, loss of secrecy, hacking and access to market information influence adoption of ICT among women entrepreneurs using a likert scale from “strongly agree to strongly disagree”. This was in order to provide more information on attitude factor.

From Table 4.14 Fifty nine percent of respondents felt that, fear of fraud influence adoption of ICT while 30 percent agreed with. Less than 20 percent disagreed and strongly disagreed.

On loss of secrecy as cause for low adoption, 71 percent strongly agreed, 28 percent agreed, while less than 10 percent disagreed.

On hacking as a cause for low adoption, 45 percent strongly agreed, 42 percent agreed, 10 percent were neutral while less than 5 percent disagreed.

On market access as cause for low adoption, 31 percent strongly agreed, 42 percent agreed, 22 percent were neutral while 6 percent disagreed.

4.9 Relationship between Factors and ICT Adoption

This section establishes the relationship between the studied factors and ICT adoption by means of hypotheses testing in order to establish strength of relationship.

4.9.1 Hypothesis Testing

Table 4.15 Influence of Age on Adoption of ICT

Age	Percentage distribution(X)	ICT Adoption rate	Percentage Distribution(Y)
18-29	11	Very high	0
30-39	19	High	3
40-49	18	Moderately	21
50-59	28	Low	69
60 and above	23	Very low	7
Total	100		100.0

Pearson Product moment was used to test the first hypothesis, that is, Age of the entrepreneur does not significantly influence adoption of ICT in women enterprise project at Nyeri County.

Pearson Product Moment Correlation

Statistic	Variable X	Variable Y
Mean	20	20
Variance	31.2	656
Standard Deviation	5.59	25.53
Correlation Coefficient	0.7698	
t-test	2.0892	
Degrees of Freedom	3	

The calculated Pearson product Moment Correlation coefficient of 0.7698 at 3 degrees of freedom implies that, there is a strong correlation between age of women entrepreneurs and adoption of ICT. Therefore the null hypothesis will be rejected and we accept the alternative hypothesis which means that, age of the entrepreneurs significantly influence the adoption of ICT in women enterprise project at Nyeri County.

Table 4.16 Influence of ICT literacy levels on ICT Adoption

ICT Literacy Levels	Percentage distribution(X)	ICT Adoption rate	Percentage Distribution(Y)
Very Advance	0	Very high	0
Advance	2	High	3
Middle	13	Moderately	21
Basic	85	Low	69
No skill	0	Very low	7
Total	100		100.0

Pearson Product Moment Correlation

Statistic	Variable X	Variable Y
Mean	20	20
Standard Deviation	32	25.53
Correlation Coefficient	0.98786	
t-test	11.01381	
Degrees of Freedom	3	

The calculated Pearson product Moment Correlation coefficient of 0.98786 at 3 degrees of freedom implies that, there is a very strong correlation between ICT literacy levels of women entrepreneurs and adoption of ICT. Therefore, the null hypothesis will be rejected and we accept the alternative hypothesis which means that, ICT literacy levels of the entrepreneurs significantly influence the adoption of ICT in women enterprise project at Nyeri County.

Table 4.17 Access to ICT Resources and ICT Adoption

Access to ICT Resources	Percentage distribution(X)	ICT Adoption rate	Percentage Distribution(Y)
Extremely accessible	2	Very high	0
Accessible	12	High	3
Neutral	5	Moderately	21
Inaccessible	48	Low	69
Extremely Inaccessible	33	Very low	7
Total	100		100.0

Pearson Product Moment Correlation

Statistic	Variable X	Variable Y
Mean	20	20
Standard Deviation	17.7	25.53
Correlation Coefficient	0.7453	
t-test	1.936227	
Degrees of Freedom	3	

The calculated Pearson product Moment Correlation coefficient of 0.7453 at 3 degrees of freedom implies that, there is a strong correlation between access to ICT resources by women entrepreneurs and adoption of ICT. Therefore, the null hypothesis will be rejected and we accept the alternative hypothesis which means that, access to ICT resources by entrepreneurs significantly influence the adoption of ICT in women enterprise project at Nyeri County.

4.10 Summary

The study highlighted the introduction, the response rate, profile of the studied population, data presentation and analysis of and results.

