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DEPARTMENT OF SOCIOLOGY AND SOCIAL WORK

**THE USE OF INFORMATION COMMUNICATION TECHNOLOGY AND
PERFORMANCE OF MICRO AND SMALL ENTERPRISES IN KENYA: A CASE
STUDY OF SELECTED SMES IN ISIOLO COUNTY**

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DECLARATION

I hereby declare that this research project is my original work and has not been presented for a degree at any other university.

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This research project has been submitted for examination with my approval as the candidate's University Supervisor.

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DEDICATION

To my parents, Mr. Domiciano Laikuru Maingi and Mrs. Gladys Naini Maingi, my wife, Salome Wairimu Ngethe and my entire family for steadfastly supporting and encouraging me in this journey.

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When I began this research project, my thoughts were that it would depend on my individual effort to see it to its completion. As I reviewed the possible topics that I was going to carry out my research in, I realized that I needed the help of so many persons, that the individual effort view faded with every step and mis-step I took. This project is therefore a product of many minds, and although an original work, has the fingerprints of the various people who put their time in it.

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TABLE OF CONTENTS

DECLARATION	ii
DEDICATION	iii
ACKNOWLEDGEMENTS	iv
LIST OF TABLES	viii
LIST OF FIGURES	ix
ABBREVIATIONS AND ACRONYMS	x
ABSTRACT	xi
CHAPTER ONE: INTRODUCTION	1
1.1 Background of the Study	1
1.2 Statement of the Problem.....	5
1.3 Objectives of the study.....	6
1.4 Research Questions	6
1.5 Justification and Significance of the Study.....	7
1.6 Scope and Limitations of the study.....	9
1.7 Definition of Key Terms	10
CHAPTER TWO: LITERATURE REVIEW AND THEORETICAL FRAMEWORK	12
2.1 Introduction.....	12
2.2 Empirical Review.....	12
2.2.1 Small and Micro Enterprises	12
2.2.2 ICT Use and SME Performance	13
2.2.3 ICT Use in Marketing.....	14
2.2.4 ICT Use in Human Resource Management.....	16
2.2.5 ICT Use in Cost Efficiencies	17
2.3 Theoretical Framework.....	18
2.3.1 Technology Acceptance Model.....	18
2.3.2 Transaction Cost Theory	19
2.3.3 Management Systems Theory	20
2.4 Conceptual Framework.....	21
2.5 Summary	22

CHAPTER THREE: RESEARCH METHODOLOGY	23
3.1 Introduction.....	23
3.2 Research Design.....	23
3.3 Target Population.....	23
3.4 Sample size	23
3.5 Sampling Procedure	24
3.6 Data Collection methods and Tools.....	25
3.7 Validity of the instruments.....	25
3.7.1 Reliability of the Instruments.....	25
3.8 Data Analysis	25
3.9 Ethical Considerations	26
CHAPTER FOUR: DATA ANALYSIS, PRESENTATION AND INTERPRETATION ...	27
4.1 Introduction.....	27
4.2 Response Rate.....	27
4.3 Demographic Information.....	27
4.3.1 Gender of Respondents	27
4.3.2 Age of the Respondents	28
4.3.3 Education Level	28
4.3.4 Type of business	29
4.4 ICT Use in Marketing	30
4.4.1 Source of Information	30
4.4.2 Spread of Access to Markets	31
4.4.3 Customers Order for Goods/ Services.....	32
4.4.4 Mode of Payment to the Business	32
4.5 ICT Use in Stocking.....	33
4.5.1 Stock Recording	33
4.5.2 Ordering for Stock.....	34
4.5.3 Paying for Stock	35
4.6 ICT Use in Human Resource Management	35
4.6.1 Recording Staff Attendance	35
4.6.2 Analysis of Staff Attendance.....	36

4.6.3 Mode of Payment of employees	37
4.7 ICT Use on Cost Effectiveness	38
4.7.1 Advantages of ICT Use on Business Costs	38
4.8 Performance of Businesses	38
4.8.1 Form of Enterprise	39
4.8.2 Duration of Operation	39
4.8.3 Current Financial State of the Business	41
4.8.4 Average Profit per Month	42
4.8.5 How do Businesses use ICT	43
CHAPTER FIVE: SUMMARY OF FINDINGS, CONCLUSIONS AND	
RECOMMENDATIONS.....	44
5.1 Introduction.....	44
5.2 Summary of Findings.....	44
5.2.1 Demographic Information.....	44
5.2.2 ICT Use in Marketing	44
5.2.3 ICT Use in Stocking.....	44
5.2.4 ICT Use in Human Resource Management	45
5.2.5 ICT Use on Cost Effectiveness	45
5.2.6 Performance of Businesses	45
5.3 Conclusion	45
5.4 Recommendations.....	46
5.5 Suggestions for further Research	47
REFERENCES.....	48
APPENDICES.....	52
Appendix I: Research Questionnaire	52

LIST OF TABLES

Table	Page
Table 4.1: Respondents' Gender.....	27
Table 4.2: Age Bracket of the Respondents.....	28
Table 4.3: Education Level.....	28
Table 4.4: Source of Information.....	30
Table 4.5: Spread of Access to Markets	31
Table 4.6: Customers Order for Goods/ Services	32
Table 4.7: Main mode of payment in the business	32
Table 4.8: Stock Taking and Record keeping in the Business.....	33
Table 4.9: Main method of Ordering for stock in the Business.....	34
Table 4.10: Main method of payment for Stock ordered and delivered in the business.....	35
Table 4.11: Monitoring staff Attendance at work.....	36
Table 4.12: Method of Analyzing Staff Attendance	36
Table 4.13: Main Method of paying employees	37
Table 4.14: Benefits of using ICT in Businesses.....	38
Table 4.15: Average Profit per Month.....	42
Table 4.16: Use of Modern Technology in Business.....	43

LIST OF FIGURES

Figure	Page
Figure 2.1: Conceptual Framework	21
Figure 4.1: Type of business	29
Figure 4.2: Form of Enterprise.....	39
Figure 4.3: Period business has been Operational	40
Figure 4.4: Current Financial State of the Business	41

ABBREVIATIONS AND ACRONYMS

CBS	Central Bureau of Statistics
ICT	Information Communication Technology
ILO	International Labor Organizations
IMF	International Monetary Fund
IT	Information technology
MDGs	Millennium Development Goals
MIS	Management information Systems
MSEs	Micro and Small Enterprises
NGO	Non-Governmental Organizations
SAPs	Structural Adjustment Programs
SMES	Small and Medium Enterprises
SPSS	Statistical Package for Social Sciences
W.B.	World Bank

ABSTRACT

Small and Medium Enterprises (SMES) are enterprises in both formal and Informal sectors employing 5-99 fulltime employees. SMEs cut across all sectors of the economy, providing a prolific source of employment, income, and government revenue and poverty reduction. In Kenya, the total capital employed in the sector is 28 billion. The sector provides goods and services; promotes competition, innovation and an enterprise culture and provides opportunities for the development of appropriate technological and managerial competencies. The general objective of this study was to assess the effects of ICT use in the performance of SMES in Isiolo County. The target population was registered SMES in Isiolo County. There are 895 registered SMES in Isiolo County. A sample of 269 was obtained according to Krejcie and Morgan (1970) table. The study relied on Primary data that was collected using Questionnaires. Descriptive statistics were used to analyze data. Measures of central tendency (mean, mode and median) were used to find how data tended to agree. Qualitative data was analyzed by use of and inferences made. Data presentation was by use of frequency tables, percentages, pie charts and bar graphs. The study showed that 28% of respondents used internet to research, 37.5% used mobile phones to transact business and 12.5% used modern technology to market their products and service while 12.5% did not use modern technology in their business. The inference is that a large majority of the respondents used modern technology. The study also established that use of ICT led to growth and expansion of business, that there was a positive correlation in the use of ICT in Marketing, stocking and human Resource Management in registered SMEs in Isiolo County, it further concluded that ICT led to increased market accessibility by facilitating communication with customers, competitive positioning enabled information acquisition and production of competitive products, generation of market information, reduction of logistical costs, facilitates access to global markets and research, networking, market transactions and identification. The study recommended the Government should encourage the adaption and use of ICT in SMEs, by having policies that are favorable for SMEs to take up use of ICT in the operations. SMEs owners should also seek ways that ICT can be relevant to them so that they can rip the benefits as the ability of Kenyan SMEs to survive the global environment is dependent on their capacity to leverage ICT as a resource and therefore benefit from the value of information.

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

Small and Medium Enterprises (SMEs) in Kenya play a significant role in the economy and continues to provide employment for many people across all sectors. SMEs are categorized according to the number of employees working in an enterprise. Scale in SMEs can be determined based on the number of business units, investment, productivity and returns (KIPPRA, 2006). According to a definition by National Micro and small Enterprise baseline survey conducted in 1999, SMEs are formal and informal sectors with a capacity of employing about 5 to 99 full time employees. According to CBS, ICEG and K-REP (1999) a small business can have about 5 to 49 employees while medium scale can have about 50 to 99 full time employees.

SMEs are widely scattered across all sectors in the economy which provides employment, increase income, provide government revenue and reduces poverty. The SMEs employs over 4.6 million people since it is composed of about 98 percent of all businesses in Kenya. Total capital employed by SMEs is estimated to be 28 million and accounts for about 18.4 percent of the country's GDP (GOK, 2009). The SMEs sector creates employment, enhances innovation and creativity, provides goods and services (KIPPRA, 2002).

ICT is one of the newer tools that entrepreneurs can choose to give their business that necessary advantage against competitors in ensuring efficiency, wide reach, cutting costs, increased advertising and possible client awareness. ICT has in the most recent years provided the world with the social networking media such as my space, Wikis, Facebook and Twitter. The social media has been seen to reach a lot of audience and it is cheap because one needs only to access a computer. It has been touted as cheap and effective way for advertising, especially for the Small and Medium Enterprises and this brings the idea about company products to the people.

Currently, business environment has a great influence on information and communication technology (ICT) and its application is widespread. The adoption of ICT has greatly changed the way business is being conducted as it has improved work process, production, trade,

marketing and consumption pattern between enterprises and consumers. In the developed countries including Australia and United Kingdom, Small and medium ventures account almost half of all businesses and leads in provision of job opportunities (Kazi, Aouad & Baldwin, 2009). Nowadays small businesses are increasingly using and adopting information and communication technology due to their cost-effectiveness and affordability. Alberto and Fernando (2007) argued that the use of ICT can improve business competitiveness with internet providing numerous opportunities for SMEs to compete equally with large corporations.

