DRIVERS OF INFORMATION COMMUNICATION TECHNOLOGY ADOPTION BY SMALL AND MEDIUM ENTERPRISES: A CASE OF KLYNVELD PEAT MARWICK GOERDELER TOP 100 SMALL AND MEDIUM ENTERPRISES

BY

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DECLARATION

I declare that this research project is my original work and has not been presented in any other institution of learning for the award of a degree.

Signature…………………………………… Date ……………………………………

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Declaration by supervisor:

I confirm that the work in this research project was done by the candidate under my supervision

Signature……………………………… Date……………………………………

Prof Felix Musau,

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DEDICATION

I dedicate this research project to my family thanks for your support, encouragement, prayers and the sacrifices you have made.

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ABSTRACT

The SME sector is important in the social economic development of Kenya and is perceived as an engine for economic growth. However, SMEs seem ill equipped to confront the challenges of globalization, whose hallmark is ICT and information a major determinant of competitiveness. Whereas large enterprises have embraced ICT to gain a competitive edge, evidence relating to ICT adoption and use by SMEs has suggested a slow response and limited progression. The objective of the study was to establish the determinants of ICT adoption by small and medium enterprises: A case of KPMG Top 100 SMEs. The study specifically sought to determine the extent to which knowledge of ICT, availability of ICT infrastructure, availability of enabling policies and perceived benefits affects ICT adoption by SMEs in Kenya. The study adopted descriptive research design. The target population was the KPMG top 100 SMEs in Kenya (2015). Since the population is small, a census study was adopted whereby the entire population of Top 100 SMEs (2015). The respondents were the ICT managers in the targeted SMEs. The study will collect primary data using a questionnaire which will contain both closed and open ended questions. A pilot test was conducted to test the validity and reliability of the questionnaire. The questionnaire was personally administered to the respondents, drop and pick later method was adopted. Both descriptive and inferential statistics were adopted in analyzing the data. The quantitative data was analyzed using descriptive statistics which included frequency distribution tables, mean and standard deviation while the qualitative data was analyzed in prose form. The regression model was adopted to establish the relationship between variables. Data was presented using tables, charts and graphs. The study found out that staff had the right skills and training to use technologies in the firms and that the staff were also aware of the ICT being adopted in the organizations. Majority of the SMEs had adequate computer systems and telephone line connections that enhanced the adoption of ICT. The study also found out that the growth of infrastructure such as Fiber optics had enhanced internet growth in small businesses. The study however established that the SMEs did not have sufficient principles and procedures to guide on the adoption of ICT in the firms. The study concludes that there was a positive and statistically significant relationship between knowledge on ICT and adoption ICT by SMEs. The study also concludes that there is a positive and significant association between ICT infrastructure and adoption of ICT. The existence of adequate infrastructure enhanced the adoption of ICT. The study concludes that the perceived benefits of the ICT being adopted are key to the adoption of ICT by SMEs. The benefits that ICT seeks to offer to the organization, employees and to the customers are a major determinant or drive of ICT adoption. The study recommends that the management of SMEs should ensure that the staffs are well trained on the use of technologies to ensure they are competent to use the technologies. The study recommends that the management of SMEs in should formulate ICT policies to facilitate ICT adoption in the organizations.

LIST OF ABBREVIATIONS AND ACRONYMS

ANT   Actor Network Theory

GDP   Gross Domestic Product

GOK   Government of Kenya

GOK   Government of Kenya

ICT   Information and Communication Technology

IEA   International Energy Agency

IFPRI   International Food Policy Research Institute

KIPPRA   Kenya Institute for Public Policy Research and Analysis

RBV   Resource Based View

SMEs   Small and Medium Enterprises

SPSS   Statistical Package for Social Sciences

UNCTAD   United Nations Conference on Trade and Development

OPERATIONAL DEFINITION OF TERMS

ICT Infrastructure: refers to the composite hardware, software, network resources and services required for the existence, operation and management of an enterprise IT environment.

ICT Knowledge: ICT information, and skills acquired by a person through experience or education.

ICT Policy: is a framework that promotes development of technologies. It looks at the realities of the market and defines the vision and the enabling factors for the development and adoption of technologies.

Information Communication Technology: Range of technologies for gathering, storing, retrieving, processing, analyzing and transmitting information

Perceived Benefit: Perception of the positive consequences that are caused by a specific action. In this context, the term perceived benefit is used to explain an individual's motives of adopting ICT.

Small and Medium Enterprises: an enterprise or firm which employ 5-99 full-time employees.

CHAPTER ONE

INTRODUCTION

1.1 Background Information

Over the past few decades, organizations across the world are increasingly utilizing Information and Communication Technologies (ICT) around the globe, not only for cutting costs and improving efficiency, but also for providing better customer service. Governments too, around the world, are adopting ICT to provide better services to their citizens. The adoption of ICT by organizations requires a business environment encouraging open competition, trust and security, interoperability and standardization and the availability of finance for ICT (UNCTAD, 2004). Information and communication technologies and its impact in the economic, social and personal development had become an important object of scientific researches during recent decades. Theoretical and empirical studies have demonstrated the necessity to gain and exploit the positive outcomes (productivity growth, organization expansion, efficiency, competitiveness) of ICT adoption and implementation in various organizations (Tarutė & Gatautis, 2014).

ICTs affect growth and productivity both directly and indirectly. First, ICT are part of currently produced goods or services (think of computers and Internet) and technological improvement and productivity growth in ICT-producing sectors have a direct effect on aggregate productivity that is proportional to the size of the ICT sector (Stiroh, 2010). ICT is not just a technological phenomenon but the impact of ICT as an enabler has become noticeable. Today firms who use ICT more intensively are more productive, grow faster, invest more, and are more profitable. ICTs can improve efficiency and

increase productivity by different ways including, improving efficiency in resource allocation, reducing transaction costs, and technical improvement, leading to the outward shifting of the production function (Koellinger, 2005). In particular, ICT are enablers of product, process and organizational innovation. Moreover, Yusuf (2013) assert that creative use of ICT enables SMEs not only cutting costs and improving efficiency but also for creating different levels of relationship bonds with their customers which in return gives them value proposition.

1.1.1 Adoption of Information Communication Technology

Information Communication Technology refers to the range of technologies for gathering, storing, retrieving, processing, analyzing and transmitting information. This include advances in lCT that have reduced the cost of managing information, enabling organizations to undertake information-related tasks more efficiently, and to introduce innovations in products, processes and organizational structures. lCT comprise of telephone facilities, fax machines and computers (Global Information Technology Report, 2012).

ICT adoption is highly strategic in that it is firstly potential for the immediate survival and growth of any business whether small or large and secondly it is inescapable necessity for the future success of any business. Some of the strategic benefits include expanding geographical reach as well as increasing brand awareness, increasing revenue, improving customer services and interaction as well as competing with bigger rivals (Yusuf, 2013). ICT related benefits originate from factors largely within an organization's control. The size of the organization and the industry that it operates

within are not major determinants. Further, realizing value is not dependent on the amount spent on ICT or the particular applications or systems that are used. Rather, there are a number of common factors that determine the value obtained from ICT and that apply across industries and organizations. These factors relate primarily to the adoption of particular ICT-orientated management practices and an ability to recognize and exploit the additional, and frequently unanticipated, benefits that can accompany ICT implementation (Gregor et al., 2004).

Adoption of ICT in SMEs provides the ability of rapid access to data, assessment, processing and dissemination of large data volumes. Consequently, only those SMEs which use the state-of-the-art technologies have the opportunity to enter the international market and remain competitive despite the challenges of globalization, liberalization and scientific and technical progress. ICT-solutions help SMEs to increase their productivity and achieve higher business performance (Ongori & Migiro, 2010).

ICT provides many developmental opportunities for the growth and survival of the sector; however adoption remains low mostly limited to telephony. Great potential exists in e-commerce that the sector can harness to expand its markets (Mansell & Wehn, 1998) The sector can also exploit computer based information systems and knowledge based systems to improve production and management of their enterprises. ICT can greatly improve communication channels for such enterprises especially with their customers, suppliers, and other stakeholders. ICT holds a lot of potential that can also be harnessed to address the challenges facing the sector that have persisted for long.

1.1.2 Drivers of Information Communication Technology

According to Gregor et al. (2004) some of the factors that provide a good practice guide for ICT adoption and implementation are, one, being ICT aware. ICT-aware organizations adopt a number of specific ICT-management practices and benefit from the organizational learning and transformation that accompanies ICT adoption and implementation. Second factor is being open to organizational transformation that is, organizational transformation must be recognized as a necessary accompaniment to ICT adoption and implementation. Transformational opportunities for an organization arise from activities such as the integration of ICT into existing business processes and the acquisition of new ICT skills. Organizations that achieve the most significant benefits from ICT exploit these new capabilities to reform business processes and create new business opportunities. The third factor is being persistent in realizing ICT benefits. Because the successful use of ICT involves a continuous cycle of learning and change, there is often a time lag between the initial investment in ICT and realizing the full benefit of that investment

SMEs are believed to be better positioned to respond to and adopt change and technology because of their perceived flexibility (Ritchie, 2005). However, evidence from studies such as Dawn et al. (2002); Houghton and Winklhofer, (2004) relating to ICT adoption by SMEs has suggested a slow response and limited progression. The expectation that SMEs might emulate large organizations in progressing through the stages of ICT adoption has proved not to be the case (Ghobakhloo et al. 2011).

1.1.3 Small and Medium Enterprises

Small firms constitute the backbone of most economies. The term SMEs covers a wide range of perceptions and measures, varying from country to country and between the sources reporting SME statistics. Some of the commonly used criterions are the number of employees, total net assets, sales and investment level. However, the most common definitional basis used is employment, but, there is a variation in defining the upper and lower size limit of an SME (Ayyagari, Beck & Demirguc-Kunt, 2003).

In Sub-Saharan Africa, they are generally defined as enterprises that employ between one and 100 employees, and have an annual turnover of up to Kshs.100 million (US$1,300,000) (Elumba, 2008). In Kenya, enterprises are primarily classified by the number of employees engaged in the firm. On that basis, Small and Medium Enterprises (SMEs) can be defined as non-primary enterprises which employ 5-99 full-time employees. Small-scale enterprises employ 5-49 employees while medium-scale enterprises employ 50-99 employees (Government of Kenya, 2005). SMEs are very heterogeneous in nature, cutting across all sectors of the economy. Majority are characterized by small activity, limited capital and equipment, limited access to information, limited markets and access to big markets and employ labour intensive technologies.

Kenya has witnessed significant growth in the ICT sector as demonstrated by the number of telephone lines, Internet Service Providers (ISPs), the number of Internet users, broadcasting stations, and market share of each one of them (GOK National ICT Policy, 2006). More recently the country has seen further uptake of ICT services in the mobile

phone sector having very high mobile penetration rate, internet services are also more readily available due to the recent arrival of the under-sea fiber optic cables.