CHAPTER FIVE

SUMMARY OF FINDINGS, DISCUSSIONS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

The basic purpose of this chapter is to give the summary, conclusions and recommendation of the study. This was based on the research findings that is presented and discussed in the previous chapters.

5.2 Summary of Findings

The findings in the study are summarised in the table 5.1

Table 5.1 Summary of Findings

Objectives	Findings	Remarks
1.To establish how age of entrepreneur influence adoption of ICT in women enterprise projects at Nyeri County	44 percent of respondents agreed age do influence adoption of ICT, Twenty five percent or 13 and 12percent Disagreed and strongly disagreed.25 % had no stand. In terms of relationships there was a high correlation Coefficient of 0.7698. Rate of adoption is high within Youth group	Age is factor in adoption of ICT. Age significantly influence adoption of ICT. Younger entrepreneurs are more likely to adopt ICT than older entrepreneurs.
2.To determine how literacy levels in use of ICT influences adoption of ICT in women enterprise projects at Nyeri County	Basically all respondents use mobile phones in business. 85 percent of respondents are at basic level, could only use basic ICT tools. Only 2 percent are advanced level but none at very	Virtually there is “no” ICT adoption among the studied population. Literacy in use of ICT among respondents is at the basic level.

	<p>advanced level.</p> <p>88 percent(69 and19) percent strongly agreed that Literacy levels influences adoption of ICT.</p> <p>In terms of relationships, there was strong correlation coefficient of 0.98786</p>	<p>Literacy levels significantly Influence adoption of ICT</p>
<p>3.To examine how access to ICT influences adoption of ICT in women enterprise projects at Nyeri County</p>	<p>In terms of relationship findings revealed Pearson product moment correlation coefficient of 0.7453 at three degrees of freedom.</p> <p>Only one percent accessed ICT resources very often, fifteen percent often, while 39 percent said they rarely accessed ICT resources.</p> <p>81 percent of respondents felt that credit for acquiring ICT tools is inaccessible,5 percent had no stand while 14 percent felt credit is accessible</p>	<p>There is a strong correlation between access to ICT and adoption of ICT.</p> <p>Access to ICT resources significantly influence the adoption of ICT In women enterprise projects</p> <p>Lack of access to ICT resources is very high.</p> <p>Access to funds is a major constraint to ICT adoption among the studied women entrepreneurs. This concurs with findings on the literature on the studied variable.</p>

<p>4. To establish how attitude towards use of ICT influences adoption of ICT in women enterprise projects at Nyeri County.</p>	<p>On whether attitude positively or negatively influences adoption of ICT, thirty eight percent stated they had negative attitude towards use of ICT twenty-three percent had no stand while sixteen and twenty five percent had very positive and positive attitude towards use of ICTS.</p>	<p>Majority of the respondents had negative attitude towards use of ICT in their enterprise projects.</p> <p>Attitude towards use of ICT also influences adoption of ICT in women enterprise projects; positive attitude enhances adoption of ICT while negative attitude inhibits adoption of ICT in women enterprise projects.</p>
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5.3 Discussion of findings

This part presents discussion of the findings based on the study objectives.

5.3.1 Age of the entrepreneur

Research objective one sought to establish whether age of entrepreneur influence ICT adoption in women enterprise projects at Nyeri County. The findings of this study established that, 24 percent strongly agreed that age influences adoption of ICT technology, 20 percent agreed while 34 percent were neutral. Those who strongly disagreed and disagree represent 11 percent each. This indicates that, women entrepreneurs, 44 percent felt that age was factor in adoption of ICT technology in their ventures.