According to Acosta (2010), about 30 percent of all budget under research and development in industrialized countries is accounted for Research and development of ICT. Extant studies suggest that SMEs are vital component for economy development in many states (Wolf, 2001; Matthews, 2007). Noor (2009) posit that SMEs form more than a half of all ventures and also provides more than a half of all job opportunities in developed nations such as UK and Australia. Acosta (2010) assert that SMEs in Europe account for about 99 percent of all businesses. Hence, the limited research on ICT implementation and its influence on SMEs indicates the slow adoption of ICT by SMEs managers.

Developed countries have advanced their application of ICT in their daily operations in businesses while due to delays in internet accessibility and application by developing nations unlike in developed countries where there is ease of accessibility of internet. For instance, averagely in Africa there is only 1 out of 130 people who own a computer while in Europe and North America 1 in every 2 people can easily access a computer and internet thus leaving a wide berth to catch up with (WB, 2010).

Entrepreneurship is universally accepted as it has been a contributor to economy, innovation, employment and productivity. The creation of idea and implementing of the same economic opportunity is as a result of entrepreneurship. In history, pragmatic individuals have been said to improve the economy from their entrepreneurial and innovative skills (Hisrich, 2007).

According to Oluoch (2002), entrepreneurship role and culture has continued to be underestimated by social development. In the past decades, entrepreneurship has been widely embraced as it is a vital element in development. The effects of ICT make the business grow by getting price information and this boosting their income. Businesses are seen to grow in terms of human resources, infrastructure, capital base, fixed assets and increased outlets. It is up to the entrepreneur to choose the management modules that will give the business an edge above its competitors.

Although Kenya lagged behind in ICT a lot has been seen in its growth in terms of catching up with the first world in terms of access, use and general appreciation of the many advantages ICT can bring to Micro and Small Enterprises (MSEs). Business can tailor make applications that are relevant to the business even without professional support. Despite of the ICT providing solutions to businesses it should be understood that technology is very dynamic field and every business needs to keep up with the technological changes that come up with this dynamism.

Government of Kenya values more the SMEs as it contributes the country's development (GOK, 2007). However the SMEs continue to face challenges making it unable to realize its full capacity as expected. Some of these challenges include market access, lack of finances, unfavourable policy, lack of information and technology among others (GOK, 2005).

Inaccessibility to market remains a major challenge to small business ventures which affects their growth and competitiveness owing to a reduction in local market due to globalization (GOK, 2005; KIPPRA, 2006). Insufficient market information results to SMEs being less informed on available opportunities. Generally, the demand for the products declines and market becomes saturated due to over production and dumping of cheaply imported products (KIPPRA, 2006). High interest rates and transaction cost due to limited market information, poor marketing capacity, poor market research and inefficiencies in supply and demand remains a challenge (KIPPRA, 2006).

The Kenyan government is taking measure to expand the economy by transforming the country into a digital society which enhances sustainable development. ICT adoption has positively influences SMEs which also impacts the economy. Small and medium enterprises plays a vital role in economies for both developed and developing nations in providing revenue and jobs creation. SMEs remain to be vital seed in entrepreneurial economy as many Kenyans are employed by SMEs. Contemporary research has also acknowledged the role of SMEs in enhancing innovation and growth (Bravnerhjelm, 2008).

Equally, ICT is said to boost other sectors (GOK, 2007) which creates more opportunities for small businesses to enhance market accessibility. It is a vital tool that the world of globalization and marketing. Some of the market access challenges faced by SMEs are; low quality products, inability to conduct market research and limited resources to promote local products.

Information Communication Technology (ICT) in Kenya has not been exploited to its full potential in the running of business. The country has lagged behind because liberalization of telecommunication industry took longer than other country to create access to ICT. Over 45 percent of the population has access to internet. It is worth noting that Kenya has been in the forefront in promoting M-PESA, an electronic cash transfer via mobile telephony platform around the world. The use of technology has provided impetus for propelling Kenya into Africa's high-tech capital and creating a 'Silicon Savannah'-Konza City of interconnected telecommunications hubs to inspire our growing economy.

The Government of Kenya through the Vision 2030 continues to emphasize the vital role of ICT in development of economy and has taken major steps in promoting its use. Vision 2030 Science, Technology and Innovation Sector (2013 – 2017) is another sector that has identified telecommunications, electronics and computers among the nine priority thrust that can help improve the country's technology and innovation that helps in achieving vibrant, affordable ICT infrastructure and global competitiveness.

In Kenya, the ministry of ICT is dedicated to transform itself into a technological hub within East Africa and beyond, it is also mandated to connect Kenyans to new ICT infrastructure for effective government, economic growth, e-commerce and creation of employment. Kenya vision 2030 which is under economic pillar has acknowledged the BPO as an important sector that has a potential to create more than 20,000 jobs and also increase GDP with over 10 percent.

1.2 Statement of the Problem

Manyinka (2011), Esselar (2006), Higon (2011), Brynjolfsson and Hitt (1995, 1996) assert that technology advancement has greatly impacted the SMEs around the world, China and Brazil are not exempted. This has been brought about by government efforts to implement policies that make ICT available to all business ventures. Similarly, Kenyan government is in the forefront in the process of making ICT sector more updated by instituting policies like digital broadcasting-management and the laptop programme for primary school pupils.

The use of ICT in SMEs in Kenya still remains a challenge to SMEs. However, in large companies like financial institutions such as banks, insurance companies and Government Parastatals such as Kenya Power are harvesting greatly from investing in ICT. There is a need to examine the effects of ICT on performance of SMEs. The output levels expected from ICT investment in such SMEs is not directly proportional to better goods and services, expanded market and reduced cost.

As much as SMEs taking part in improvement of the economy, it persistently faces barriers that limit their potential development. Market access as a major constraint progresses despite various policy interventions by the government (KIPPRA, 2006). Generally, the average demand continues to decline, markets become saturated as a result of over production and dumping, interest rate fluctuates as a result of limited market information and competition from cheaply imported goods (GOK, 2005). The information driven from the scenario is that application of traditional marketing technique is not sufficient to achieve business objectives. The marketing challenges are said to be solved by implementation of new ICT policies. ICT being a prerequisite in enhancing activities of other sectors is in a position to offer more

opportunities for improvement of market accessibility. Kenya Vision 2030 has not been left behind as it plays a significant role in development, competitiveness and growth of all sectors. Various researchers posit that low ICT uptake lags behind the productivity in SMEs compared to big enterprises that reap enormous benefits from the adoption of ICT.

It is however noted that most of the SMEs do not optimally use ICT due to lack of manpower and training of the same, non-affordability of the hardware and the software government policies that are not favorable for the access of ICT. Despite of all the efforts by GoK, the telecommunication operators and the owners of the business to address all the issues related to ICT, there is still low prevalence in its use in SMEs. This study aimed to find out the influence of ICT use on the performance of registered SMEs in Isiolo Town.

1.3 Objectives of the study

The general objective of this study was to access the effects of ICT on performance of SMEs, this is built on the following specific objectives;

- i. To establish how ICT, use in marketing influences the performance of Small and Micro Enterprises.
- ii. To determine how use of ICT in stocking influences the performance of registered Small and Micro Enterprises.
- iii. To assess how ICT use in human Resource Management influences the performance of registered Small and Micro Enterprises.
- iv. To establish how ICT in cost efficiencies influences the performance of registered Small and Micro Enterprises.

1.4 Research Questions

- i. How does ICT use in marketing influence the performance of registered Small and Micro Enterprises?
- ii. In what way does use of ICT in stocking influence the performance of registered Small and Micro Enterprises?
- iii. To what extent does ICT use Human Resource Management influence the performance of registered Small and Micro Enterprises?

- iv. How does ICT in cost efficiencies influence the performance of registered Small and Micro Enterprises?

1.5 Justification and Significance of the Study

The Government of Kenya needs to understand better if the policies they are formulating are effective in their intended application. Entrepreneurs from all over need to know they are utilizing available ICT optimally and how they can change their operations to greater improve in their business growth and sustainability. Existing literature on research of ICT use might cover some of these elements, but there is need to improve on this literature. The study intends to add on this literature and also provide new perspectives in ICT use in small County towns, hence the choice of Isiolo as our focus of research. A lot of the existing research has been carried out in larger cities and metropolitan areas, leaving the smaller town entrepreneurs to rely on this information as generally applicable. This study will establish if this is true or not. Small and micro enterprises have a significant role in improvement of the economy in Kenya, therefore, the government expects the business to take part in various development strategies such as job creation, poverty reduction and industrialization. To achieve this the sector is expected to be competitive. However, various factors limit the sector's competitiveness more so market access which if not well addressed continues to be a challenge in business development and economy in general.

In order to improve SMEs competitiveness, the business need to adopt new technology which continues to take a centre stage in enhancing growth and competitiveness across all sectors around the world. Having examined the benefits derived from ICT to improve market access in SMEs, the study therefore provides vital knowledge needed for improvement of sector's competitiveness so as to reach the country's objective. The findings from the study is important for policy makers, SMEs and academician.

Any business strives to earn an interest on all factors of production invested into the business. Likewise, beyond satisfying the entrepreneurs' interest, survival of a business relies heavily on its position in the highly competitive and dynamic environment. The establishment and growth of businesses highly depends on productivity and profitability. For a business to attain

the set objectives it must adhere to two main conditions such as; proper utilization of available resources and be in a position to satisfy customer needs and wants (Potocan, 2006). Beyond having the right and well-motivated human resource, ICT enhances supplies, process and systems of a business.

A well-defined supply chain and information system reduces operational costs, time and creates a satisfied business relations environment. On the other hand, as ICT is highly dynamic and complicated, issues of sunk costs may arise due to obsolescence, limited knowledge and fraudulent cases among others. For these two reasons, the necessity of ICTs in improving business performance and the acquiring, maintenance and competency costs involved creates the necessity why the study is important to broaden the interest and need of enhancing adoption, secure, efficient and effective use of ICTs by SMEs to enhance their competitiveness, sustainability and economic performance.

The private sector like partnerships and government have a mandate, and may give appropriate service to enhance coordination of useful information as a result of adopting ICT, for instance, showcasing how to handle challenges that lead to market failure brought about by limited access to information (OECD, 2004). The growth of MSEs has been cited as a necessary prerequisite of economic growth of developing countries. Studies have been carried out on many factors that influence the growth of SMEs. However, research has not been done exhaustively in Isiolo County on the factors that affect adoption and use of ICT by SMEs in the present Kenyan economy.

This study is therefore hoped to serve as a point of reference in depicting the factors that impact SMEs when it gets to the integration of ICT. The entrepreneurs can then use the knowledge to get the necessary competitive edge using assets at their disposal to ensure their business growth, cost minimization, increased profitability, prosperity, and therefore survival. Policy makers may also find this project necessary to map strategies that will include ICT in business depending on the findings. It is expected that both policy makers and researchers in the same field shall benefit from the findings of this study. In addition, the study adds to the body of knowledge and existing literature.