Kenya has been among Africa's finest in ICT innovation with mobile money transfer services, leading to increased financial inclusion. The recent explosion of local ICT development groups such as iLab, iHub, Nailab, University of Nairobi's C4DLab and infoDev's mlabs in Kenya has set the stage for innovation of applications and information services such as Drumnet, mFarm, Ushahidi, etc. Over the years, Kenya has been home to multiple African Regional hubs including, IBM's first African Research lab, Nokia's Africa Headquarters and Google's first Sub-Saharan Africa office (outside of South Africa) (Kenya National ICT Masterplan, 2014)

SMEs cut across all sectors of the economy playing a significant role in the socio-economic development of the country. They provide one of the most prolific sources of employment creation, income generation and poverty reduction. In addition to the provision of goods and services, the sector also acts as a driver in the promotion of competition, innovation and enhancement of enterprise culture, a prerequisite for development and industrialization (Kenya's Economic Survey report, 2013). As such the Government has widely acknowledged the role of the sector in development and has actively formulated policies to stimulate its development. The government has also hinged its economic recovery strategy on the SME sector. However the sector continues to face many binding constraints that make it hard for it to achieve its full potential. These constraints include limited access to information and markets, inadequate access to skills and technology, limited access to finances among others (GOK, 2005).

In addition, recent trade liberalization and globalization policies have opened new opportunities for the sector as well as creating new competitive pressures that it needs to deal with. Despite government intervention by putting in place measures geared towards the promotion and development of the sector, the measures have not yielded the expected impact. The productive sections of the sector have stagnated despite the incentive-based approaches entrenched in the liberal policies. (KIPPRA Report, 2002) Problems that inhibit the growth of the sector persist three decades after being recognized. The sector is threatened by stiff competition from the large enterprises, and quality goods from other markets due to globalization. Poor access to information on markets, production technology, customer trends, and new products continue to inhibit the sector's growth. Access to markets to sell their goods remains a major challenge especially because production is done mostly without market research. Limited production technology has resulted in low quality goods. This therefore calls for further intervention to ensure the growth and survival of the sector.

1.2 Statement of the Problem

SMEs are perceived as the engine of growth in Kenya but face a difficult task of competing and surviving in the global market. As one of the driving forces of globalization, ICT may deliver unique opportunities by empowering SMEs to participate in the knowledge economy by means of facilitating access to information, connectivity and access to new markets (IFPRI, 2006). The importance of ICT to the economic development has long been recognized and yet SMEs seem to be slow in its adoption and use as compared to other sectors. Whereas there has been growth in the use of ICT by large enterprises to gain a competitive edge, there is little evidence of its adoption and use

by SMEs which continue to be hampered by limited access to information and markets which is critical for their development and survival (Ardjouman, 2014).

In Kenya, a number of studies have been conducted on ICT and SMEs, for instance, Ongori and Migiro (2010) carried out on the significant role of SMEs in the socio-economic development while Wachira, Muturi and Sirma (2014) evaluated the perceived effects of ICT on the performance of Sacco's in Kenya. On the other hand, Odongo (2011) assessed ICT adoption in Kenyan academic libraries. From these studies, there is little evidence on ICT adoption drivers in SME in Kenya. More so, bearing in mind that ICT is a driver for economic development, little has been done to evaluate the drivers of adoption and use of ICT by Kenyan SMEs. This study will therefore seek to investigate the drivers influencing ICT adoption and use by SMEs, thereby filling in the knowledge gap. Knowledge of the factors influencing the adoption and use of ICT will provide information necessary to enhance adoption through policy intervention, awareness creation and other measures. This study seeks to establish the determinants of ICT adoption by small and medium enterprises, with a focus on KPMG Top 100 SMEs.

1.3 Objectives of the Study

1.3.1 General Objective

The general objective of the study was to establish the drivers of ICT adoption by small and medium enterprises: A case of KPMG Top 100 SMEs.

1.3.2 Specific Objectives

The study was guided by the following specific objectives:

i.   To determine the extent to which knowledge of ICT affected ICT adoption by SMEs in Kenya.

ii.   To examine the extent to which availability of ICT infrastructure affected ICT adoption by SMEs in Kenya.

iii. To assess the extent to which availability of enabling policies affected ICT adoption by SMEs in Kenya.

iv.   To establish the extent to which perceived benefits affected ICT adoption by SMEs in Kenya.

1.4 Research Questions

The Study sought to answer the following research questions:

i.   To what extent does knowledge of ICT affects ICT adoption by SMEs in Kenya?

ii.   To what extent does availability of ICT infrastructure affects ICT adoption by SMEs in Kenya?

iii. To what extent does availability of enabling policies affects ICT adoption by SMEs in Kenya?

iv.   To what extent do perceived benefits affects ICT adoption by SMEs in Kenya?

1.5 Significance of the Study

The study may benefit a number of stakeholders. First, the study may benefit the management of SMEs. By identifying the determinants of ICT adoption and showing the potential of ICT in the SME may encourage its adoption and use by SMEs. The management may get an insight on the factors affecting ICT adoption by SMEs and hence address such challenges in the future.

The study may be of value to government as a policy maker. By establishing the factors that determine the adoption of ICT by SMEs, may enlighten the government in policy formulation and intervention on ways of enhancing ICT adoption by SMEs. Awareness of these factors is the critical first step for policy makers who may be interested in promoting access to, and use of ICT by the SME sector. This knowledge is also important for the government to use in planning e.g. budgetary allocation, resource distribution, Infrastructure etc.

This knowledge may also be important to donor agencies as it may help them channel their support to strategic areas that can impact on ICT adoption and consequently the growth of the sector. This may also be important to policy makers in the formulation of policies aimed at encouraging ICT use and in intervention policies that may seek to address the constraints in ICT adoption.

The study may hopefully provide some knowledge for potential researchers and act as a source of reference. The study may also spur research interest in other areas that are not sufficiently covered in the study.

1.6 Scope of the Study

The study was limited to the KPMG top 100 SMEs in Kenya (2015). The study was conducted within Nairobi County because all these SME are concentrated in this area. The target respondents were the ICT managers in the targeted top 100 SMEs.

1.7 Limitations and Delimitations of the Study

The respondents of the study were reluctant to provide the necessary data because they considered the information as strategic internal business issues which may disadvantage

their company if exposed. To overcome this challenge the respondents were assured that the information collected would be kept very confidential and for study purposes only. They were also treated as stakeholders to the study and as such the findings of the study was shared with them

The administration would have denied access to various sections of their ICT department because of their policy of denying public access to this kind of information. This was however overcame by following the necessary ethical issues such as seeking permission from the management; having the necessary introduction letter from the University indicating the purpose of the study and requesting the respondents' co-operation as the study may also benefit their organization.

Another foreseen limitation was that the some respondents were unable to complete the questionnaires objectively due to time constraints and pressure from work. Some of the respondents were willing to be subjected to other time constraining activities by participating in a study that they thought does not directly benefit them. To address this, the study adopted a 'drop and pick later' data collection method so as to give the respondents ample time to fill the questionnaires at their own free time.

1.8 Organization of the Study

The study was organized in five chapters. Chapter one lays out the background of the study, the problem statement, the research objectives, significance of the study, the scope and limitations of the study. Chapter covers the literature review; it contains the theoretical review, the empirical review based on the objectives/ variables of the study. The chapter also presented the conceptual framework which shows the dependent and

independent variables to be investigated. Chapter three presented the study methodology to be adopted. It describes the research design, size, the target population, sampling technique and sample size, instrument used in the data collection, data collection methods and finally the data analysis method. Chapter four covered the presentation, analysis and interpretation of the results and findings of the study and lastly chapter five covered the summary of the findings, conclusions, policy recommendations as well as recommendations for further research.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter presented literature review which discussed the previous empirical evidence on the research problem. The chapter covered theoretical review, the empirical literature and the research gaps identified. The chapter ended with conceptual framework, which illustrates the interaction between independent variables and the dependent variable in the study.

2.2 Theoretical Review

This section discussed the theories that are relevant to the concepts under study. The study was guided by Resource Based View Theory, Actor Network Theory and Diffusion theory.

2.2.1 Resource based View Theory

This theory was developed by Wenefeldt in 1984. The theory emphasizes that each firm is characterized by its own unique collection of resources of core competencies. The RBV theory suggests that the possession and development of a set of heterogeneous resources leads a firm to establish a competitive advantage over its competitors in the marketplace (Pearce & Robinson, 2007). Firms can achieve a competitive advantage based on resources that are firm-specific, valuable, rare, imperfectly imitable and not strategically substitutable by other resources (Barney, 2001). Resources such as capital equipment, employee skills and patents are key inputs into a firm's business processes,

but a competitive advantage cannot be achieved based solely on the possession of these resources (Mahoney & Pandain, 1992).

Without the distinctive competence or capacity to manage and make better use of these resources, a firm cannot achieve a competitive advantage in the short term or a sustained competitive advantage in the long run. Such competence or capacity is called "capability" (Mahoney & Pandain, 1992). Learned *et al*., (1969) noted that the capability of an organization is its demonstrated and potential ability to accomplish against the opposition of circumstance or competition, whatever it sets out to do. Every organization has actual and potential strengths and weaknesses; it is important to try to determine what they are and to distinguish one from the other. Thus what a firm can do is not just a function of the opportunities it confronts; it also depends on what resources the organization can master. Learned et al. proposed that the real key to a company's success or even to its future development lies in its ability to find or create 'a competence that is truly distinctive. According to Su *et al*., (2009) capabilities can't be bought; rather, they must be built; with internal capabilities and combined with external partnerships.

The theory informed the study as it emphasizes on the internal resources of the firm as the key source of performance and competitive advantage. The adoption of ICT in the SMEs is therefore dependent on the resources and capabilities it has. This may range from ICT knowledge, firm infrastructure, financial resources, etc. These are viewed as bundles of firm assets important to the firm to execute its strategies; in this case the study is looking at the adoption of ICT.

2.2.2 Actor Network Theory (ANT)

Actor Network Theory (ANT) is a sociological theory developed by ANT, developed in the 1980s by Callon, Latour, and law, to recognize the processes of technological innovation in a heterogeneous network (Latour, 1996). The heterogeneous network is a coextensive network comprising a range of dissimilar elements called actors (Tatnall & Burgess, 2002). ANT claims that one, actors including human or non-human (social or technical) entities are equally important to a network (Law, 1992); two, the actors are treated as inseparable by ANT (Dolwick, 2009); and three, the interactions and associations between the actors and networks are the key issue (Tatnall & Burgess, 2002). As such, ANT deals with the socio-technical situations in which there are no distinctions between human or non-human (social or technical) actors. Neither social nor technical elements are favored in the network (Kennan *et al.,* 2010).