The calculated Pearson product Moment Correlation coefficient of 0.7698 at 3 degrees of freedom implied that, there was a strong correlation between age of women entrepreneurs and adoption of ICT. Therefore the null hypothesis one was rejected and we accepted the alternative hypothesis which means that, age of the entrepreneurs significantly influence the adoption of ICT in women enterprise project at Nyeri County. This study concurs with

Ongori and Migiro, (2011) which also found out that, age has a positive influence in ICT adoption. In SMES Ongori and Migiro, (ibid) acknowledges that the younger entrepreneurs are more likely to adopt ICTS in their SMES than older ones. This is because the youthful entrepreneurs are more flexible in implementing new ideas, concepts and technological innovations. Al-Qirim,(2007) acknowledges that older female entrepreneurs are more likely to resist change in terms of new technological innovations such new ICT tools than younger female entrepreneurs. This is in consistent with Reza, Robyne and Belle, (2011) who also argued that that older entrepreneurs resist change and prefer traditional technologies such as just fixed telephone lines or face to face communication. They avoid complex ICT tools.

5.3.2 Literacy levels in use of ICT

The study objective two aimed at determining the extent to which literacy levels in use of ICT influence ICT adoption in enterprise projects at Nyeri County. The study found out that, 85 percent of women entrepreneurs had basic skills in ICT meaning they are able to use mobile phones, fax and email, 13 percent middle level skills, meaning they are able to use internet and do on-line transactions as well as able to do basic ICT roles. Only 2 percent had advance skills and were able to use complex ICT tools and do e-commerce. None of the respondents had very advanced skills nor no ICT skills at all. This indicated that virtually there was no ICT adoption by the respondents only the level that varied. This is in agreement with findings in chapter two on studied variable

77 percent of women entrepreneurs used mobile phones in their venture as ICT tool, 34 percent use E-mail, 18 percent internet, 11 percent use static website while none used Enterprise management information system.

Reason given for the level of usage was inaccessibility of some tools like static websites, expensive to use some tools like internet in business, low ICT literacy levels and cost of ICT

tools 69 percent of the respondents strongly agreed that ICT literacy influence on adoption of ICT in women businesses, 19 percent agreed, 11 percent were neutral while only one percent disagreed.

The calculated Pearson product Moment Correlation coefficient of 0.98786 at 3 degrees of freedom implies that, there is a very strong correlation between ICT literacy levels of women entrepreneurs and adoption of ICT. Therefore, the null hypothesis will be rejected and we accept the alternative hypothesis which means that, ICT literacy levels of the entrepreneurs significantly influence the adoption of ICT in women enterprise project at Nyeri County. The findings of this study concur with Yu,(2006) findings that, literacy levels influences adoption of ICT in small and medium enterprises. Yu C, (ibid) acknowledged that higher ICT literacy levels promote faster adoption of ICTS in SMES. Conversely, the lower the levels of literacy in use of ICT the slower the rate of ICT adoption. According to a study by Mair and Nair-Reichert,(2007) indicates uptake of ICT particularly mobile phones and computers which implies internet access, shows that it is lack of basic literacy in ICT although mobile phones are virtually known.

5.3.3 Access to ICT resources

The study objective three sought to examine how access to ICT resources influence ICT adoption in women enterprise projects at Nyeri County. The study found out that, 42 percent of respondents occasionally access ICT resources, 39 percent rarely access ICT resources, 15 percent often while only one percent very often and very rarely often access ICT resources. 81percent of the despondence felt that credit for acquiring ICT tools is inaccessible, 5percent did not know while paltry 14 percent felt credit was accessible.

The calculated Pearson product Moment Correlation coefficient of 0.7453 at 3 degrees of freedom implies that, there is a strong correlation between access to ICT resources by women

entrepreneurs and adoption of ICT. Therefore, the null hypothesis will be rejected and we accept the alternative hypothesis which means that, access to ICT resources by entrepreneurs significantly influence the adoption of ICT in women enterprise project at Nyeri County. This findings concurs with Cook and Nixson, (2000) who observed that, notwithstanding the recognition of the role of SMEs play in the development in many developing countries, SME development is always constrained by limited availability of financial resources to meet a variety of operational and investment needs such as ICT adoption, or related infrastructures. According to Ongori, (2009), financial constraints are a major determinant to ICT adoption among women managed SMEs. He argues that small and medium enterprises have limited ability to make huge ICT infrastructure investment in their firms due to lack of sustainable financing options. Rahman, (2006) found out that there is direct and significant relationship between costs and adoption of ICT. The lower the cost of adoption of new innovation such as Information and Communication Technology the higher the likelihood of its adoption. Similarly, the higher the cost of Information and Communication Technology application the less the likelihood of its adoption. The cost is the total amount that will cost the business organizations to adopt a new technology