1.6 Scope and Limitations of the study

The study was conducted in Isiolo Town in Isiolo County because of the growth opportunities coming up, the recent opening of Isiolo International Airport, and the fact that due to its growth potential and presumed growth in the last number of years, the variables will be easily identifiable. The town is also being touted as a gateway to the Northern Frontier, and with the construction of the Isiolo-Moyale Road, the vision 2030 resort city plan, the LAPSETT corridor etc. Therefore it hosts great entrepreneurial opportunities.

The study sought to establish the influence of ICTs on performance of SMEs in Isiolo County. ICTs in this context are the prerequisites for a business process rather than being core business itself. The location under case study was Isiolo County where suitable method was used to conduct the research on a sample chosen to signify the study area. The study was limited to contribution of ICTs on performance by adoption of ICTs by SMEs.

The study sought to investigate usage of ICTs by SMEs and impact they create on performance. To begin with, ICTs are dynamic and form part of many resources a given firm relies on to enhance performance. SMEs are vaguely defined with the definition being borrowed from developed economies case and locally from a definition that also addresses Micro enterprises. Performance of any firm, depends on many other factors and sector of operations may be hardly be accentuated to ICTs.

This study was limited to only the influence of ICT on growth of registered retail businesses. Several factors cause a business to grow, including marketing strategies, staff training, capital availability, to name but a few. The study only focused on the influence of ICT.

The study did not focus on the change of the political climate and the subsequent policies that might have shifted, especially with the adoption of the new constitution. The study also did not focus on a possible change in population figures in the region for whichever reason.

When covering ICT, the study only focused on the uses of computers in operations of the businesses, internet, webpages, and certain mobile telephony technologies. There were other uses that were overlooked.

The need to conduct a reconnaissance study and select a representative sample is faced by limitations of time, financial resources, identification and classification of SMEs by sector and finally, exclusive quantification of impacts of the adopted ICTs to performance of these SMEs.

1.7 Definition of Key Terms

- | | |
|---|--|
| Business Operations | - Day to day running of the core functions of the business, including stock take, inventory, ordering of stock, receipt of payments, banking, handling customer orders, book-keeping |
| Cost Effectiveness | - Production of goods at the minimum costs possible while maximizing revenues. |
| Economic growth | - An improvement in the living standards of people living in an area. |
| Entrepreneur | - Any owner of a business registered as an SMEs with local government. |
| Human Resource Management | - Business operations that involve the personnel of the store, including remuneration, attendance registration, leave entitlements, performance, etc. |
| ICT infrastructure | - Physical equipment/ hardware and software that are a prerequisite to the desired technology to be useable. |
| Information Communication Technology | - Mobile telephony and computer technologies along with their various uses and applications. |
| Infrastructure | - This is the telecommunication networks which enable transmission of data and voice through telecommunication integration of devices. |

- Liberalization** - A process meant to dismantle all government controls that hinder the operation of free market systems.
- Marketing** - Advertising the business and its products (goods and/or services).
- Performance** - The position of business in-terms of realizing a profit and loss.
- Stocking** - Refers to the act of filling shelves with products for better display

CHAPTER TWO: LITERATURE REVIEW AND THEORETICAL FRAMEWORK

2.1 Introduction

This chapter reviews available literature related to the use of ICT by SMEs to operations in their businesses, and the challenges they face in adopting to ICT to these operations. This chapter will also include theoretical and empirical perspectives. It will look at the literature on the significance of the ICT sector to entrepreneurial skill and what its role in economic and business growth is. The chapter will also seek to review models of business growth and the current trends of entrepreneurship in the globe funneling down to Kenya. The Conceptual framework guiding this study is at the end of this chapter.

2.2 Empirical Review

2.2.1 Small and Micro Enterprises

As much as the SMEs play a vital role in the economy of a country, there has been no standard definition of Small and Medium Sized Enterprises. Scale in SMEs can be determined based on the number of business units, investment, productivity and returns (KIPPRA, 2006). According to a definition by National Micro and small Enterprise baseline survey conducted in 1999, SMEs are formal and informal sectors with a capacity of employing about 5 to 99 full time employees. According to CBS, ICEG and K-REP (1999) a small business can have about 5 to 49 employees while medium scale can have about 50 to 99 full time employees.

SMEs are widely scattered across all sectors in the economy which provides employment, increase income, government revenue and reduces poverty. The SMEs employ over 4.6 million people since it is composed of about 98 percent of all businesses. Total capital employed by SMEs is estimated to 28 million and accounts for about 18.4 percent of the country's GDP (GOK, 2009). The SMEs sector creates employment, enhances innovation and creativity, provides goods and services (KIPPRA, 2002).

SMEs help in reduction of poverty as it is a source of livelihood for many people. Owing to the fact that there is obstinate stagnation in economic growth coupled with unemployment, increasing poverty and its social effects has resulted to formulation of strategies that simulate economic activity in many countries including Kenya. Therefore, the government has been on

the forefront to promote SMEs as it contributes the country's development (GOK, 2005; Oluoch, 2002).

2.2.2 ICT Use and SME Performance

Performance can be measured by how well the outcome conforms to the initial plan or budget. According to Moulin (2003) organization performance is how well firms are managed considering the level of productivity, shareholder's interest and customer's satisfaction. ICT have a major effect on performance of businesses as it contributes to country's economy (Stephen, 2007).

According to Dalrymple, (2004) performance measurement in SMEs consist of proper financial management, good customer service, efficient human resource, promote innovation and creativity. Small firms have slow adoption of new ICTs compared to big firms (OECD, 2004). ICT greatly influences companies, implementation of ICT improves its performance in the market as it enhances services and products differentiation.

The use of ICT has a significant effect on productivity across all sectors, it fosters sustainable development (Ollo-Lopez & Aramendia-Muneta, 2012). In addition, ICT use can be inform of e-mail, social media, e-commerce that significantly reduces transportation costs associated with physical delivery of message or posting mail, advertising, banking and purchasing products (Manochehri, Al-Esmail & Ashrafi, 2012). ICT can improve business performance by directly cutting costs like labour costs and firm inputs like information cost. in the short run ICT adoption improves both input and output market expansion (Brynjolfsson & Hitt, 2000).

ICT can restructure process of production, transaction at the same time increase flexibility and improve productivity in the long run. Firms that adopt ICT produces quality goods and services more effectively and efficiently hence increasing firms' revenue and enhancing customer satisfaction (Allen & Morton, 2004). According to UNDP (2001) ICT is used as a marketing tool and maintaining customer contact, woe new clients and customer service (Werthner & Klein, 2005).

Adeosun (2009) asserts that ICT fosters efficient communication, knowledge management, information access, collaboration, decision making, strategic management, data management in SMEs. It is the most vital tool in strategy formulation and implementation and when applied it could result to positive impacts that promote and strengthen organization's competitive advantage (Buhalis, 2004).

Organizational capabilities are achieved by use of ICT which cuts costs hence helping in shaping and coordinating activities within and the organization. ICT application in the organization helps reduce cost involved in coordination and enhances outsourcing in the business. ICT provides a medium for learning and it's also important channel of for exchanging information. According to Ramsey (2003), most business have gained from adoption of ICT which makes them produce goods and services cost effectively and improving quality at the same time.

Every organization work towards improving their processes and the use of ICT has facilitates achieving this organizational objective by strategically managing the business. SMEs that embrace ICT are able to assess their external environment, competitors, discover customer needs and therefore make necessary changes to position themselves in the existing market (Kevin, 2006).

2.2.3 ICT Use in Marketing

Use of ICT enhances market accessibility which provides basis for all marketing systems. SMEs in developing countries have continued to face challenge associated with market access as a result of market imperfections brought about by lack of reliable market information, poor link and policy in supply chain, high interest and transaction cost, influx of intermediaries and limited input and output markets.

Major solution to improve market access by SMEs is the adoption of ICT. Approaches that provides market access have impact on SMEs performance (Shepherd, 2007). Some of the benefits of using ICT in businesses include cost reduction, market expansion, enhancing

efficiency and knowledge through networking, help in creating and delivering goods and services to global markets (Chyau, 2005).

According to Ritchie and **Bridley** (2005), ICT greatly impacts market-oriented dimension of goods and services which involve use of websites that showcase type of goods, services or business information on worldwide web (www). Websites helps in e-commerce where customers can order online. It is a more vital tool in expanding and creating new markets whereby the use of internet improves firm efficiency and market research. ICT application in businesses enables 24hour borderless market space hence leveraging businesses to gain a competitive advantage over their rival companies.

Lloyd and **Kroeze** (2008) assert that ICT helps in eliminating barriers to market entry which leads to wide customer base. It also helps in promoting borderless markets and enhance knowledge to easily deliver goods and services to customers. According to **Mutula** and Van Brakel (2006) internet provides significant benefit to SMEs such as ease of access to international customers, global markets and be in a position to compete with big companies.

Use of ICT strategically helps in solving challenges in businesses. ICT has ability to overcome impacts of distance, enhance quality control, reduces transaction cost, helps collection and distribution of useful information and stock control. ICT also improves marketing since SMEs have the chance to showcase their products both locally and in international markets which enhances their growth, development and competitiveness (Ramsey, 2003).

SMEs venturing in international markets exposes them to more business opportunities like niche markets; technology advancement and better way of spreading risk (OECD, 2000). Internet helps in overcoming problems of size and enables small firms compete with big firms. Internet use exposes SMEs to more international opportunities (Hanna, 2010).

Generally, the average demand continues to decline, markets become saturated as a result of over production and dumping, interest rate fluctuates as a result of limited market information and competition from cheaply imported goods (GOK, 2005). Market access as a major constraint progresses despite various policy interventions by the government (KIPRA,

2006). The information driven from the scenario is that application of traditional marketing technique is not sufficient to achieve business objectives.

Multinational firms seem to be more equipped with new technology that poses threat to SMEs confronting challenges of increased competition due to globalization (Kaushalesh & Peedoly, 2006). Constraints such as lack of managerial skills, inappropriate information on foreign market, limited knowledge, inefficient transactions, lack of finances and outdated technology limits SMEs internalization hence limiting their expansion and survival to overseas market (OECD, 2010).

Chances of business survival depends on capacity to leverage information as a beneficial resource. Efficient and effective operation by SMEs need ready and relevant information as they operate in dynamic environment. Some of useful information for SMEs include, business environment, market trends, legal and regulatory, customer needs, technology, business management and business opportunities, partnerships and network building (Schleberger, 1998).