The ANT approach is conceptually beneficial in helping to appreciate the complexity of an organization's network, the fluidity of this network, and the vigorous role of technology in different contexts (Cresswell et al., 2010). This can demonstrate an understanding of how social influences (Datta, 2011) are generated as a result of associations between different actors in a network (Linderoth 2010). Theory aims to explain how ICT adoption decisions of organizations needs to consider a complex network and relationships among owner-managers, employees, and external parties which may influence the decision of organization owner-managers (Saya et al., 2010).

The theory also asserts that, rather than characteristics of technology itself (non-human actors), human issues also determine how organizations may adopt and use ICT (Low et

al., 2011). This means that complex networks in organizations benefit from being informed by ANT perspectives (Cresswell et al., 2010) and ANT offers a suitable framework for analyzing ICT adoption and usage by organizations.

2.2.3 Diffusion Theory

Rogers' Diffusion of innovation theory seeks to explain how new ideas or innovations are adopted. This theory proposes that there are five attributes of an innovation that affect adoption: relative advantage, compatibility, complexity, triability and observability (Rogers 2003). Relative advantage is the degree to which an innovation is perceived as being better than the idea it supersedes. Rogers' theory suggests that innovation that have a clear, unambiguous advantage over previous approach will be more easily adopted and implemented. Current research evidence indicates that if a potential user saw no relative advantage in using the innovation, it would not be adopted (Rogers & Kim, 2010).

The study was guided by the diffusion theory which offers a rich perspective on innovation and the forces that drive adoption of innovations and those that restrain them. The diffusion theory argues that characteristics of innovations affect the rate of adoption. The theory therefore guided this study in helping understand the characteristics of the existing ICT that have encouraged or prompted the SMEs to adopt various technologies in their businesses.

2.3 Review of Empirical Literature

2.3.1 ICT Knowledge and Adoption of ICT

Wachira, Muturi and Sirma (2014) evaluated the perceived effects of ICT on the performance of Sacco's in Kenya. The study revealed that ICT skills and knowledge can crucially increase ICT adoption and implementation hence eventually influencing performance. The study recommended that there is need for more training to be offered to the staff to support ICT in the organization. Kenya's ministry of planning and National development (2005) recognized the need to make education a platform for equipping the nation with ICT skills in order to support sustainable economic growth.

Hagsten and Sabadash (2014) conducted a study on the impact of highly-skilled ICT labour on firm performance. This was an empirical evidence study from six European countries (UK, France, Sweden, Norway, Denmark and Finland) for the period 2001-2009. The findings reveal that increasing the share of highly skilled ICT employees has positive effects on firm productivity. A one unit rise in the share of highly skilled ICT employees has a positive effect on productivity in all countries, ranging from approximately 0.5% in Denmark and the United Kingdom to close to 1.0% in Sweden and Norway. When manufacturing and services firms are studied separately, the country differences remain but the results also indicate that the right type of human capital may be more important in the manufacturing industries, since there is a larger spread of the results in this sector than for the services firms. The productivity effect in manufacturing spans from 0.17% in the United Kingdom to 1.1% in Norway; in services it varies between 0.46% in the United Kingdom and 0.9% in Norway. The findings establish that increases in the proportion of ICT-intensive human capital boosts productivity. These

findings seem to confirm the case in favour of recruitment of highly skilled ICT employees.

Adewoye and Akanbi (2012) evaluated the effects of Information and Communication Technology investment on the profitability of Small Medium Scale Industries in Nigeria. The study revealed that educational level of the manager has significant effects on the extent of ICT usage. The study therefore concluded that ICT investment in skills had positive effects on the profitability of SMEs.

2.3.2 ICT Infrastructure and Adoption of ICT

The effective functioning of the ICT relies heavily on the support of a good infrastructure for instance, the telecommunication system. Today, it is almost impossible for any business to operate smoothly without a reliable telecommunication system in place because effective telecommunication is an important support in providing a low cost channel for searching, gathering and exchanging information. A study by Park and koo (2005) found that telecommunication investments in both exporting and importing countries are significant and positively related to the value of bilateral trade between them. Similarly, Nordas and Piermartini (2004) also found that telecommunications has a significant positive effect on trade flows. They argue that 'the cost of not being able to place a telephone call or access the internet may be just as important as the cost of making the call'. As a result, the telephone becomes a primary point of selling for many industries, a channel of marketing and sales for some industries. Parallel to this, the internet too has become an increasingly important complementary channel which serves the same purpose like the telephone.

Fink et al. (2007) includes the cost of a telephone call in a gravity model and found that the cost has a significant negative effect on bilateral trade flows. In another study, Limao and Venables (2001) incorporates the number of mainlines available as the proxy for infrastructure quality while Francois and Machim (2007) consider the use of mobile telephone as a determinant of infrastructure development. In line with the view that communication costs are an important part of trade costs, these studies conclude that improvement of the related infrastructures have a positive effect on bilateral trade. Therefore, to facilitate smooth flow of information, internet accessibility and telecommunications networks should provide the needed supporting infrastructure.

2.3.3. ICT Policy and Adoption of ICT

The ICT evolution has taken place with a systematic, comprehensive and articulated policy. However, the lack of a coherent policy is likely to contribute to the development (or prolonged existence) of ineffective infrastructure and a waste of resources. If there is, a lack of ICT policy coherence could be to blame (University of Manchester's Centre for Development Informatics, 2010).

The most important implication of policy concerns the business environment. Governments should reduce unnecessary costs and regulatory burdens on firms to create a business environment that promotes productive investment. This involves policies that enable firms to undertake organisational changes, that strengthen education and training systems, that encourage good management practices, and that foster innovation, e.g. in new applications. Moreover, policy should foster market conditions that reward the successful adoption of ICT; competition is the key in selecting firms that are able to seize the benefits of ICT and in making them flourish and grow (Park & koo, 2005). Policies to

foster growth in services are important too, as ICT offers a new potential for growth in the service sector, providing that regulations that stifle change are adjusted or removed. Moreover, competition needs to be strengthened. Competition not only helps lower the costs of ICT products and services, which fosters diffusion – it also strengthens pressures on firms to improve performance and change conservative attitudes (Kozma, 2005).

The National ICT policy seeks to facilitate sustained economic growth and poverty reduction, promote social justice and equity, mainstream gender in national development, empower the youth and disadvantaged groups, stimulate investment and innovation in ICT, and achieve universal access. It is based on internationally accepted standards and best practices, particularly the COMESA Model adopted by the COMESA Council of Ministers in March 2003. The policy is based on four guiding principles: infrastructure development, human resource development, stakeholder participation and appropriate policy and regulatory framework (GOK National ICT Policy, 2006). The national ICT policy touches on various types if ICT including broadcasting, information technology, telecommunications and radio frequency spectrums. It outlines the policy objectives and strategies to be used in each of them.

2.3.4 Perceived Benefits and Adoption of ICT

There is existing literature that has proved that the greater the benefits perceived by the SMEs the higher the possibility of ICT adoption. Perceived benefits should be considered as one of the factors that could affect ICT adoption in the firms. In one empirical study Alam and Noor (2009) conducted a study on the factors which influence the adoption and usage of ICT by SMEs in Malaysia. This study examined the relationship between ICT

adoption and its five factors which were perceived benefits, perceived cost, ICT knowledge, external pressure and government support. The results of this study showed that three factors examined are significantly important to the adoption of ICT where as perceived cost and perceived benefits were found to be insignificant in determining its adoption.

The above findings are also supported by Tan et al. (2009) ho revealed that SMEs have to consider these expressed drivers, barriers and issues that might affect the successful adoption of IT solutions. It is imperative that SMEs should precisely evaluate their capability to reap benefits from IT adoption and do not underestimate it. They should know that IT has competence to act as a strategic tool to assist them to compete with their larger counterpart in the globalized market. Thong and Yap (1995) also indicated that if the CEO perceives that benefits of IT adoption outweigh its risks, then the business is more likely to adopt IT while Premkumar and Roberts (1999) also reported that increasing users' awareness of the benefits of information telecommunication technologies will also positively influence the process of these technologies adoption while this awareness could be amplified through improved education and training.

Giovanni and Mario (2003) found that ICT is able to offer enterprise a wide range of possibilities for improving their competitiveness such as provide mechanisms for getting access to new market opportunities and specialized information services. According to OECD (2004) it was found that ICT is able to improve information and knowledge management inside the firm and increase the speed and reliability of transactions for both business-to-business (B2B) and business-to-consumer (B2C) transactions. Besides that, they also explained the opportunities offered by ICT, which an organization can

exchange real-time information and build closer relationship with suppliers or business partners and customers. This study also found the possibility of immediate customer feedback according to the customer demand in the new markets.

Sakai (2002) study also stress that the extensive use of ICT can allow micro-enterprises with ideas and technologies to remain small and profitable or generate substantial global sales by exploiting their intellectual property over the Internet. On the other hand, Pohjola, 1998 suggests that ICT is thought to contribute to overall growth in the long-term. Generally primary motivation for the SMEs to adopt new technologies (such as the Web) is the anticipated benefits these technologies will bring to the company (Premkumar & Roberts, 1999). Nowadays SMEs have recognized the positive impacts of ICTs such as computer terminals, e-mail and Internet to the organization level as well as their applications on business performance. According to a study by Lymer et al., (1997) it stresses that ICT implementation in the organization which includes SMEs has the potential to reduce costs and increase productivity level. According to them small firms might find cost-effectiveness as a motivating factor to use Internet-commerce for improving communication with trading partners and consumers.

Lauder and Westall (1997) also have given their experts opinion that ICT impacts include cheaper and faster communications, better customer and supplier relations, more effective and efficient marketing, product and service development and better access to information and training. Barua et al., (1995) study found a positive impact on ICT usage in business and it is able to increase business performance. Since there are many perceive benefits that have been made available through adoption with ICT, there are still many

organisations not taking advantage of ICT. Therefore, perceived benefits are taken into consideration as one of the driver for ICT adoption in SMEs.

2.4 Summary and Gaps to be Filled by the Study

The existing literature is a mixture of studies from both developed and developing economies. However, bearing in mind that ICT adoption among SMEs is still a new venture; the literature in developing countries such as Kenya is scarce. There lacks adequate empirical evidence to ascertain the drivers of information and communications technology in SMEs in Kenya. A review of the local studies conducted shows that Kiveu and Ofafa (2013) conducted a study on enhancing market access in Kenyan SMEs using ICT. On the other hand, Wachira et al. (2014) evaluated the perceived effects of ICT on the performance of Sacco's in Kenya.