5.3.4 Attitude towards use of ICT

The study objective four sought to establish how attitude towards use of ICT influence ICT adoption in women enterprise projects at Nyeri County. The findings of this study found out that, 16 percent had very positive attitude towards ICT adoption, 25 percent were positive, 21 percent did not know, 24 percent had negative attitude while 14 percent had very negative attitude towards adoption of ICT in their enterprises. The reasons for negative attitude for the ICT were: Risky to invest, difficult to handle ICT tools, afraid of fraud and low literacy levels. 59 percent of respondents felt that, fear of fraud influence adoption of ICT while 30

Percent agreed with that. Less than 20 percent disagreed and strongly disagreed.

On loss of secrecy as cause for low adoption, 71 percent strongly agreed, 28 percent agreed, while less than 10 percent disagreed. On hacking as a cause for low adoption, 45 percent strongly agreed, 42 percent agreed, 10 percent were neutral while less than 5 percent disagreed. On market access as cause for low adoption, 31 percent strongly agreed, 42 percent agreed, 22 percent were neutral while 6 percent disagreed.

The findings of this study concur with a study by Kimwele, Waweru and Kimani, (2010) on information technology Security, reveals that small and medium Entrepreneurs have resistance to ICT adoption because of the fear of electronic crime within the enterprise. Electronic crime takes the form of hacking, fraud during online transactions and physical damage key parts of ICT infrastructure. According to Ongori, (2009) concurs with Kimwele et al., (ibid) in that many entrepreneurs owner manager perceive the risks of ICT adoption as too great to undertake. This is because generally do not trust Information and Communication Technology related transactions for fear of loss of money through fraud during online transaction. Ongori, (ibid) asserts that insecurity of online business is a major barrier to ICT adoption in SMEs. This is because of exposures to frequent fraud.

5.4 Conclusions

In relation to age of the entrepreneur, young women aged less than 39 years do not engage actively in entrepreneurship. There was a strong correlation between age of women entrepreneurs and adoption of ICT. Therefore the null hypothesis one was rejected and we accepted the alternative hypothesis which means that, age of the entrepreneurs significantly influence the adoption of ICT in women enterprise project at Nyeri County.

In relation to Literacy level in use of ICT, research findings revealed that majority of women

use mobile phones as an ICT tool in managing their enterprises. Computer is also another tool that is used. On aggregate, ICT tools usage stands at over 60 percent very rarely use ICT tool in their business, 22 percent very often use ICT tools while less than 10 percent range between often use, moderately use and rarely use. The reasons for the low adoption were: mobile phones were cheap and easy to maintain and Computers were also seen to improve efficiency. In addition, there was a very strong correlation between ICT literacy levels of women entrepreneurs and adoption of ICT. Therefore, the null hypothesis two was rejected and we accepted the alternative hypothesis that is, ICT literacy levels of the entrepreneurs significantly influence the adoption of ICT in women enterprise project at Nyeri County.

Further, in relation to access to ICT tools there was a strong correlation between access to ICT resources by women entrepreneurs and adoption of ICT. Therefore, the null hypothesis three was rejected and we accepted the alternative hypothesis which means that, access to ICT resources by entrepreneurs significantly influence the adoption of ICT in women enterprise project at Nyeri County. Majority of the respondents were at the basic level in terms of literacy in use of ICTs

In relation to attitude towards use of ICT, fear of fraud, and the opinion that ICT is it risky to invest, contributed to negative attitude towards adoption of ICT in the enterprises. In addition low literacy levels, and hacking of business secrets s. lastly on attitude of women entrepreneur, majority had negative attitude towards ICT adoption. This contributed to low adoption of ICT in women enterprise projects.

5.5 Recommendations.

1. Based on the findings of age of the entrepreneur the study recommends more young women should engage in entrepreneurship at Nyeri County.. Similarly older women who are over 60

years should embrace ICT in their business venture.

2. In relation to literacy level in use of ICT the study recommends that, more women entrepreneurs at Nyeri County should train in ICT and improve their literacy skills in ICT and technical abilities in order to adopt ICT in their businesses.