SMEs continue to struggle in the process of accessing market information to enhance their business productivity, customer satisfaction, exploit available opportunities in the market place (Hanna, 2010). There is miscommunication in customer trends and market signals which deprives SMEs information to operate efficiently in rich environments (KIPPRA, 2006). To strive in competitive market environment SMEs need to access simplified, reliable and timely information on production technology and market opportunities (GOK, 2005).

2.2.4 ICT Use in Human Resource Management

Information and Communication Technology play a vital role in enabling innovation. Gago and Rubalcaba (2007) found that organizations which invest in ICT, especially those which regard their investment as very important, are significantly more likely to engage in good and service innovation. Van Leeuwen (2008) linked ICT use and investment with organizational performance and found out that e-commerce and use of broadband significantly affect firm's productivity through their effect on innovation output. According to Polder (2009) investment in ICT has positive results and enhances different types of innovation in services, while it

plays a limited role in manufacturing sector, being only marginally significant for business innovation.

In contrast, findings of (Spieza, 2011), support the hypothesis that ICT act an enabler of innovation, in particular for product and marketing innovation, both in manufacturing and services. Sterlacchini and Lucchetti's (2004) found out that market-oriented ICT like (Web page, e-commerce and customer relationship manager or marketing management software) presents a vital source of acquisition and generation of market information.

ICT is an important element in enhancing innovation process as it encourages generation of market knowledge which enables the business to acquire necessary tools for management, treatment, analysis and storage of information (Vilaseca, Torrent & Jiménez, 2007). For example, a customer relations manager system may specifically be useful for product innovations since its data gives complete information on customers' needs and wants. Basically, the knowledge of customer's preference is used to adjust and design products that suit customers' needs hence creating innovation success (Joshi & Sharma, 2004). SMEs that value customer relationship tend to have a competitive advantage as they are in a position to gain knowledge on customers' expectation thereby improving their product and expand their market (Engelstätter, 2009).

2.2.5 ICT Use in Cost Efficiencies

ICT use improves processes and efficiencies in both global and local markets. Electronic markets have a significant impact on cost, transparency in business transactions and speed. Decreased transaction cost and ease of accessibility lowers costs to upto 15 percent on customers and decreases up to 20 percent on business procurement costs. Supply chain process has been enhanced by application of Business to Business (B2B) which is net based transactions that results to an increase in new channels which enables SMEs pool resources and collectively supply in bulk to international markets. B2B also helps in coordination of products from producers to consumers (Hanna, 2010).

ICT enables companies to have ease of access to markets, improves communication, enhances market expansion, reduces transaction cost and facilitates marketing. Matambalya and Wolf (2006) conducted a survey in Kenya and Tanzania SMEs with different application of ICT and majority of their effects indicated a favourable result. The leading effect in improving management efficiency and competitiveness was telephone and computer use with 88 percent and 76 percent respectively. Mobile phones are said to have contributed to regional market expansion followed by fixed phones and lastly faxes. Therefore, use of ICT has a significant role in improving productivity, marketing and information in SMEs (Minges, 2003; OECD, 2000).

2.3 Theoretical Framework

Some of prominent theories that explain the usage of ICT employed in this research include the theory of Technology Acceptance Model, Transaction Cost Theory and Management Systems Theory.

2.3.1 Technology Acceptance Model

This model is structured to give explanation on determinants of user acceptance of a wide variety of end-user computing (Davis, 1989). Technology acceptance model provides empirical support in explaining usage of ICT (Agarwal & Prasad, 1999). The model is of the opinion that adoption of ICT depends on user intention driven by belief and attitude towards the system. TAM claims that perceived ease of use and perceived usefulness are important in explaining variation in users' intention (Davis, 1989).

According to Davis (1989) perceived usefulness is the extent to which a user believes that using a certain information system would improve his/her job performance. Perceived usefulness in this study means the extent to which ICT usage would be useful in improving the performance of SMEs. Davis (1989) asserts that perceived ease of use is the extent to which an individual believes that application of a certain information system would limit effort attitude typically leads to increased usage of ICT whereas negative attitude results in reluctance to ICT usage (Zhang & Aikman, 2009).

Mahmood, (2000) emphasizes that ICT usage highly depends on attitude since possession of positive attitude indicates acceptance of technology, hence strengthening individual's belief that ICT usage helps in enhancing his/her work performance. Perceived usefulness and perceived ease of use, ability to create reliance on technology and ease of access are major factors which contributes to greater ICT usage. According to Venkatesh and Morris (2000); Argawal and Prasad (1999) there is evidence on influence of perceived usefulness on intention to use information and communication technology. In addition, in-depth researches have explored that there is a relationship existing between perceived ease of use and intention to use ICT (Venkatesh & Davis, 1996).

When a business perceive ICT to be useful, there exist a perceived benefit as it frequently makes use of ICT (Rogers, 2004). The perceived usefulness is characterized with a lower cost, wider market, has ability to gather large information in a short period of time and reduce cost of posting mail (Laudon & Laudon, 2003). Technology acceptance model opens ways for better use of ICT which creates avenues for better performance of SMEs; Conservativeness in Communication can therefore be broken by the TAM model as one of the factors for technology use is perceived performance.

The theory is useful to the study since it emphasizes factors that can influence usage of technology. Attitude, perceive usefulness and perceive ease of use can influence how SMEs use ICT in marketing, stocking and managing human resource. Attitude refers to a state of mind which is brought about by experience. Exerting a directive or dynamic influence upon individual's response to objects and situations related to it.

2.3.2 Transaction Cost Theory

This theory is concerned with the costs of transacting in the market (Brouthers and Hennart, 2007). According to Williamson (2009), transaction cost theory postulate that the boundaries of organizations are dogged by selecting the governance structure that limits transaction costs of implementing its business activities. In addition, the theory draws its assumption from both bounded rationality and opportunism. Williamson (2009) indicate that three factors involved

are internal and external uncertainty, asset specificity and task frequency influence transaction costs and thereby the choice of governance structure.

Anderson and Gatignon (2012) argue that firms utilize the market when the transaction costs of working in a specific foreign market are little. In other words, the default entry mode under the transaction cost perspective is a low resource commitment mode, such as exporting. Williamson (2009) adds that control is vital and businesses have to participate in entry mode which involves high commitment of resources like launching an overseas branch when transaction costs of operating business in the foreign market are higher. Therefore, transaction cost theory scrutinizes the relationship between firms providing a service and the customer process thereby highlighting the impact of both costs and benefits accruing to the firm (Anderson and Gatignon, 2012).

The transaction cost theory offers an understanding of the starring role that ICT shows in decreasing transaction costs to an organization since the decisive goal of the firm is to recognize benefits that far exceed the costs sustained in the given process. As such this theory will be used by the research in this study.

2.3.3 Management Systems Theory

Management systems theory establishes the relationship existing between firms ability to cope with dynamism in the environment (Boulding, 1956; Katz & Khan, 1978). Depending with company's security strategies, Sherwood (1996) proposes information security architecture which consist of business requirement, security services, major security strategies, security mechanisms and security technologies.

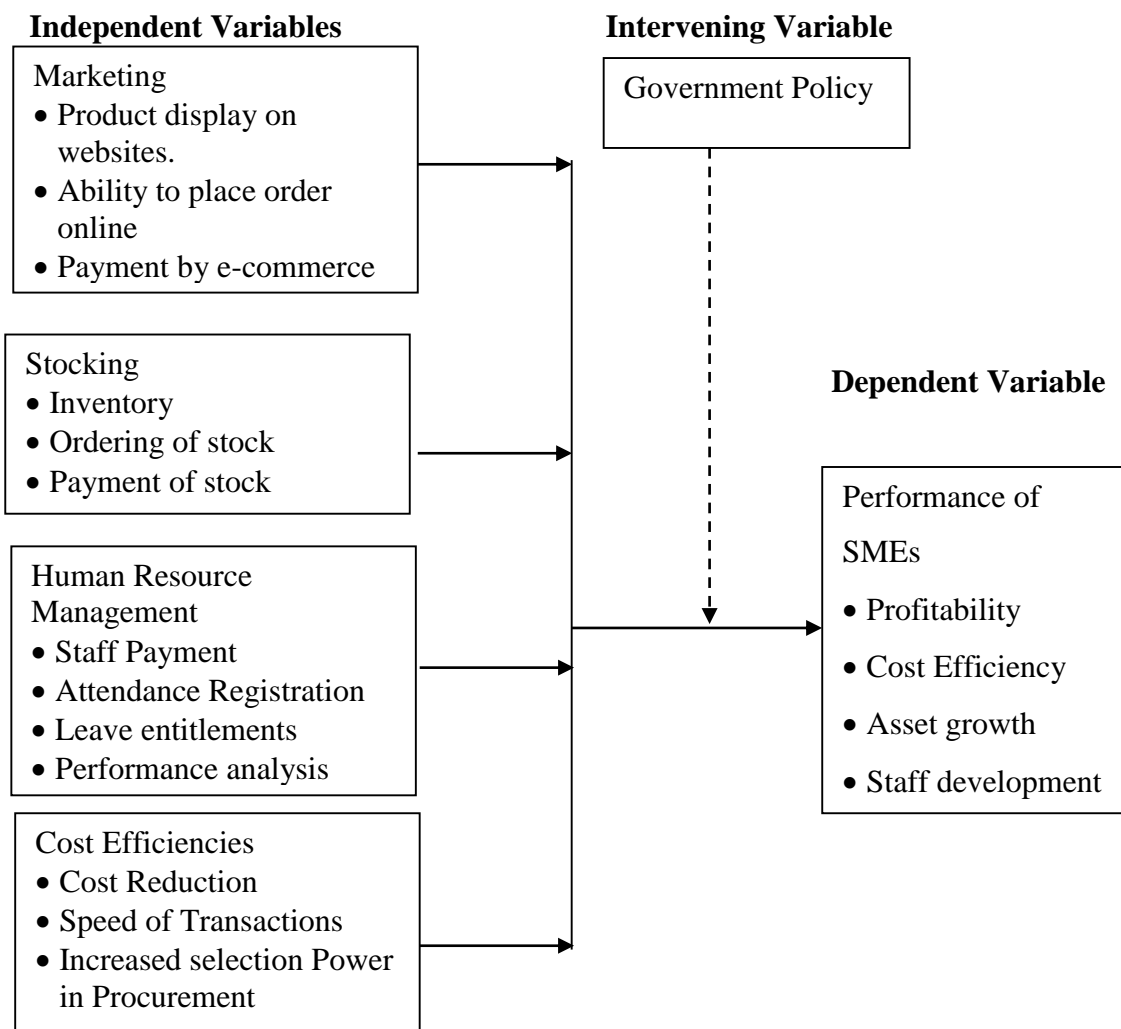
This theory informs the study since it underscores that firms need to maintain an information security management system (ISMS) for protection of information assets. Six steps are involved in ISMS; defining policy, defining scope of ISMS, risk assessment, select control objectives and one to be implemented, risk management, preparation of applicability statement (BSI, 1999). Firms need to scan the environment and inspect security standards in order to formulate information security policy, establish scope of information security and

assess the risk and control in order to form ISMS. Therefore, this makes the theory relevant to this study because the study aims at looking into the role of IT on performance of SMEs in Kenya.