There is very little evidence on the determinants of ICT adoption by small and medium enterprises. For instance, does the infrastructure in place affect the uptake or adoption of ICT; does awareness of ICT by the management and employees determine the adoption of ICT; are the policies in place favorable to boost the adoption and uptake of ICT by SMEs? It is against these gaps that this study sought to fill the gap by establishing the determinants of ICT adoption by small and medium enterprises, with a focus on KPMG Top 100 SMEs.

2.5 Conceptual Framework

A conceptual framework explains, either graphically or in narrative form, the main things to be studied, the key factors, constructs or variables, and the presumed relationships among them (Miles & Huberman, 1994). The conceptual framework therefore illustrates the interaction between independent variables and the dependent variable in the study. In this study, the independent variables are: ICT knowledge, ICT infrastructure, Policies and perceived benefits while the dependent variable is ICT adoption.

Independent variables   **Dependent Variable**
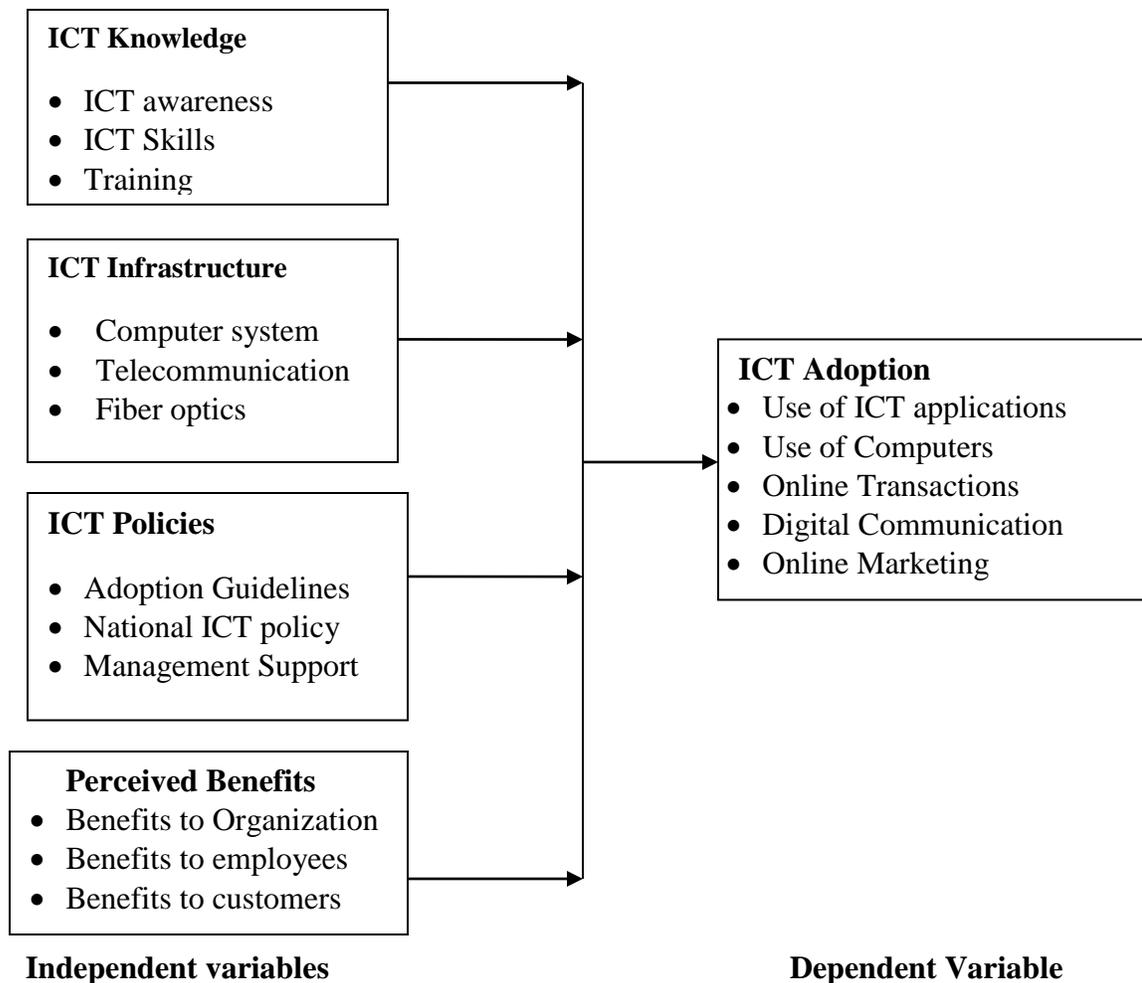
Figure 2.1: Conceptual framework

Source: (Author, 2016)

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

The chapter outlined at the research methods that were employed in the study in order to achieve the objectives of the study. The chapter covered the research design adopted, population of study, sample size and sampling technique, data collection instrument, pilot study and data analysis procedures.

3.2 Research Design

Research design is the blueprint that enables the investigator to come up with solutions to problems and guides her/him in the various stages of the research (Nachmias & Nachamias, 2004). The study adopted descriptive research design. Robson (2002) points out that descriptive study portrays an accurate profile of persons, events or situation. Chandran (2004) also states descriptive study describes the existing conditions and attitudes through observation and interpretation techniques. These researchers claim that descriptive research design is one of the best methods for conducting research in human contexts because of portraying accurate current facts through data collection for testing hypothesis or answering questions to conclude the study.

The descriptive design was appropriate for this study since it helped in collecting data in order to answer the questions of the current status and describe the nature of existing conditions of the subject under study. Descriptive research design also facilitated the use of a questionnaire to collect both quantitative and qualitative data for the study. Its

advantage is that it is used extensively to describe behavior, attitude, characteristic and values (Mugenda & Mugenda, 2003).

3.3 Target Population

A population is defined as a complete set of individuals, case or objects with some common observable characteristic (Mugenda & Mugenda 2003). A population is defined as the total collection of elements about which we wish to make some inferences (Cooper and Schindler, 2003). Ngechu (2004) defines a population as a set of people, services, elements, events, group of things or households that are being investigated. The study targeted the KPMG Top 100 SMEs in Kenya (2015) (See appendix III) which were within Nairobi area because it is a rich area and is concentrated with lots of SMES.

3.4 Sampling and Sampling Technique

Kothari (2004) also defines a sample as a small proportion of an entire population; a selection from the population. Sampling is a procedure, process or technique of choosing a sub-group from a population to participate in the study. It is the process of selecting a number of individuals for a study in such a way that the individuals selected represent the large group from which they were selected (Mugenda & Mugenda, 1999).

Since the population is small, a census study was adopted whereby the entire population of Top 100 SMEs (2015) was considered for the study. According to Cooper and Schindler (2011) a census is feasible when the population is small and necessary when the elements are quite different from each other. When the population is small and variable, any sample drawn may not be representative of the population from which it is drawn. Therefore, a census study was deemed appropriate for study since the sampling

frame is small. Thus the entire population formed the sample size for the study. The researcher targeted the ICT managers in the targeted top 100 SMEs since they understood better how ICT usage influences the competitiveness of their organizations; thus they gave reliable information.

3.5 Research Instrument

The study collected primary data. The data was collected using a questionnaire. The questionnaire had both closed and open-ended questions. The closed ended questions enabled the researcher to collect quantitative data while open-ended questions enabled the researcher to collect qualitative data. The questionnaire was divided into six sections. Section one was concerned with the general information about respondents, while section two to six collect information on the variables under study.

Questionnaires were considered for the study since they provide a high degree of data standardization, they are relatively quick to collect information from people in a non-threatening way and they are cheap to administer. According to Kombo and Tromp (2009), a self-administered questionnaire is the only way to elicit self report on people's opinion, attitudes, beliefs and values. Mugenda and Mugenda (2003) acknowledge that questionnaires give a detailed answer to complex problems.

The researcher personally administered the questionnaire to the respondents. However, where the respondents were busy or unable to fill the questionnaires at that moment, drop and pick later method was adopted. A deadline was set by which the completed questionnaires was ready. To ensure high response rates, interpretation of the items of the

questionnaires was done to the respondents to ensure that they fully understand the questions before answering.

3.6 Pilot study

Pilot test was conducted to detect weakness in design and instrumentation and to provide alternative data for selection of a probability sample (Mugenda & Mugenda, 2008). A pre-test of the questionnaire was conducted prior to the actual data collection. The developed questionnaire was checked for its validity and reliability through pilot testing. The research intended to subject the questionnaire to 5 ICT managers from other SMEs (other than the targeted Top 100 SMEs) to participate in the pilot study. According to Mugenda and Mugenda (2003) a successful pilot study would use 1% to 10% of the actual sample size.

The objectives of pre-testing was to allow for modification of various questions in order to rephrase, clarify and or clear up any shortcomings in the questionnaires before administering them to the actual respondents. It helped the researcher to correct inconsistencies arising from the instruments, which ensured that they measure what is intended.

3.6.1. Reliability of the Questionnaire

Mugenda and Mugenda (2003) defined reliability as a measure of the degree to which a research instrument yields consistent results or data after repeated trials. Reliability test measures the internal consistency of the questionnaire. An instrument is reliable when it can measure a variable accurately and obtain the same results over a period of time. A pre-test helped the researcher identify the most likely source of errors and hence modify

the questionnaire before the actual study. Reliability test also helped establish the internal consistency of the instrument. Reliability was calculated with the help of Statistical Package for Social Sciences (SPSS). Cronbach's alpha was used whereby a co-efficient of above 0.8 was established which implied that the instruments are sufficiently reliable for the measurement.

3.6.2 Validity of the Questionnaire

Validity involve how accurately the data obtained represents the variables of the study while reliability refers to the degree to which a research instrument yields consistent results or data after repeated trials to establish its reliability (Saunders *et .al*., 2003). The term validity indicates the degree to which an instrument measures the construct under investigation. For a data collection instrument to be considered valid, the content selected and included must be relevant to the need or gap established (Saunders *et. al*., 2003).

Validity of the questionnaire was established by the research and supervisor reviewing the items. Before the actual study, the instruments were discussed with supervisors. The feedback from the supervisors and the experts helped in modifying the instruments. This ensured that the questionnaire collected reliable information and also improved the response rate.

3.7 Data Analysis and Presentation

The data collected by the questionnaire was edited, coded, entered into Statistical Package for Social Sciences (SPSS) which aided in the data analysis. This study generated qualitative and quantitative data. Both descriptive and inferential statistics were adopted for the study. The quantitative data was analysed using descriptive and

inferential statistics. The qualitative data was generated from the open ended questions and categorized in themes in accordance with research objectives and reported in narrative form along with quantitative presentation.

Descriptive statistics included frequency distribution tables and measures of central tendency (the mean), measures of variability (standard deviation) and measures of relative frequencies. The inferential statistics included a regression model which established the relationship between variables. Data was presented using tables, charts and graphs.