3. In addition, ICT tools and resources should be availed to women entrepreneurs to increase adoption of ICT. The Government and other stakeholders should make credit available to women entrepreneurs for the purpose of adoption of ICT. ICT tools should be made cheaper through tax reliefs and should be made available. Furthermore women should be allowed to access and own assets such as land which can serve as collateral when seeking loan from financial institutions such as banks. This can enable them to acquire financial capital to invest ICT in their enterprise projects.

4. Women entrepreneurs in Small and medium enterprises (SMEs), at Nyeri County, can improve their attitude towards ICT through training, seminars, workshops and symposiums. Through such trainings sensitization can be done on the benefits of adopting ICT in their business.

5.6 Suggestions for Further Studies

1. The Impact of ICT adoption on organization performance.
2. Factors influencing implementation of ICT Security policy in SMEs projects.
3. A Study on influence of Culture and adoption of ICT in SMEs projects.

5.7 Summary

The study has highlighted the summarized findings in the study. In addition, discussion of the findings based on the study objectives, conclusions and recommendations. Lastly, suggestions for further studies.

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APPENDIX 1: LETTER OF INTRODUCTION

JOSEPH MWANIKI MBATARU

P O BOX 12355-10109

NYERI

TEL: 0725 407 927, 0775034022

Dear Respondents,

RE: ACADEMIC RESEARCH QUESTIONNAIRE

I am a student of the University of Nairobi a Master Degree in Project Planning and Management.

I am currently undertaking a research on factors affecting adoption of ICT in women enterprise. The attached questionnaire is meant for collection of data that will assist the study.

I am kindly requesting for your assistance in honestly responding to the items in the questionnaire. All information will be held in confidence and will not be used for any other purpose except for this study.

Your positive response will be highly appreciated.

Yours faithfully,

Joseph Mwaniki Mbataru

RESEARCHER

QUESTIONNAIRE

The purpose of the questionnaire is to collect data which will assist in analyzing the factors influencing adoption of ICT in women enterprise Projects at Nyeri County.

INSTRUCTIONS

Please answer these questions as honestly as you can and to the best of your knowledge

Write your responses in the spaces provided

Mark with a tick [√] where applicable

SECTION A

Profile of the respondents

Q1. How long have you been in the business?

Less than 5 years

5-10 years

10 – 15 years

15- 20 years

20 years and above

SECTION B

Age of Entrepreneur and ICT adoption

Q2. Age (in years) – Select 1

18-29.

30-39

40-49

50-59

60 and above

Where age groups of 18-39 are youths, 40-59 are middle aged while 60 and above are old.

Q3. Answer the following question by ranking the different options on a likert scale of 1-5

where

1= Very often

2= Often

3= Moderately

4= Rarely

5=Don't

How often do you use the following ICT application tools?	1	2	3	4	5
Mobile phone					
Computer					
Internet					
Website					
Enterprise management information system:					

Q4. Give reasons why you adopt either of the above in ICT tools in your business

.....

.....

.....

Q5. Does age factor deter your desire to adopt business enabling ICT tools in your enterprise?

Yes

No

Q6. If your answer to question (5) above is yes, which of the following would you attribute to? Please tick where appropriate.

i) ICTs investment consumes my pension funds

ii) ICTs are for the young entrepreneurs

Q7. Do you have any other reason(s) a part from the above? Please state

.....

.....

.....

Q8. To what extent do you agree that your age as an entrepreneur influences adoption of ICTs in your enterprise?

Strongly Agree

Agree

Undecided

Disagree

Strongly Disagree

SECTION C

Literacy levels and ICT adoption

Q9. Are you computer literate?

Yes

No

Q 10. If your answer to question number 8 is yes, how would you rate your literacy level in use of ICT?

- 1 No ICT literacy
- 2 Basic
- 3 Middle
- 4 Advanced
- 5 Very advanced

Where:

- 1. No ICT use at all
- 2. Basic level = use of basic ICT tools, fax, mobile phone, photocopiers .e-mail.
- 3. Middle level=use of Internet, static website, online business transactions
- 4. Advanced level= use of complex ICT tools e.g. e-commerce
- 5. Use of sophisticated ICT tools such as business management information system (BMIS), procurement management information systems (PMIS), enterprise management information system, expert system, cloud computing etc

Q 11(a.) Which of the following ICT tools do you use most in your enterprise while conducting business?