2.4 Conceptual Framework

The conceptual framework provides variables under study and their relationships. ICT facilitates access to markets for various products, make online payments for stocks. Human resource management has also been made effective by ICT where staffs can be paid online and even evaluate employees online which leads to performance. Finally, ICT has led to cost efficiencies among micro and small enterprises. This leads to increased profitability, asset growth and staff development.

Figure 2.1: Conceptual Framework



2.5 Summary

Information and Communication Technology provides enormous benefits to various businesses that help to fill the gaps in information and knowledge management, leading to better productivity and profitability of the firm. Organizations can effectively and efficiently undertake their business processes by use of ICT. In addition, ICT cuts cost involved in coordination due to procurement and inventory costs and closer coordination with suppliers (OECD, 2013).

Communication using ICT and internet is reliable and fast since it's real-time, enhances external communication, reduces inefficiencies and biasness from coordination between and within firms. Generally, it reduces costs incurred in coordination and transaction thereby maximizing transaction value (OECD, 2004). An empirical study by Lichtenberg and Brynjolfsson (1995) showed that there is a positive impact of ICT in enhancing business performance. The gaps filled by ICT include firm growth, high quality products, market and strategic growth.

The existing studies recommend implementation of ICT in SMEs to achieve competitive advantage by utilizing complementary resources and advanced technology. ICT involves stages; firstly, conversation where ICT expenditures are transformed to ICT assets; secondly, ICT use process where outcome can be high or low effect of ICT which depends whether technology use is appropriate or inappropriate. The study also highlighted the importance of competitive process to achieve organizational performance.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This section presents the methodology used in the research. It has covered the research design that was adopted in the study, target population which the study was focused on and the sample size from which data was collected. Sampling procedure is discussed in detail as well as the methods used in collecting data. The section also presents the research instrument validity and reliability and data analysis techniques used in this study. Finally, the chapter concludes by discussing the ethical considerations that were used in this study.

3.2 Research Design

A research design is the blue print that enables achievement of research purpose and at the same time provides economy in procedure (Kothari, 2004). The study used descriptive survey design whereby a portion was selected to represent the entire population in order to generalize the whole population.

This is a quantitative study relied on the principles of verifiability. The survey was to describe the real situation on the ground in terms of opinions, behaviors, attitudes, habits, desires, and values and beliefs (Kothari, 2003). This was ideal because it answered the pertinent research questions on influence of ICT adoption by SMEs which required generation and analysis of quantitative data (Kombo & Tromp, 2006).

3.3 Target Population

The target population was the registered MSEs in Isiolo County. In the list of registered MSEs in the County, there are 895 MSEs in the County. The unit of analysis was managers of MSEs in the County who gave information about effects of ICT on performance of SMEs. The target population was therefore 895 managers of MSEs in Isiolo County.

3.4 Sample size

The sample size refers to smaller group obtained from the target population. It is from the smaller group where the researcher gathers information about a problem for the study.

The study used Krejcie and Morgan (1970 table where by the population was 895 (900) that meant sample was 269 respondents as presented below.

N	S	N	S	N	S	N	S	N	S
10	10	100	80	280	162	800	260	2800	338
15	14	110	86	290	165	850	265	3000	341
20	19	120	92	300	169	900	269	3500	246
25	24	130	97	320	175	950	274	4000	351
30	28	140	103	340	181	1000	278	4500	351
35	32	150	108	360	186	1100	285	5000	357
40	36	160	113	380	181	1200	291	6000	361
45	40	180	118	400	196	1300	297	7000	364
50	44	190	123	420	201	1400	302	8000	367
55	48	200	127	440	205	1500	306	9000	368
60	52	210	132	460	210	1600	310	10000	373
65	56	220	136	480	214	1700	313	15000	375
70	59	230	140	500	217	1800	317	20000	377
75	63	240	144	550	225	1900	320	30000	379
80	66	250	148	600	234	2000	322	40000	380
85	70	260	152	650	242	2200	327	50000	381
90	73	270	155	700	248	2400	331	75000	382
95	76	270	159	750	256	2600	335	100000	384

Note: "N" is population size
"S" is sample size.

Source: Krejcie & Morgan, 1970

3.5 Sampling Procedure

Simple random sampling technique was used to get the final 269 respondents. The business register provided by the County Government of Isiolo will act as the sampling frame, and the nth element calculated from dividing the Population with the sample to give us the interval will be chosen to be part of the sample.

Simple random sampling technique is flexible and reliable method (Kothari, 2004). In this technique respondents have equal chances to be chosen since it involves a subset of randomly selected respondents from the entire population. This was done to ensure a complete representation of the entire population. Simple random sampling is also flexible and reliable. (Kothari, 2004).

3.6 Data Collection methods and Tools

An approval to collect data was given from the university accompanied by the letter which was used by the student to apply for a research permit from NACOSTI. The research permit was permitted which enabled the researcher to collect data. Appointments were given to the managers of MSEs in the county who agreed on a specific day and time to visit them. This study used questionnaires as the data collection tool. There were both open and closed-ended questions for the purpose of inquiry. The use of questionnaires enabled researcher collect large amount of information in a timely and cost effective way because they collected primary data that has ability to overcome error (Cooper & Schindler, 2003).

3.7 Validity of the instruments

Validity is the ability of the research instrument to measure what it is exactly intended to measure (Mugenda & Mugenda, 2003). Researcher with the help of supervisor checked the validity of the research instrument by critically assessing the questionnaires to avoid ambiguity. This ensured accuracy and in accordance with the objectives of the study. Only the items which met the threshold were used in completing the instrument. A pilot testing was conducted on questionnaire to check for ambiguity (Mugenda, 2003)

3.7.1 Reliability of the Instruments

According to Mugenda (2003) reliability is the degree of the instruments' consistency after trials are repeated. During the piloting of the study, a pre-test were given twice to different respondents after a duration of time to ascertain the consistency and reliability of the questionnaires between the two tests (Kothari, 2004). Piloting helped in revealing questions that were vague Errors that were noted such as use of unclear language and of lack of clarity of instructions were corrected and researcher accepted a coefficient of <0.7 .

3.8 Data Analysis

Data collected was extensively examined and checked for completeness and comprehensibility prior to actual analysis. Collected data was stored in electronic media and hardcopy. Statistical Package on Social Sciences (SPSS) was used in statistical analysis. According to Orodho (2003) frequency and tables are the simplest method to summarize data

on single variable. Qualitative data was analyzed by thematic analysis and presented using figures and frequency tables.

3.9 Ethical Considerations

The researcher sought consent from relevant authorities and maintained utmost confidentiality, anonymity and respect in handling the information obtained from the respondents.

The study observed the ethical issues governing the rights of participants in the research. The researcher also upheld confidentiality by assuring respondents that all information collected are used for academic purposes only and ensured that no plagiarism was involved by acknowledging the sources of information.

CHAPTER FOUR: DATA ANALYSIS, PRESENTATION AND INTERPRETATION

4.1 Introduction

The chapter covers data analysis, discussion of the objectives and also presents the findings using figures and tables. The interpretation of the outcomes is based on the outputs from the SPSS as per the objectives of the study.

4.2 Response Rate

Out of the chosen sample of 296 who received questionnaires, 270 questionnaires were collected. This is a 91 percent response rate, which is a percentile that is within the agreed confines of a suitable return rate of above 70%.

4.3 Demographic Information

Demographic information is crucial in the identification of demographic related characteristics. This section sought information on gender, age bracket, level of education and type of business. The findings are presented in the sections below.

4.3.1 Gender of Respondents

The study sought to investigate the gender of the respondents. The findings are presented in Table 4.1.

Table 4.1: Respondents' Gender

Gender	Frequency	Percent (%)
Male	176	65.1
Female	94	34.9
Total	270	100

The findings in Table 4.1 revealed that majority 176 (65.1%) of the respondents were males, while 34.9 % were females; thus, there was men were found out to be the majority business owners in Isiolo County. This implies that researcher was gender sensitive though it seemed there were slightly more men than women involved in micro and small enterprises. This enabled the researcher to obtain information from both genders, hence more appropriate and reliable information.

4.3.2 Age of the Respondents

The respondents were asked to indicate their age bracket. The findings are illustrated in Table 4.2.

Table 4.2: Age Bracket of the Respondents

Age Bracket	Frequency	Percent (%)
20 – 29 years	45	16.6
30-39 years	88	32.6
41-50 years	94	34.9
50 and above	43	16
Total	270	100

According to the study findings, majority of the respondents 94 (34.9%) indicated that their age ranged between 41-50 years, 88 (32.6%) indicated that their age range was between 30-39 years. The findings also revealed that 45 (16.6%) of the respondents were between 20 – 29 years and 43(16%) were above 50 years of age. This implies that most of the respondents were between 41-50 years, thus could be relied on in providing appropriate information regarding the use of information and communication technology and performance of micro and small enterprises in Kenya.

4.3.3 Education Level

The study sought to establish the level of education of the respondents in order to determine whether they can articulate the basic financial management concepts. The table below exemplifies the findings.

Table 4.3: Education Level

Education Level	Frequency	Percent (%)
None	10	6
Primary School	36	21.5
Secondary School	91	54
Technical and Vocational Education	21	12.5
University/ College	10	6
Total	270	100

Table 4.3 revealed that majority of the respondents (91) had secondary school education as their highest level of education which accounted for 54%. In addition, most of the respondents 36 (21.5%) had primary school education as their highest level of education, 21 (12.5%) had technical & vocational education as their highest level of education while those who had not formal education and those with university/college education accounted for 6% each. This shows that most of the people in this sector have attained secondary school education as their highest level of education. It follows therefore that majority of the respondent were fairly educated to articulate information on the use of information and communication technology and performance of micro and small enterprises in Isiolo County, Kenya. Thong and Yap (2011) established that SMEs owners are unlikely to adopt and use new and more sophisticated technologies if they are not familiar with the existing and basic ones.

4.3.4 Type of business

The study sought to establish the type of businesses started by the youth entrepreneurs. The findings are indicated in the figure that follows.