The multivariate linear regression model took the following form:

$$Y = \alpha + \beta_1 \chi_1 + \beta_2 \chi_2 + \beta_3 \chi_3 + \beta_4 \chi_4 + \epsilon$$

Whereby Y = ICT Adoption

α = the constant

X_1 = ICT Knowledge

X_2 = ICT Infrastructure

X_3 = ICT Policies

X_4 = Perceived Benefits

$\beta_1, \beta_2, \beta_3$ and β_4 = the regression coefficient or change included in Y by each χ

ε is the error term.

The beta (β) values explained whether the relationship between the dependent and the independent variable is high or low, positive or negative. The ANOVA test showed the significance of regression model to give reliable results. The p value measured the

significance of the variables in the regression model; whereby, the p value of the variable was 0.05 (5%) and below; and the relationship was deemed significant while where the p value co-efficient of the variable was above 0.05; and relationship of the variables was deemed to be insignificant.

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION AND INTERPRETATION

4.1 Introduction

This chapter presents the data analysis and interpretation of the research findings in line with the objectives of the study. The objective of the data was to establish the drivers of ICT adoption by small and medium enterprises. The study focused on KPMG Top 100 SMEs. The analysed data was presented in tables, pies and bar charts.

4.2 Response Rate

Table 4.1 Response Rate

Response Rate	Frequency	Percentage
Responses	76	76.0
Non-Response	24	24.0
Total Sample size	**100**	**100.0**

The sample size of the study was 100 respondents who were ICT managers in the targeted KPMG top 100 SMEs. A total of 76 questionnaires were successfully filled in time for data analysis, which represented 76% of total sample size. According to Mugenda and Mugenda (2003), a 50% response rate is adequate, 60% good and above 70% rated very well. The sample size of 76% was therefore considered appropriate to derive the inferences on the objectives of the study.

4.3 Demographic Information

The section presents the demographic information of the respondents. The respondents' demographic information reflects the relevant attributes of the population which forms

the basis under which the study can rightfully access the relevant information. The respondents' information captured includes: gender, age, level of education of the respondents, and the number of years worked in the organization.

4.3.1 Gender of the Respondents

This section of the study sought to establish the gender of the respondents who took part in the study. The results are presented in Figure 4.1.
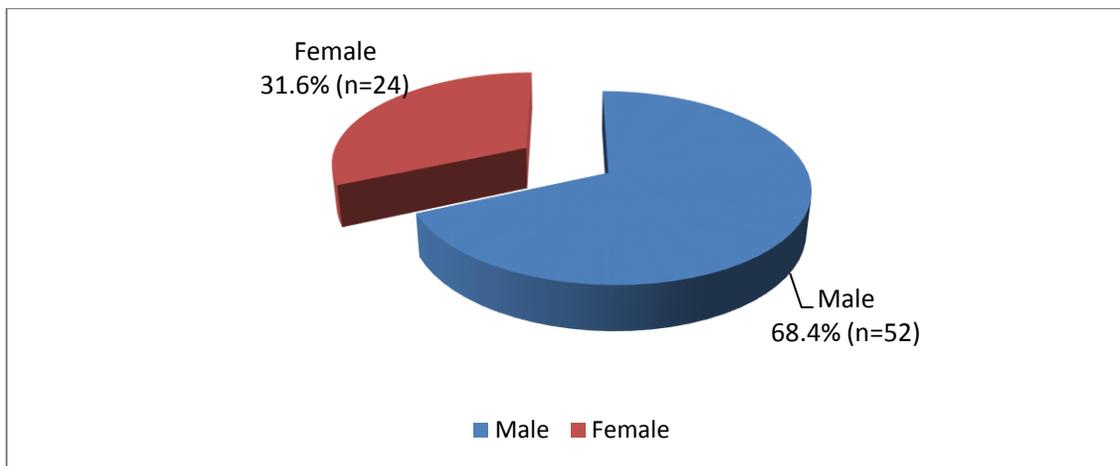
Figure 4.1: Gender of the Respondents

The results in the Figure 4.1 show that a majority of the respondents (68.4%) were male while 31.6% were female. This implies that majority of the ICT managers in the KPMG top 100 SMEs were male.

4.3.2 Age of the Respondents

The respondents were asked to indicate their age. The respondents' age was captured in structured age brackets. The results are presented in Table 4.2.

Table 4.2: Age of the Respondents

Age in Years	Frequency	Percent
Below 30 years	2	2.6
31-40 years	41	54
41-50 years	27	35.5
Above 50 years	6	7.9
Total	**76**	**100.0**

Results in Table 4.3 show that the majority of the respondents (54%) of the respondents were aged between 31-40 years while 35.5% were aged between 40-50 years. On the other hand, 7.9% of the respondents indicated that they were aged above 50 years while 2.6% were aged below 30 years. The results show that majority of the ICT managers in the SMEs were aged between 31-40 years.

4.3.2 Level of Academic Qualification

The respondents were asked to indicate the highest level of academic qualification they had attained. The findings are presented in Table 4.3.

Table 4.3: Level of Education

Education level	Frequency	Percent
Diploma	5	6.6
Undergraduate	49	64.5
Post Graduate	22	28.9
Total	**76**	**100.0**

The study results show that majority of the respondents (64.5%) had reached undergraduate level as their highest level of education. On the other hand, 28.9% of the respondents had reached post-graduate level while 6.6% of the respondents indicated to

have attained diploma level. From the results, it shows that majority of the respondents were well educated which improves the reliability of the information given.

4.3.3 Period Worked in the Organization

The respondents were asked to indicate the number of years they had worked in their respective organizations. The findings are presented in Figure 4.2.
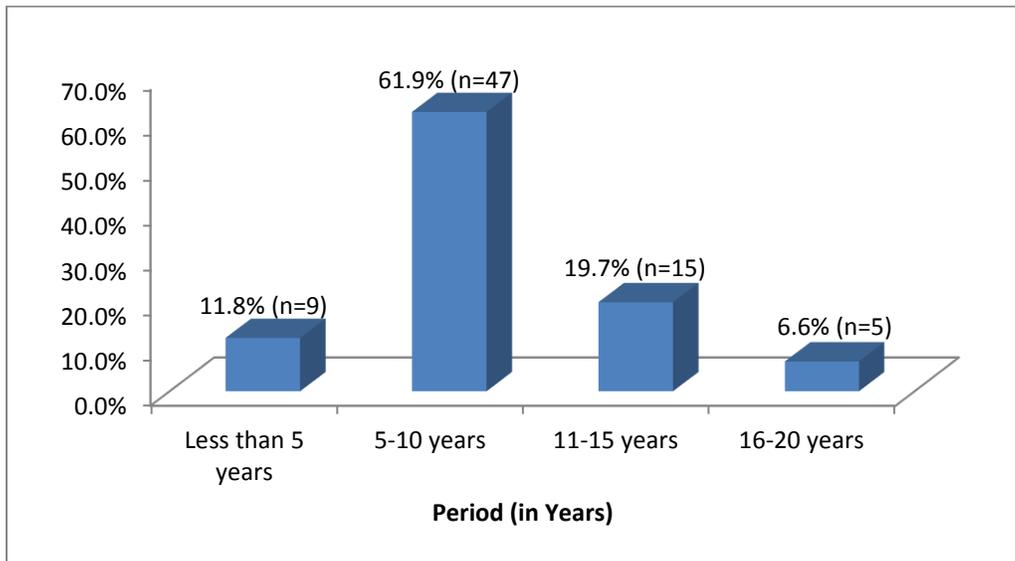
Figure 4.2: Period Worked in the Organization

The study findings in Figure 4.2 show that the majority of the respondents (61.9%) had worked in their respective enterprises for a period of 5-10 years while 19.7% had worked for a period of 11-15 years. On the other hand, 11.8% of the respondents reported that they had worked in their respective organizations for a period of less than 5 years while 6.6% of the respondents had worked in the enterprises for a period of 16-20 years. The study results shows that the majority of the respondents had worked in their organizations for the period between 5-10 years and 11-15 years which is long enough to understand the operations of their organizations, and hence they were in a position give reliable information on the adoption of ICT in the enterprises.

4.4 ICT Knowledge and ICT Adoption in SMEs

In this section, the study sought to establish the extent to which knowledge of ICT affected the ICT adoption by SMEs in Kenya.

4.4.1 ICT Knowledge Levels of the Staff Members.

The respondents were asked to rank the ICT knowledge levels among the staff members in the organizations. The results are presented in Table 4.4.

Table 4.4: ICT Knowledge Levels of the Staff Members.

Duration in Years	Frequency	Percent
Excellent	3	3.9
Good	52	68.5
Average	21	27.6
Total	**76**	**100.0**

The results show that majority of the respondents (68.5%) indicated that the staff members' ICT knowledge level was good, 27.6% of respondents reported it was average while 3.9% of the respondents indicated that the staff members' ICT knowledge level was excellent.

4.4.2 ICT Knowledge and Adoption of ICT

The respondents were asked to indicate their level of agreement with the various statements on ICT knowledge in the SMEs in Kenya. A five point likert scale was used to interpret the responses whereby the scores of "strongly agree" and "agree" were represented by mean score, equivalent to likert scale ($1 \leq agree \geq 2.5$).The scores of 'neutral' were equivalent to 2.6 to 3.5 on the likert scale ($2.6 \leq neutral \geq 3.5$) The scores of "disagree" and "strongly disagree" were equivalent to ($3.6 \leq disagree \geq 5$) on the likert scale

which shows a strong agreement with the statement. The findings are presented in Table 4.5.

Table 4.5: ICT Knowledge and Adoption of ICT

Statements on ICT Knowledge	Mean	Std. Deviation
The staff are aware of the ICT being adopted and their use in the organization	3.60	0.685
The firm provides more awareness on the benefits of using ICT	3.13	0.727
Our staff have the right skills and training to use technologies in firm	3.79	0.828
The staff are competent to handle ICT matters in your organization	3.90	0.696

The respondents agreed that the staff members were competent to handle ICT matters in the organizations as shown by a mean score of 3.90. The respondents also agreed the staff had the right skills and training to use technologies in the firms; and that the staff member also aware of the ICT being adopted in the organizations; as shown by the mean scores of 3.79 and 3.60 respectively. However, the respondents were neutral on whether the firms provided more awareness on the benefits of using ICT as shown by the mean score of 3.13.