- Mobile phones
- Email
- Internet
- Static websites
- Enterprise Management Systems

Besides the above, which others, please specify

(b.) Comment on question number (a) above

.....

.....

.....

Q12. In your own opinion does literacy level in ICT use has an influence in ICT adoption

- 1 Strongly agree
- 2 Agree
- 3 No idea
- 4 Disagree
- 5 Strongly disagree

SECTION D

Access to ICT Resources and ICT Adoption

Q 13 In your opinion are the following ICT resources accessible?

- | | | | | |
|-----------|-----|--------------------------|----|--------------------------|
| ICT Tools | Yes | <input type="checkbox"/> | No | <input type="checkbox"/> |
| Funds | Yes | <input type="checkbox"/> | No | <input type="checkbox"/> |

Q14. How often do you access ICT resources?

- Very often
- Often
- Moderately
- Rarely
- Don't

Q15 (a) In your own opinion, does access to ICT tools influence on ICT adoption?

Yes

No

(b) Comment on your opinion or response.

.....

Q16. In your own opinion how do you rate access to credit?

Extremely inaccessible

Inaccessible

Don't know

Accessible

Extremely accessible

Q17. What do you consider to be the greatest challenge for women entrepreneurs in adoption of Information and Communications Technology?

Cost of ICT Tools

Access to credit funds

Access to collateral

Literacy level in ICT

SECTION E

Attitude towards use of ICT and adoption of ICTs

Q 18. What is your opinion towards use of ICT in your enterprise?

Positive

Negative

Q 19. If your answer to question Q18 above is negative, give your reasons,

.....

Q 20. How would you rate your attitude towards use of ICT in your enterprise?

Very negative

Negative

No idea

Positive

Very Positive

Q 21. Please indicate the extent to which you either AGREE or DISAGREE with each of the statements by selecting one category that mostly corresponds with desired response. To what extent does the following deter you from adopting ICT tools in your enterprise?

1. Strongly agree

2. Agree

3. Not at all

4. Disagree

5. Strongly disagree

Indicator	1	2	3	4	5
Fear of fraud					
Access to private Information and Business secrets					
Hacking of Business Information					
Access to markets					

Q 22. Apart from the above give other reasons why you have a negative attitude towards use of ICT in your business enterprise?

.....

Q 23. The following are factors influencing the adoption of ICT in Women Enterprises.

Indicate, in your opinion how each of them influences adoption of ICT in your enterprise on a scale of 1-5 as shown below.

- Highly influencing
- Influencing
- Moderately
- Not influencing
- Don't know

FACTOR	INFLUENCE				
	1	2	3	4	5
Age of the entrepreneur					
Literacy level in ICT use					
Access to ICT resources					
Attitude towards use of ICT					

Q 24. In your opinion, generally, how do you rate usage of ICT tools in your business enterprise projects?

- Very high
- High
- Moderate
- Low
- Very low



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12June 2012

TO WHOM IT MAY CONCERN

SUBJECT : CONFIRMATION LETTER
MBATARU JOSEPH MWANIKI - REG. NO.L50/60416/2010

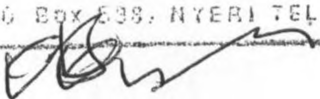
This is to confirm that the above named is a bona fide student of University of Nairobi pursuing a **Master of Arts Degree in Project Planning and Management** - in the **School of Continuing and Distance Education – Department of Extra Mural Studies**.

He has completed course work and is currently writing the **Research Project** which is a requirement for the award of the **Masters Degree**.

His topic is ***"Factors Influencing Adoption of ICT in Women Enterprise Projects: a case of Nyeri Town Constituency, Nyeri County, Central Province, Kenya"***.

Any assistance accorded to him will be highly appreciated.

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NYERI & MT. KENYA AREA
P.O. BOX 598, NYERI TEL. 2030460


Dr. L. Otieno - Omutoko
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