Figure 4.1: Type of business

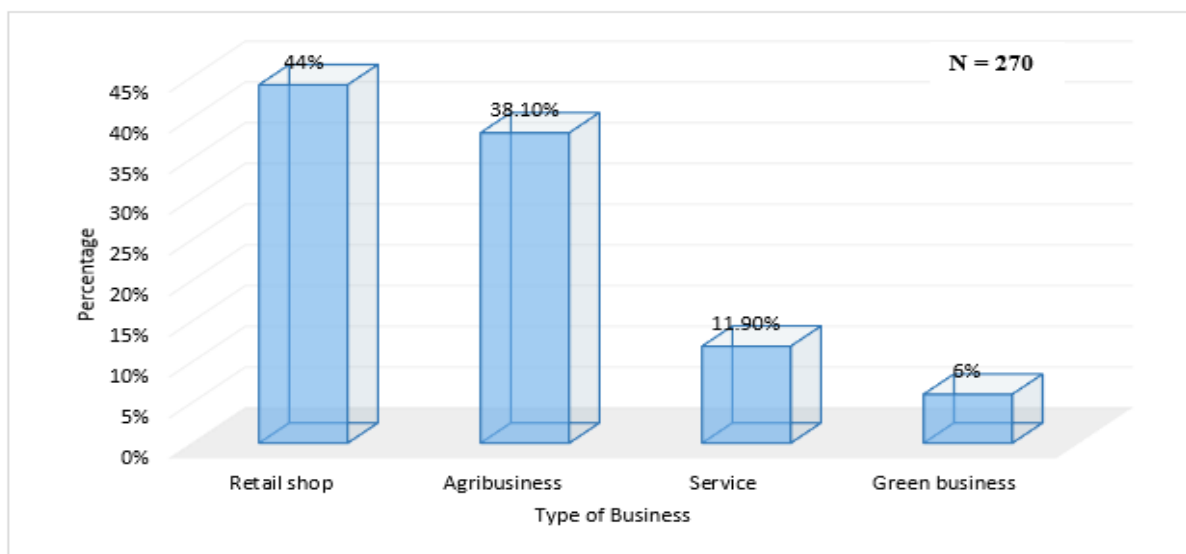


Figure 4.1 revealed that 44% of the respondents were in retail shop, 38.1% in agribusiness, 11.9% were in service while 6% were in green business. This shows that most of the

respondents were involved in retail shops and thus may have had an understanding of the influence of ICT in performance of SMEs.

Use of ICT enhances day to day operation of the business and its applicability is project to rise in the near future. The trend is as a result of acquisition of knowledge economy in the society. The current generation has embraced technology use also referred to digital age experienced in Kenya and Africa as a whole is a clear indication that knowledge economy is in progress (Hanna, 2010).

4.4 ICT Use in Marketing

This section covered information on source of information, spread of access to markets, customers order for their goods/ services and mode of payment to the business.

4.4.1 Source of Information

The study asked the respondents to indicate how customers mainly learn about goods and services from their business. The findings are shown in Table 4.4.

Table 4.4: Source of Information

Source	Frequency	Percent (%)
Word of Mouth	172	63.7
Radio Adverts	63	23.3
Posters & Pamphlets	24	8.9
Use of Internet	11	4.1
Total	270	100

Table 4.4 shows that majority of the respondents (172) had customers who learnt of their business by word of mouth, accounting for 63.7%, 63 (23.3%) from radio adverts, 24 (8.9%) from posters and pamphlets, while 11 (4.1%) of the respondents got information from the internet. This implies that most of the customers mainly learn about goods and services from owners' businesses through word of mouth. This is because customers in rural parts of Isiolo County do not afford smart phones and laptops used in accessing the internet in order to embrace technology. Low coverage of network/internet and costs associated with internet bundles made it difficult for customers to learn about products online. This disagrees with

Mutula and Van Brakel (2006) who argue that ICT particularly the internet has a substantial influence on the maneuvers of micro and small enterprises since it enables their entree to global markets, thus permitting them to vend to international customers. Additionally, it is evident from the findings of Hanna (2010) that the Internet increases international opportunities for SMEs.

4.4.2 Spread of Access to Markets

There was an endeavor to find out to what extent the businesses supply your goods and /or services. Table 4.5 show the findings.

Table 4.5: Spread of Access to Markets

Spread of Access to Markets	Frequency	Percent (%)
Within town	153	56.5
Across the County	101	37.5
Across the Country	13	4.9
International	3	1.1
Total	270	100

From the findings, more than half of the respondents 153 (56.5%) supplied goods and/or services to the locality, while about a third of the respondents 101 (37.5%) sold to the whole county. A minority of the respondents sold either to the whole country or internationally as indicated by percentages of 13 (4.9%) and 3 (1.1%) respectively. This is an indication that most of the respondents supplied goods and/or services to the locality as a result of not using ICT in their businesses. According to Ramsey (2003), the use of ICT has the possibility to shrink the effects of distance, thus enabling micro and small enterprises to participate in both local and global markets. Consequently, access to worldwide marketplaces come with a lots of trade openings which include the potentials to adventure economies of scale, the upgrading of technological capability; and ways of spreading risks (OECD, 2000).

4.4.3 Customers Order for Goods/ Services

Furthermore, the study asked the respondents to indicate how customers order for their goods/ services. The findings are as follows.

Table 4.6: Customers Order for Goods/ Services

Customers Order for Goods/ Services	Frequency	Percent (%)
In person	161	59.7
By phone	90	33.3
Online	19	7
Total	270	100

According to the study findings in Table 4.6, majority of the respondents 161 (59.7%) noted in person as the mode customers order for their goods/ services, 90 (33.3%) of the respondents noted phone as the mode customers order for their goods/ services while 19 (7%) of the respondents noted online as the mode customers order for their goods/ services. This implies that most of the customers personally ordered for their goods and therefore did not use ICT that much. The findings differ with those of Ritchie and Bridley (2005) who argued that ICT can significantly impact the e-commerce functionality, such as offering the ability to place orders.

4.4.4 Mode of Payment to the Business

The study sought to find out the main mode of payment accepted to the businesses out of those available and prevalent. The outcomes are illustrated in table 4.7.

Table 4.7: Main mode of payment in the business

Main mode of payment in the business	Frequency	Percent (%)
Cash	181	67
M-Pesa	57	21
Bank Cheques	24	9
Credit cards	8	3
Total	270	100

From Table 4.7, 181 (67%) of the respondents indicated cash as the mode accepted in payments for business transactions, 57 (21%) stated M-Pesa as the mode accepted in payments for business transactions, 24 (9%) indicated bank cheques as the mode accepted in payments for business transactions while 8 (3%) indicated credit cards as the mode accepted in payments for business transactions. This is an indication that most of the respondents use cash as the mode for payment. This is in agreement with Dixon (2012) who observed that ICT expenses are the impending factors in the adoption and use of technology by many SMEs, and that SMEs will less likely adopt and use technology when its initial set-up cost is high.

4.5 ICT Use in Stocking

This section covers information on stock recording, ordering for stock and paying for stock.

4.5.1 Stock Recording

Respondents were asked to indicate how they recorded their stocks and the results are in table 4.8.

Table 4.8: Stock Taking and Record keeping in the Business

Stock taking and Record keeping in the Business	Frequency	Percent (%)
Ledger	146	54
Computer	102	37.9
None	19	7
Other	3	1.1
Total	270	100

From the findings in the above table, 146 (54%) of the respondents indicated ledgers as the system used in stock taking and record keeping in the business, 102 (37.9%) of the respondents indicated computers as the system used in stock taking and record keeping in the business, while 19 (7%) stated that they did not use any system in stock taking and record keeping in the business. Furthermore, 3 (1.1%) of the respondents indicated other methods were used in stock taking and record keeping in the business. It is clear from the findings that most business owners use ledgers and computers in stock taking and record keeping. As such, the use of

computers has changed in a way that people and organizations are conducting their business in that most micro and small enterprises have become successful due to their ability to use ICT which has been found to be more efficient and more useful (Bhatnagar, 2003).

4.5.2 Ordering for Stock

The study sought to establish how the businesses ordered for their stock. The findings are indicated in Table 4.9.

Table 4.9: Main method of Ordering for stock in the Business

Main method of Ordering for stock in the Business	Frequency	Percent (%)
By Phone	97	36
Go to supplier	78	29
Other	57	21
Email/ Internet	38	14
Total	270	100

According to the findings in Table 4.9, majority of the respondents 97 (36%) order using the mobile phone, 78 (29%) of the respondents go to suppliers, 57 (21%) of the respondents use other means to order for their stock while 38 (14%) use email/internet to order for their stock. The findings insinuate that most respondents requested for stock through their phones. This concurs with Berger (2003) who argues that fixed line /mobile phones and fax hardly incurs software cost thus enhancing performance of micro and small enterprises. He goes further to argue that with the upsurge in the use of mobile telephony, many businesses easily cater for ICT cost thus forgoing the opportunity cost of having well-managed records as a result of automation.

4.5.3 Paying for Stock

Out of the available and prevalent modes of payment for stock, the study sought to find out how businesses did this. The responses are shown in the table 4.10.

Table 4.10: Main method of payment for Stock ordered and delivered in the business

Main method of payment for Stock	Frequency	Percent (%)
Cash	111	41
M-Pesa	73	27
Bank Cheques	51	19
Credit Cards	32	12
Other	3	1
Total	270	100

The study established as shown in Table 4.10 that majority of the respondents 111 (41%) used cash as the main method of payment for stock ordered and delivered in the business, 73 (27%) used M-Pesa as the main method of payment for stock ordered and delivered in the business, 51 (19%) used bank cheques as the main method of payment for stock ordered and delivered in the business, 32 (12%) used credit cards as the main method of payment for stock ordered and delivered in the business, while a small number of the respondents 3 (1%) used other means as the main method of payment for stock ordered and delivered in the business. Therefore, most business owners use cash as the main method of payment for stock ordered and delivered in the business.

4.6 ICT Use in Human Resource Management

This section comprises information regarding recording staff attendance, analysis of staff attendance and mode of payment of employees.

4.6.1 Recording Staff Attendance

The study sought to find out how staff of the enterprises logged-in for work. Table 4.11 insinuates the responses.

Table 4.11: Monitoring staff Attendance at work

Monitoring staff Attendance at work	Frequency	Percent (%)
Sign Attendance Book	189	70
Head Count	52	19.4
None	27	10
Biometric Log-In	1	0.3
Other	1	0.3
Total	270	100

From the findings, most of the respondents 189 (70%) indicated that staff of the enterprises logged-in for work through sign attendance book while biometric login and other form has the lowest with .3% each. Head counts take place in 19.4% of all enterprises looked at while 10% did not log-in at all. As such, it is evident that majority of the staff sign an attendance log-in book at 70%. The findings do not agree with Van Leeuwen (2008) who argued that the use of ICT services such as biometric log-in with the performance of a firm; and that biometric log-in affect productivity significantly through their effect on innovation output.