4.4.3 Extent to which Staff ICT Knowledge Influence the Adoption of ICT

The respondents were asked to indicate the extent to which the staff members affected the adoption of ICT in the organizations. The results are presented in Figure 4.3.
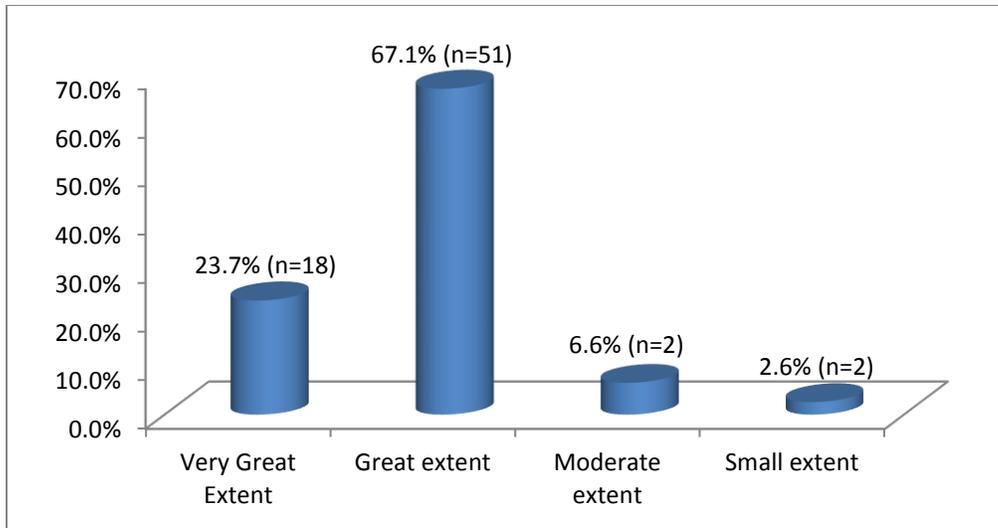
Figure 4.3: Influence of Staff ICT Knowledge on the Adoption of ICT

The study results show that the majority of the respondents (67.1%) indicated that the staff ICT knowledge influenced the adoption of ICT in the organizations to a great extent and was further supported by 23.1% of the respondents who reported that staff ICT knowledge influenced the ICT adoption to a very great extent while 6.6% of the respondents indicated that the adoption of ICT was affected to a moderate extent. However, 2.6% of the respondents indicated that the staff's ICT knowledge influenced the adoption of ICT in the firms to a small extent.

4.5 ICT Infrastructure and ICT Adoption in SMEs

In this section, the study sought to determine the extent to which availability of ICT infrastructure influenced ICT adoption by SMEs in Kenya.

4.5.1 ICT Infrastructure Integrated to Support the ICT solutions

The respondents were asked to indicate the ICT infrastructure adopted or integrated by the organizations to support the ICT solutions. The results are presented in Table 4.6.

Table 4:6: ICT Infrastructure Integrated to Support the ICT Solutions

ICT infrastructure	Frequency	Percent
Computer systems	40	52.6
Telephone line/Mobile Connections	23	30.3
Support networks	13	17.1
Total	**76**	**100.0**

The study results in Table 4.6 show that majority of the respondents (52.6%) revealed that the organizations adopted computer systems to support the ICT solutions, 30.3% of the respondents indicated that their organization used telephone line/mobile connections to support the ICT solutions while 17.1% of the respondents revealed to have integrated support networks in the firms to help in acquiring ICT solutions.

4.5.1 ICT Infrastructure

The study sought to determine the effect of ICT infrastructure on the adoption of ICT in SMEs. The respondents were asked to indicate their level on agreement on the various statements regarding the ICT infrastructure in the organizations. The results are presented in Table 4.7.

Table 4.7: ICT Infrastructure in SMEs

Statements on Infrastructure	Mean	Std. Deviation
Our organization has adequate computer system	4.24	0.690
Our organization has adequate telephone line connections	4.20	0.625
The organization has up to date support networks	4.08	0.684
The growth of Fiber optics has enhanced internet growth in small business	4.14	0.689

The respondents agreed that the organizations had adequate computer systems and telephone line connections; as shown by the mean scores of 4.24 and 4.20 respectively. The respondents also agreed that the growth of Fiber optics had enhanced internet growth in small businesses; and the organizations had up to date support networks; as shown by the mean scores of 4.14 and 4.08 respectively.

4.5.2 Extent to ICT infrastructure influence adoption of ICT in the organizations

The respondents were asked to indicate the extent to which ICT infrastructure affected the adoption of ICT in the organizations. The results are presented in Table 4.8.

Table 4.8: Influence of ICT Infrastructure Adoption of ICT

Extent	Frequency	Percent
Small extent	3	3.9
Moderate extent	7	9.2
Great extent	49	64.5
Very Great Extent	17	22.4
Total	**76**	**100.0**

The study results show that the majority of the respondents (64.5%) indicated that the ICT infrastructure influenced the adoption of ICT in the organizations to a great extent and was further supported by 22.4% of the respondents who indicated that ICT infrastructure influenced the ICT adoption to a very great extent while 9.2% of the respondents indicated that the adoption of ICT was affected to a moderate extent. However, 3.9% of the respondents indicated that the ICT infrastructure influenced the adoption of ICT in the firms to a small extent.

4.6 ICT Policies and ICT Adoption in SMEs

In this section, the study sought to establish the extent to which ICT Policies influenced the ICT Adoption in SMEs.

4.6.1 ICT Policy to Guide the Adoption and Use of Technologies in the SMEs

The respondents were asked to indicate whether their organizations had an ICT policy to guide the adoption and use of technologies. The findings are presented in Table 4.9.

Table 4.9: ICT Policy on the Adoption and Use of Technologies

Responses	Frequency	Percent
Yes	43	56.6
No	33	43.4
Total	**76**	**100.0**

The study results show that most of the respondents (56.6%) indicated that organizations had ICT policies to guide the adoption and use of technologies while 43.4% of the respondents indicated that their organizations did not have ICT policies to facilitate the adoption and use of technologies. The respondents who indicated that their organization had a policy to guide the ICT policies further revealed that ICT policies enhanced ICT integration in the business.

4.6.2 ICT Policies in the SMEs

The respondents were asked to indicate their level on agreement on the various statements regarding ICT policies in the organizations. The results are presented in Table 4.10.

Table 4.10: ICT Policies in the SMEs

Statements on ICT Policy	Mean	Std. Deviation
There is sufficient principles and procedures on the adoption of ICT in our firm	3.03	0.665
The national ICT policy supports ICT adoption among small firms	3.09	0.738
The management support ICT policies in place	3.72	0.809

The respondents agreed that the management supported ICT policies in place as shown by the mean score of 3.72. However, the respondents indicated to be neutral to the opinions that the national ICT policy supported ICT adoption among small firms; and that there were sufficient principles and procedures on the adoption of ICT in the firms; as shown by the mean scores of 3.09 and 3.09 respectively.

4.6.3 Extent to which ICT Policies Influence Adoption of ICT in the SMEs

The respondents were asked to indicate the extent to which ICT policies influenced the adoption of ICT in the SMEs. The results are presented in Table 4.13.
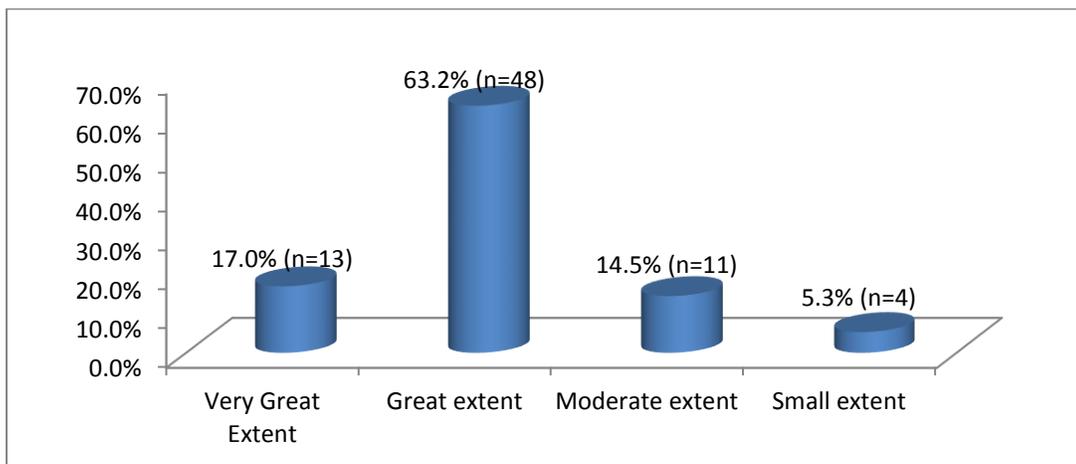
Figure 4.4: Influence of ICT Policies on Adoption of ICT in the SMEs

The study results show that the majority of the respondents (63.2%) indicated that the ICT policies influenced the adoption of ICT in the organizations to a great extent and were supported by 15.7% of the respondents who indicated that ICT policies influenced the ICT adoption to a very great extent while 17% of the respondents indicated that the adoption of ICT was affected to a moderate extent. However, 5.3% of the respondents indicated that the ICT policies influenced the adoption of ICT in the firms to a small extent.

4.7 Perceived Benefits and ICT Adoption in SMEs

In this section, the study sought to establish the extent to which perceived benefits influenced the ICT Adoption in SMEs.

4.7.1 Perceived Benefits of ICT

The respondents were asked to indicate their level of agreement with the various statements on the perceived benefits of ICT policies. A scale of 1 to 5 was used whereby 1 represented Not at all while 5 presented very great extent.The findings are presented in Table 4.11.

Table 4.11: Perceived Benefits of ICT

Statements on Perceived Benefits	Mean	Std. Deviation
Benefits to organization	4.24	0.659
Benefits to employees	4.14	0.689
Benefits to customers	4.02	0.609

The study results show that the respondents indicated that the ICT offers benefits to the organizations (mean score =4.24), benefits to the employees (mean score= 4.14) and to the customers (mean score = 4.02).

4.7.2 ICT Adoption and Benefits on Businesses

The respondents were asked to indicate whether realised the various benefits as a result of ICT adoption in their businesses. The results are presented in Table 4.12.

Table 4.12: ICT Adoption and Benefits on Businesses

Benefits on Business	Yes		No	
	Frequency	Percent	Frequency	Percent
Enhanced Communication	76	100	-	-
Improved business processes	74	97.4	4	2.6
Improved products and market innovations	63	82.9	13	17.1

All the respondents (100%) agreed that the ICT adoption has enhanced communication in their business. On the impact on business processes, 97.4% of the respondents agreed that the adoption of ICT in their businesses had improved business processes while 2.6% of the respondents indicated that the adoption of ICT had not improved the business processes. Majority of the respondents (82.4%) further revealed that ICT adoption had improved the products and market innovations while 17.1% of the respondents indicated that ICT adoption had not improved their products and market innovations.

4.7.3 Influence of Perceived Benefits on Adoption of ICT

The respondents were asked to indicate the extent to which perceived benefits influenced the adoption of ICT in the SMEs. The results are presented in Table 4.13.