4.6.2 Analysis of Staff Attendance

There was an endeavor to find out how staff attendance was analyzed at the end of the month. The responses are presented in the Table 4.12.

Table 4.12: Method of Analyzing Staff Attendance

Method of Analyzing Staff Attendance	Frequency	Percent (%)
Count days Attended	159	59
Record on a Computer	70	26
None	33	12
Other	8	3
Total	270	100

According to the study findings in Table 4.12, majority of the respondents 159 (59%) Count days Attended to analyse staff attendance, 70 (26%) Record on a Computer to analyse staff

attendance while 33 (12%) of the respondents did not to analyse staff attendance. Furthermore, 8 (3%) of the respondents used other means to analyse staff attendance. It is evident that there is analysis of staff attendance was mostly based on manual count for analysis. Therefore, the findings are in contrast of Vilaseca, Torrent and Jiménez (2007) who argued that the information derived from the analysis of data obtained is stored and treated, provoking the development of the learning process and the subsequent creation of knowledge.

4.6.3 Mode of Payment of employees

When the research sought to find out how the employees were paid, the following information was obtained. The results are presented in Table 4.13.

Table 4.13: Main Method of paying employees

Main Method of paying employees	Frequency	Percent (%)
Cash	130	48
M-Pesa	91	34
Bank Deposits	49	18
Total	270	100

From the table above, data presented highlight that majority of the respondents 130 (48%) and 91 (34%) indicated cash payments and M-Pesa payments as the modes of employee payment. Additionally, most of the respondents 49 (18%) indicated bank deposits as the mode through which employees were paid. This implies that cash payments was the most popular mode of employee payment. The findings of the study are in disagreement with Berger (2003) who divulged that organizations using ICT related products such as, electronic payments and information exchanges can deliver high quality customer services delivery to customers with less effort. Through guidelines for an organization's ICT infrastructure and ICT services are set in the enterprise architecture. It establishes an organization-wide road map to achieve an organization's mission through optimal performance of its core business processes within an efficient ICT environment (Institute for Enterprise Architecture Developments, 2007).

4.7 ICT Use on Cost Effectiveness

This section covers information on advantages of ICT use on business costs.

4.7.1 Advantages of ICT Use on Business Costs

The respondents were asked what they saw as the greatest advantages of ICT use in their business operation and the results displayed in Table that follows.

Table 4.14: Benefits of using ICT in Businesses

Benefits of using ICT in Businesses	Frequency	Percent (%)
Not applicable	100	36.9
Reduced time of Transaction	87	32.1
Cost Reduction	29	10.8
Easy to Trace transaction	27	10.1
Increased Access to Goods from Various Markets	27	10.1
Total	270	100

Out of 270 respondents, 100 (36.9%) of the respondents indicated that ICT was not applicable in their business operation. Additionally, 87 (32.1%) of the respondents indicated Reduced time of Transaction as the greatest advantages of ICT use in their business operation, 29 (10.8%) indicated cost reduction as the greatest advantages of ICT adoption in conducting operations by SMEs while 27 (10.1 percent) were of the opinion that ICT provides easy of trace transaction and foster access to goods and services from different markets. This implies that they did not depend on ICT in conducting business. This is in agreement with Ssewanyana and Busler (2007) that ICT reduces transaction costs and increases savings, efficiency as well as improving organizational productivity and profitability.

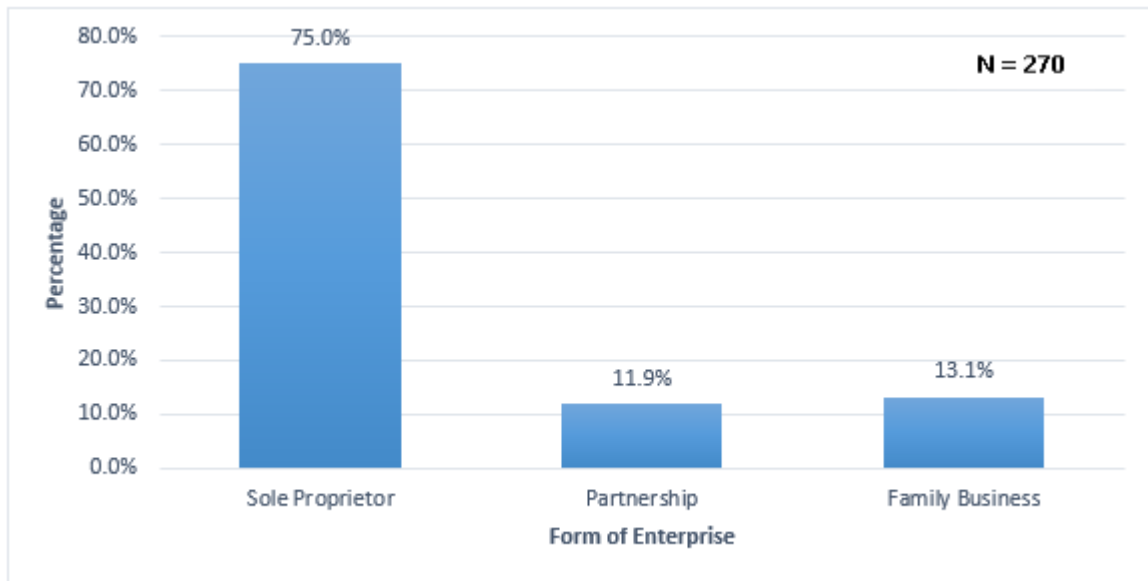
4.8 Performance of Businesses

The section will cover information on the form of enterprise, duration of operation, current state of the enterprise, average profit per month and use of ICT in business.

4.8.1 Form of Enterprise

The respondents were asked to indicate the form of their enterprise. The results are summarized in the figure below.

Figure 4.2: Form of Enterprise

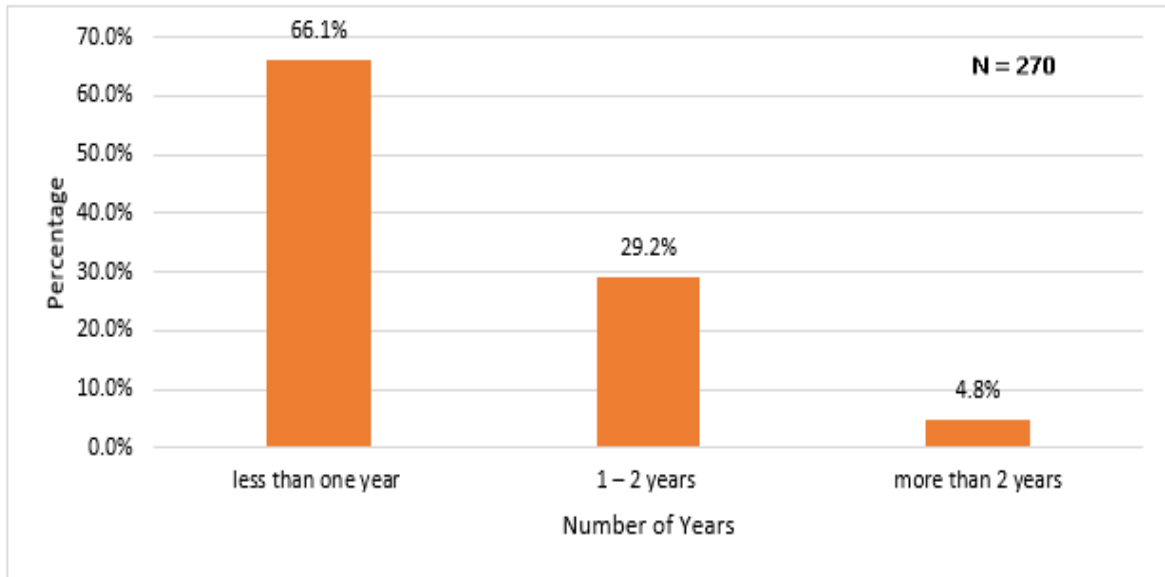


According to the findings, majority of the respondents (75%) indicated sole proprietor as their form of business, 13.1% of the respondents indicated family business as their form of business while 11.9% of the respondents stated partnership as their form of business. The findings show that most business people in Isiolo County were sole proprietor which accounted for a large percentage of the population.

4.8.2 Duration of Operation

The study asked the respondents to indicate how long their business had been operational. The figure below illustrates the findings.

Figure 4.3: Period business has been Operational

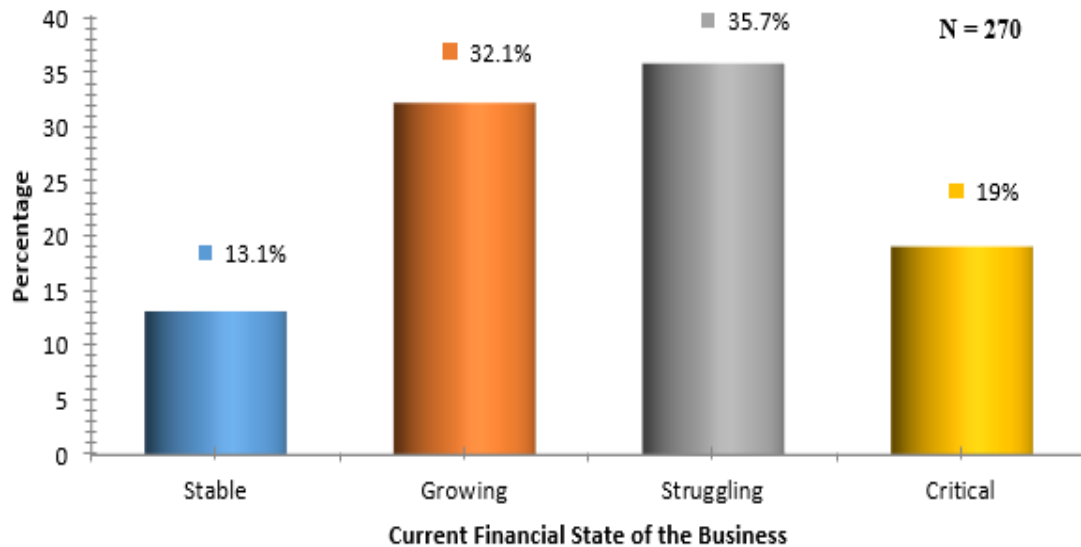


From the findings depicted in figure 4.3, majority 66.1 percent of the responded have operated in less than one year, between 1 to 2 years operation was represented by 29.2 percent while those over 2 years are represented 4.8 percent. From the findings most of the firms have been under operation for less than a year. It has been estimated that three out of five businesses fail operating within the first three years (GOK, 2007). These is clear indication that only two ventures succeed in operations and only one experience growth and expands to be a medium enterprise. Results show that factors such as capitalization, infrastructure, education and ease of access to information are the major problems causing business failure.