Table 4.13: Influence of Perceived Benefits on Adoption of ICT

Extent	Frequency	Percent
Moderate extent	9	11.8
Great extent	53	69.7
Very Great Extent	14	18.5
Total	**76**	**100.0**

The study results show that the most of the respondents (69.7%) indicated that the perceived benefits influenced the adoption of ICT in the organizations to a great extent and were supported by 18.5% of the respondents who indicated that perceived benefits influenced the ICT adoption to a very great extent while 11.8% of the respondents indicated that the perceived benefit affected the adoption if ICT to a moderate extent.

4.8 ICT Adoption by the SMEs

4.8.1 ICT Adopted by the SMEs

The study sought to establish the various information communication technologies adopted by the firms to boost the management and service delivery. The respondents indicated the use of computer systems, support networks and mobile connections among the various information communication technologies to enhance the operations of their businesses.

4.8.2 ICT Adoption in the SMEs

The respondents were asked to indicate their level of agreement on various statements regarding ICT adoption in the firms. The results are presented in Table .

Table 4.14: ICT Adoption in the SMEs

Statements on ICT Adoption	Mean	Std. Deviation
The firm had adopted ICT applications which are being used in the business processes	4.12	0.849
The firm is now using a computers in its day to day operations	4.60	0.783
There is enhanced use of online transactions in the business	3.99	0.929
There is enhanced digital communication in the business, e.g. through emails, website, and electronic data interchange, etc	4.46	0.839
ICT has enhanced online marketing in the firm through emails, social media, etc.	3.92	0.833

The respondents agreed that the firm were using computers in the day to day operations; and that there were enhanced digital communication in the businesses e.g. through emails, website, and electronic data interchange, etc.; as shown by the mean scores of 4.60 and 4.46 respectively. The respondents also agreed that the firms had adopted ICT applications which were used in the business processes; and that there were enhanced use of online transactions in the businesses; as shown by the mean scores of 4.12 and 3.99 respectively. The respondents further agreed that ICT had enhanced online marketing in the firms through emails, social media, etc.; as shown by the mean score 3.92.

4.9 Regression Analysis

A multiple regression analysis was conducted to establish the relationship between various drivers and ICT adoption by KPMG Top 100 SMEs. The predictors of the study were ICT knowledge, ICT infrastructure, ICT policy and perceived benefits while the dependent variable was ICT adoption.

Table 4.15: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.887	0.787	0.752	0.26548

a Predictors: (Constant), ICT knowledge, ICT infrastructure, ICT policy and perceived benefits

The R is the correlation coefficient which shows the relationship between the study variables, from the findings shown in the Table 4.15 shows there was a strong positive relationship between the study variables as shown by R = 0.887. The Adjusted R squared is coefficient of determination which tells us the variation in the dependent variable due to changes in the independent variable, from the findings in the table below the value of adjusted R squared was 0.752 an indication that there was a variation of 75.2% between the drives and ICT adoptio in SMEs. It implies that ICT knowledge, ICT infrastructure, ICT policy and perceived benefits explained 75.2% of ICT adoption in the SMEs at 95% confidence level.

Table 4.16: Analysis of Variance

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	3.256	4	0.814	0.002	
Residual	16.401	71	0.231		
Total	**19.657**	**75**			

a Predictors: (Constant), ICT knowledge, ICT infrastructure, ICT policy and perceived benefits

b Dependent Variable: ICT Adoption

The study used ANOVA to establish the appropriateness of the regression model to give reliable results. An f-significance value of p=0.002 was established. This shows that the regression model has a 0.002 probability of giving a wrong prediction. Hence the regression model has a confidence level of above 95%. This shows that the overall model was significant.

Table 4.17: Coefficients Results

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	0.410	0.440		3.209	0.000
ICT knowledge	0.316	0.129	0.026	4.115	0.006
ICT infrastructure	0.213	0.112	0.152	3.121	0.018
ICT Policy	0.097	0.125	0.262	0.863	0.133
Perceived benefits	0.146	0.118	0.197	3.773	0.025

b Dependent Variable: ICT Adoption

Results in Table 4.17 shows that there is a positive and statistically significant relationship between knowledge on ICT and adoption ICT by SMEs as shown by β = 0.316 and p= 0.006<0.05. This implies that a unit increase in ICT knowledge would increase adoption of ICT by the SMEs by a unit of 0.316 (31.6%).

The results also show a positive and significant association between ICT infrastructure and adoption of ICT as shown by β = 0.213, p= 0.018<0.05. This implies that a unit increase in ICT infrastructure would lead to an increase in adoption of ICT by the SMEs.

The regression results also show that findings there is a positive and significant relationship between perceived benefits and adoption of ICT by SMEs as shown by β = 0.146 and p=0.025<0.05. This implies that a unit increase in perceived benefits would lead to an increase in adoption of ICT by SMEs at a unit of 0.146 (14.6%).

Lastly, the study found a positive but statistically insignificant relationship between ICT Policy and adoption of ICT by SMEs. From the above findings, it can be deduced that ICT knowledge, ICT infrastructure and perceived benefits of the ICT are critical drivers of ICT adoption by small and medium enterprises.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATION

5.1 Introduction

This chapter provides a summary of findings, conclusions and recommendations of the study based on the objective of the study. This entails a synthesis of key issues of the objectives of the study as deduced from the entire research.

5.2 Summary of Findings

5.2.1 Influence of ICT Knowledge on ICT Adoption in SMEs

The objective of the study was to establish the extent to which knowledge of ICT affects ICT adoption by SMEs in Kenya. The study found out that the staff members were competent to handle ICT matters in the organizations. The respondents also revealed that the staff had the right skills and training to use technologies in the firms and that the staff were also aware of the ICT being adopted in the organizations. However, the respondents indicated to be neutral to the opinion that the firms provided more awareness on the benefits of using ICT. The regression results showed that shows that there is a positive and statistically significant relationship between knowledge on ICT and adoption ICT by SMEs which implies that a unit increase in ICT knowledge would significantly increase adoption of ICT by the SMEs.

5.2.2 Influence of ICT Infrastructure on ICT Adoption in SMEs

The study sought to examine the extent to which ICT infrastructure influenced the ICT adoption by SMEs in Kenya. The study found out that the organizations had adequate

computer systems and telephone line connections that enhanced the adoption of ICT. The respondents also agreed that the growth of Fiber optics had enhanced internet growth in small businesses and that the organizations had up to date support networks. On overall, majority of the respondents indicated that the ICT infrastructure influenced the adoption of ICT in the organizations to a great extent. The by a regression results showed that there is a positive and significant association between ICT infrastructure and adoption of ICT. This implies that a unit increase in ICT infrastructure would significantly lead to an increase in adoption of ICT by the SMEs.

5.2.3 Influence of ICT Policies on the ICT Adoption in SMEs

The study sought to establish the extent to which ICT Policies influenced ICT adoption in SMEs. The study found out that the management supported ICT policies in place to help facilitate the ICT adoption in the organizations. The respondents, however, revealed to be neutral to the opinions that the national ICT policy supported ICT adoption among small firms; and that there were sufficient principles and procedures on the adoption of ICT in the firms.

5.2.4 Influence of Perceived Benefits on the ICT Adoption in SMEs

The study also sought to establish the extent to which the perceived benefit influenced the ICT Adoption in SMEs. The study found out that ICT offers benefits to the organizations, benefits to the employees and to the customers. The regression results showed that there is a positive and significant relationship between perceived benefits and adoption of ICT by SMEs.

5.2.5 ICT adoption in SMEs

The study found out that firms were using computers in the day to day operations; and that there were enhanced digital communication in the businesses e.g. through emails, website, and electronic data interchange, etc. The respondents also agreed that the firms had adopted ICT applications which were used in the business processes; and that it had enhanced use of online transactions in the businesses. The respondents further agreed that ICT had enhanced online marketing in the firms through emails, social media, etc.

5.3 Conclusions

The study concludes that there is a positive and statistically significant relationship between knowledge on ICT and adoption ICT by SMEs. This implies that a unit increase in ICT knowledge would significantly increase adoption of ICT by the SMEs. The staff skills and competence to handle and use various ICT equipments in the SMEs play a great role in influencing adoption of ICT.

The study concludes that there is a positive and significant association between ICT infrastructure and adoption of ICT. This implies that a unit increase in ICT infrastructure would significantly lead to an increase in adoption of ICT by the SMEs. Infrastructure such as Fiber optics enhances more use of the internet in small businesses. The existence of adequate computer systems and telephone line connections has also enhanced the adoption of ICT.

The study concludes that the perceived benefits of the ICT being adopted are key to the adoption of ICT by SMEs. The benefits that ICT seeks to offer to the organization, employees and to the customers are a major determinant or drive of ICT adoption.

Though a number of SMEs had ICT policies to guide the adoption and use of technologies; others sis not have. There were insufficient principles and procedures on the adoption of ICT in those SMEs.

5.4 Recommendations

The staff skills and competencies have been found to be key driver to adoption of ICT by SMEs. In this regard, the study recommends that the management of SMEs should ensure that the staffs are well trained on the use of technologies to ensure they are competent to use the technologies. Training would therefore increase adoption of ICT in SMEs, and enhance usage thus improved performance of the firms. The firms' management should therefore commit resources to support ICT taining among the staff as skilled workers are able to efficiently use the technologies in the organization to achieve performance.

The study recommends that the management of SMEs in should have ICT policies to facilitates ICT adoption in the organizations. The management should also create more awareness on the benefits of using ICT to help enhance smooth adoption of ICT in the organizations. The management should therefore provide adequate resources to ensure that there is adequate ICT equipments in the SMEs.

The study also recommends that SMEs in Kenya should formulate sufficient principles and procedures on the adoption of ICT in the firms. The government should formulate a national ICT policy that supports ICT adoption in SMEs sector in Kenya. The government should subsidize the cost of key ICT equipments for SMEs in order to encourage them adopt more information and communication technologies.

5.5. Areas of further study

This study sought to establish the drivers of ICT adoption by small and medium enterprises, with a focus on KPMG Top 100 SMEs. The study suggests that a further study be conducted to examine how the increase usage of ICT among SMEs have influenced their innovativeness, their performance and their competitiveness in the market.

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APPENDICES

Appendix 1: Introduction Letter

<div align="right">

Benson M. Baituru,

P.O Box 16108,

00100, Nairobi.

</div>

RE: DATA COLLECTION

I am a student at at Kenyatta University pursuing a Masters Degree (in MIS). I am conducting a research study to ***establish the determinants of ICT adoption by small and medium enterprises*** to fulfill the requirements of the award of the above mentioned degree program. The focus of the study is on Small and Medium enterprises operating in Nairobi. Your organization has been chosen to take part in the study.

Please complete the attached questionnaire to the best of your knowledge. Kindly respond to all the questions in the questionnaire accurately and honestly as possible. The information in the questionnaire will be treated as confidential and it is for academic purpose only.

Your co-operation is highly appreciated. Thank you

Yours Sincerely,

Benson Mwongela Baituru

Appendix II: Questionnaire

Instructions: Please read the answer the questions as appropriately as possible. It is advisable that you answer or fill in each section as provided. Tick (□) where appropriate.

Section A: Respondents Profile

1. Indicate your gender.

   a) Male   [ ]   b)   Female   [ ]

2. Indicate your appropriate age bracket.

   a) Below 30 years   [   ]   b) 31-40 Yrs [ ]   c) 41-50 Yrs [   ]

   d) Above 50 Yrs   [   ]

3. Kindly indicate your highest level of academic qualification.

   a) Certificate/Diploma   [   ]   b) Bachelors Degree   [   ]

   d) Masters   [ ]   c). PhD.   [   ]

   d). Other (specify)…………………………………………..

4. How many years have you worked in your organisation? (Tick (□) where appropriate).

   a) Less than 5 Years   [ ]   b) 5-10 Years   [   ]

   c) 11-15 Years   [   ]   d) 16-20 Years [   ]

   d) Above 20 Years   [   ]

Section B: ICT Knowledge

5.   How would you rate the ICT knowledge level of your staff?

   Excellent   [ ]   Good   [ ]   Average [ ]   Poor [ ]

6. To what extent do you agree with the following statements on ICT knowledge in your organization? Use a scale of 1 to 5 where 1 is strongly disagree, 2 is disagree, 3 is Neutral, 4 is agree and 5 is Strongly agree

Statements on ICT Knowledge	1	2	3	4	5
The staff are aware of the ICT being adopted and their use in the organization					
The firm provides more awareness on the benefits of using ICT					
Our staff have the right skills and training to use technologies in firm					
The staff are competent to handle ICT matters in your organization					

7. To what extent do staff ICT knowledge influence adoption of ICT in your organization?

    Not at all [ ]   Small extent [ ]   Moderate extent [ ]   Great extent   [ ]

    Very great extent   [ ]

Section C: ICT Infrastructure

8. Which of the following ICT infrastructure has your organization adopted or integrated to support the ICT solutions?

    Computer systems   [ ]   Telephone line/ Mobile Connections   [ ]

    Support networks   [ ]

b). Others (specify)…………………………..

9. To what extent do you agree with the following statements on ICT infrastructure in your organization? Use a scale of 1 to 5 where 1 is strongly disagree, 2 is disagree, 3 is Neutral, 4 is agree and 5 is Strongly agree

Statements on Infrastructure	1	2	3	4	5
Our organization has adequate computer system					
Our organization has adequate telephone line connections					
The organization has up to date support networks					
The growth of Fiber optics has enhanced internet growth in small business					

10. To what extent does ICT infrastructure influence the adoption of ICT in your organization?

Not at all   [   ]   Small extent   [   ]   Moderate extent [   ]   Great extent   [   ]

Very great extent   [   ]

Section D: ICT Policies

4   Does your organization have an ICT policy to guide the adoption and use of technologies?

Yes   [   ]   No   [   ]

b). If yes, has the ICT policy improved or enhanced ICT integration in your business?

Yes   [   ]   No   [   ]

c). Explain your answer in (b) above…………………………………………………......

……………………………………………………………………………………………

…………...

5   To what extent do you agree with the following statements on ICT policy in your organization? Use a scale of 1 to 5 where 1 is strongly disagree, 2 is disagree, 3 is Neutral, 4 is agree and 5 is Strongly agree

Statements on ICT Policy	1	2	3	4	5
There is sufficient principles and procedures on the adoption of ICT in our firm					
The national ICT policy supports ICT adoption among small firms					
The management support ICT policies in place					

6   To what extent do ICT policies influence adoption of ICT in your organization?

Not at all   [   ]   Small extent   [   ]   Moderate extent [   ]   Great extent   [   ]

Very great extent   [   ]

Section E: Perceived Benefits

7   To what extent are the following perceived benefits of ICT influence the adoption of ICT in your organization? Use a scale of 1 to 5, where 1 Not at all, 2 is Small extent, 3 is Moderate extent, 4 is Great extent and 5 is Very great extent

Statements on Perceived Benefits	1	2	3	4	5
Benefits to organization					
Benefits to employees					
Benefits to customers					

8   How has the ICT adoption benefitted your business?

	Yes	No
i). Enhanced Communication	[ ]	[ ]
ii). Improved business processes	[ ]	[ ]
iii). Improved products and market innovations	[ ]	[ ]

9   To what extent do the perceived benefits influence the organization decision to adopt ICT?

Not at all [ ]   Small extent [ ]   Moderate extent [ ]   Great extent   [ ]

Very great extent   [ ]

Section F: ICT Adoption

10   Which information communication technologies has your firm adopted?

....

....

....

11   To what extent do you agree with the following statements on ICT adoption in your organization? Use a scale of 1 to 5 where 1 is strongly disagree, 2 is disagree, 3 is Neutral, 4 is agree and 5 is Strongly agree

Statements on ICT Adoption	1	2	3	4	5
The firm had adopted ICT applications which are being used in the business processes					
The firm is now using a computers in its day to day operations					
There is enhanced use of online transactions in the business					
There is enhanced digital communication in the business, e.g. through emails, website, and electronic data interchange, etc					
ICT has enhanced online marketing in the firm through emails, social media, etc.					

THANK YOU FOR YOUR PARTICIPATION

Appendix III: KPMG Top 100 SMEs in Kenya (2015)

1. PHARMAKEN LIMITED
2. PROFESSIONAL CLEAN CARE LIMITED
3. IZMIR ENTERPRISES LTD
4. WARREN CONCRETE LTD
5. BONFIRE ADVENTURES LIMITED
6. SUPERIOR HOMES KENYA LIMITED
7. LEAN ENERGY SOLUTIONS LTD
8. SUPERBROOM SERVICES LTD
9. SOFTWARE TECHNOLOGIES
10. HIPORA BUSINESS SOLUTIONS
11. WELL TOLD STORY LTD
12. AMEX AUTO & INDUSTRIAL HARDWARE LTD
13. DATAGUARD DISTRIBUTORS
14. WAUMINI INSURANCE BROKERS LTD
15. PINNACLE (K) TRAVELLERS & SAFARIS LTD
16. TROPIKAL BRANDS A LTD
17. RUSHAB PETROLEUM LTD
18. ALLWIN PACKAGING INTL. LTD
19. D&G INSURANCE BROKERS LTD
20. SHEFFILED STEELS SYSTEMS LIMITED
21. COAST INDUSTRIAL & SAFETY SUPPLIES LIMITED
22. NOVEL TECHNOLOGIES EA LTD
23. POWERPOINT SYSTEMS EA LTD
24. MACHINES TECHNOLOGIES (2006) LTD
25. LOGISTIC SOLUTIONS LTD
26. HAJAR SERVICES LTD
27. SUPREME PHARMACY LIMITED
28. NORTH STAR COOLING SYSTEMS LTD
29. UNITED EAST AFRICA WAREHOUSES LTD

30. JO WORLD AGENCIES LIMITED

31. RAVENZO TRADING LIMITED

32. GENERAL CARGO SERVICES LIMITED

33. MPPS (1998) LTD

34. KISIMA ELECTRO MECHANISM LTD

35. BTB INSURANCE BROKERS LTD

36. SPECIALIZED ALUMINIUM RENOVATORS LTD

37. SPENOMATIC LTD

38. BLUEKEY SOFTWARE SOLUTIONS (K) LIMITED

39. MANDHIR CONSTRUCTION LTD

40. ASTRAL INDUSTRIES LTD

41. EXON INVESTMENTS LIMITED

42. EXPRESS COMPANY LTD

43. RILEY SERVICES LIMITED

44. IMPAX BUSINESS SOLUTIONS

45. MIC GLOBAL RISKS INSURANCE BROKERS LTD

46. PRAFULCHANDRA & BROTHERS LTD

47. ZEN GARDEN LIMITED

48. ARK CONSTRUCTION LIMITED

49. HOMESCOPE PROPERTIES LTD

50. TRIDENT PLUMBERS

51. SOLLATEK ELECTRONICS (K) LTD

52. AIRTOUCH COOLING SYSTEMS LTD

53. RILEY FALCON SECURITY

54. WOTECH KENYA LTD

55. CIRCUIT BUSINESS SYSTEMS LTD

56. SILVERBIRD TRAVEL PLUS LTD

57. GENERAL AUTOMOBILE CORPORATION LTD

58. HOSPITALITY SYSTEMS CONSULTANTS

59. TOTAL SOLUTIONS LTD

60. NDUGU TRANSPORT CO. LTD

61. NAPRO INDUSTRIES LTD

62. DEVSONS INDUSTRIES LTD

63. DUNE PACKAGING LIMITED

64. KANDIA FRESH PRODUCE SUPPLIERS LIMITED

65. KENCONT LOGISTICS SERVICES LIMITED

66. COMPULYNX LTD

67. SMART BRANDS LIMITED

68. FURNITURERAMA LTD

69. MASTER FABRICATORS LTD

70. EXECUTIVE HEALTHCARE SOLUTIONS LTD

71. EDUCATE YOURSELF LTD

72. ORBIT ENGINEERING LTD

73. KENYA BUS SERVICE MANAGEMENT

74. EUROCON TILES PRODUCTS LTD

75. HYDRO WATER WELL (K) LTD

76. TYPOTECH IMAGING SYSTEMS

77. BAGDA'S AUTO SPARES LTD

78. STATPRINT LIMITED

79. OILSEALS AND BEARING CENTRE LTD

80. NATIONWIDE ELECTRICAL LTD

81. KENBRO INDUSTRIES LTD

82. CUBE MOVERS LIMITED

83. NEWLINE LIMITED

84. SPECIALISED HARDWARE LIMITED

85. NAIROBI ENTERPRISES LTD

86. FARMPARTS LIMITED

87. SOLOH WORLDWIDE INTER-ENTERPRISES LTD

88. DEEPA INDUSTRIES LTD

89. RELIABLE CONCRETE WORKS

90. AVTECH SYSTEMS LIMITED

91. BELL ATLANTIC COMMUNICATIONS LTD

92. IDEAL MANUFACTURING CO. LTD
93. EMOMENTUM INTERACTIVE SYSTEMS LTD
94. PALMHOUSE DAIRIES LTD
95. GACHICHIO INSURANCE BROKERS LTD
96. SYNERGY GASES (K) LTD
97. IRON ART LIMITED
98. KISIMA DRILLING (EA) LTD
99. DE RUITER EA LIMITED
100. ROY TRANSMOTORS LIMITED