4.8.3 Current Financial State of the Business

The research also looked into the financial position of the businesses for the period under operation. Figure 4.4 shows the responses.

Figure 4.4: Current Financial State of the Business



According to the study findings, 35.7% of the respondents indicated that they were struggling with their business, 32.1% of the respondents indicated that their businesses were in growth state, 19% of the respondents indicated that their businesses were in critical condition while 13.1% of the respondents indicated that their businesses were stable. This shows that majority of the business had not stabilized yet. According to Bhatnagar (2003), the best way to achieve maximum benefit for ICT implementation is to have all the factors for success with no occurrence of the factors for failure.

4.8.4 Average Profit per Month

The respondents were requested to indicate the average profit per month from their businesses. Table 4.15 shows the findings.

Table 4.15: Average Profit per Month

Average Monthly Profit	Frequency	Percent (%)
2,500 shillings	69	25.5
15,000 shillings	50	18.5
35,000 shillings	48	17.9
7,000 shillings	36	13.3
25,000 shillings	35	13
43,000 shillings	32	11.8
Total	270	100

According to the findings in the table above, 69 (25.6%) of the respondents made an average profit of 2,500 shillings, 50 (18.5%) made an average profit of 15,000 shillings, 48 (17.9%) made an average profit of 35,000 shillings, 36 (13.3%) made an average profit of 7,000 shillings, 35 (13%) made an average profit of 25,000 shillings while 32 (11.8%) made an average profit of 43,000 shillings. The findings insinuate that most micro and small enterprises in Isiolo County made an average profit of 2,500 shillings from their businesses. According to Jovanovic (2000), market availability and variability of the cost of ICT infrastructure, hardware and accessories and rational cost of purchasing ICTs in SMEs negatively impacted on the average profit of micro and small enterprises.

4.8.5 How do Businesses use ICT

There was need to establish how the different enterprises used ICT as shown in table 4.16.

Table 4.16: Use of Modern Technology in Business

Statements	Frequency	Percent (%)
Making use of mobile phone to transact business	101	37.5
Making use of internet to research	76	28
Cost savings of advertising	34	12.5
Not applicable	34	12.5
Posting my products and services online	27	9.5
Total	270	100

Table 4.16 indicates that 101 (37.5%) make use of mobile phone to transact business, 76 (28%) of indicated that they use internet for research purposes, 34 (12.5%) utilized current technology in marketing a similar percent did not make use of current technology, another 27 (9.5 %) use internet to advertise their products. From these findings majority use mobile phones. According to Daniel (2003) use of ICT makes business processes strategically integrated and strengthens SMEs in developing nations. Results show there is increasing level of integration as a result of benefits of ICTs to businesses.

CHAPTER FIVE: SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

The chapter covers the summary and conclusions based on the objectives which is to investigate the effects ICT use on performance of SMEs in Isiolo County.

5.2 Summary of Findings

The summary of the findings was guided by the objectives of the study.

5.2.1 Demographic Information

From the study findings, men had the majority of business premises in Isiolo County. The study found that most of the respondents were between 41-50 years, thus could be relied on in providing appropriate information regarding the use of information and communication technology and performance of micro and small enterprises in Kenya. It also found that most of the people in this sector have attained secondary school education as their highest level of education and that were involved in retail shops and thus may have had an understanding of the influence of ICT in performance of SMEs.

5.2.2 ICT Use in Marketing

The study found that most of the customers mainly learn about goods and services from owners' businesses through word of mouth. It also found that most of the respondents supplied goods and/or services to the locality as a result of not using ICT in their businesses. In addition, it was found that most of the customers personally ordered for their goods and therefore did not use ICT that much. Furthermore, the study found that that most of the respondents use sash as the mode for payment.

5.2.3 ICT Use in Stocking

The study found that most business owners use ledgers and computers in stock taking and record keeping. It further found that most respondents requested for stock through their phones. Fixed line /mobile phones and fax hardly incurs software cost thus enhancing

performance of micro and small enterprises. The study found that most business owners use cash as the main method of payment for stock ordered and delivered in the business.

5.2.4 ICT Use in Human Resource Management

The found that staff sign an attendance log-in book. It is evident that there is analysis of staff attendance was mostly based on manual count for analysis. The study found that cash payments was the most popular mode of employee payment. Hence, the study found that increased uptake of mobile innovations such as M-pesa, M-kopa, M-solar and mobile banking, used on basic communication devices that are affordable and accessible to the multitudes.

5.2.5 ICT Use on Cost Effectiveness

The study found that ICT was not applicable in their business operation. It found that ICT provides increased savings, increased efficiency, improved service delivery, low transaction costs, and improved market performance to the organization that invests in IT systems.

5.2.6 Performance of Businesses

The study found that most business people in Isiolo County were sole proprietor which accounted for a large percentage of the population. It also found that most businesses had been operational for a period less than one year. The study further found that majority of the business had not stabilized yet. It found that most micro and small enterprises in Isiolo County made an average profit of 2,500 shillings from their businesses. The study found that majority of the respondents use mobile phones.

5.3 Conclusion

The study concluded that the use of ICT has the possibility to shrink the effects of distance, thus enabling micro and small enterprises to participate in both local and global markets. The study concluded that ICT expenses are the impending factors in the adoption and use of technology by many SMEs, and that SMEs will less likely adopt and use technology when its initial set-up cost is high, thus business owners choosing to pay through cash. The use of computers has changed in a way that people and organizations are conducting their business in that most micro and small enterprises have become successful due to their ability to use

ICT which has been found to be more efficient and more useful. It established that the upsurge in the use of mobile telephony, many businesses easily cater for ICT cost thus forgoing the opportunity cost of having well-managed records as a result of automation.

The use attendance log-in books as revealed by the findings contract findings of Van Leeuwen (2008) who established that the use of ICT services such as biometric log-in with the performance of a firm; and that biometric log-in affect productivity significantly through their effect on innovation output. The study revealed that three out of five businesses fail within their first three years of operation due to high mortality rate of business start-up ranges from capitalization, education, infrastructure to access to information. The study established that the best way to achieve maximum benefit for ICT implementation is to have all the factors for success with no occurrence of the factors for failure. In addition, it was concluded that market availability and variability of the cost of ICT infrastructure, hardware and accessories and rational cost of purchasing ICTs in SMEs negatively impacted on the average profit of micro and small enterprises.

5.4 Recommendations

Information Communication Technology (ICT) in Kenya has not been exploited to its full potential in the running of businesses. It is noted in the study that there are low levels of adoption of ICT in the running of enterprises in Isiolo County. The Government should encourage this adoption by having policies that are favorable for this to happen.

In addition, there is still a gap in many micro and small enterprises towards having affordable ICT tools for business use, given that most of the distribution of ICTs is not consistent across micro and small enterprises, also the cost of investing in some ICT types best shared hence various micro and small enterprises whom may not afford internet connectivity or specific ICT solutions such as computing capacity, storage, and disaster recovery sites, can share these expenses. And innovative solutions such as cloud computing and Platforms or Software as a service can be developed collaboratively with these micro and small enterprises where they can benefit each other, and learn from each other's experiences, ensuring that the core business of these micro and small enterprises is more focused to meet their customer needs.

5.5 Suggestions for further Research

Replications of this study need to be carried out in other localities where there is growth in micro and small enterprises and ICTs are being adopted.

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APPENDICES

Appendix I: Research Questionnaire

You are kindly requested to complete the questionnaire honestly and give as much detail as possible. Where necessary, tick appropriately. For the other part please **TICK** the numbers **1-5** for each options answering the questions, representing **1** for very weak, **2** for weak, **3** for sometimes, **4** for strong and **5** for very strong.

SECTION A: ENTREPRENEUR INFORMATION

1. Name (optional)

2. Gender: Male () Female ()

3. Age in Years: 20-29() 30-39 () 41-49 () Above 50 ()

4. What is your highest level of education?

a) None () b) Primary school () c) Secondary school ()

d) Technical & vocational education () e) University/College ()

5. What type of business are you engaged in?

Retail shop () Agribusiness () Service ()

Green business ()

SECTION B: ICT USE IN MARKETING

6. How do your customers mainly learn about goods and services from your business?

	1	2	3	4	5
Word of mouth					
Posters and Pamphlets					
Print Media					
Radio Advertisement					
Television advertisement					
Internet webpage					

7. How far do you supply your goods and /or services?

	1	2	3	4	5
To the locality only					
To the whole County					
To the whole Country					
Internationally					

8. How do your customers order for their goods/ services?

	1	2	3	4	5
In person					
By phone					
Online					
Other					

9. To what extent do you accept the following payments for business transactions?

	1	2	3	4	5
M-pesa payments					
Credit card payments					
Bank cheques					
Cash Only					

SECTION C: USE OF ICT IN STOCKING

10. How do you record your stock?

	1	2	3	4	5
I don't					
Ledger					
Computer					
Other					

11. How do you order for your stock?

	1	2	3	4	5
Physical visit to supplier					
By phone					
Email					
Internet					
Other					

12. How do you make payments for stock ordered and delivered?

	1	2	3	4	5
Cash					
Bank cheques					
Credit card					
M-pesa					
Other					

SECTION D: ICT USE IN HRM

13. How do you members of staff log in for work?

	1	2	3	4	5
Sign an attendance book					
Biometric login					
I do a head count					
Other					

14. What do you use to analyse your staff attendance?

	1	2	3	4	5
I don't analyse attendance					
Count the days they sign in					
Record the attendance in a computer					
Other					

15. How do you pay your employees?

	1	2	3	4	5
Cash					
Bank Payment					
M-pesa					
Other					

16. Which of the following methods do you use to determine pay to employees?

	1	2	3	4	5
Day wages					
Fixed salary					
Commission					
Other					

SECTION F: USE OF ICT ON COST EFFECTIVENESS

17. Which of the following can you identify as an advantage of ICT use to your business?

	1	2	3	4	5
Cost reduction					
Reduced time of transaction					
Easy to follow/ trace transactions					
Increased access to goods from various markets during procurement					

SECTION G: PERFORMANCE OF THE BUSINESS

18. What is the form of your enterprise?

Sole proprietorship () Partnership ()

Others specify

19. How long has your business been operational?

Less than 1 year () 1-2 years () 3-4 years () 4-5 years ()
 5 years and above ()

20. What is the current state of the enterprise?

Stable () Growing () Struggling () Critical ()

21. What is your average profit per month?

Below 5,000 () 10,001 – 20,000 () 20,001 – 30,000 ()

30,001– 40,000 () Above 40,000 ()

22. In what ways do you use of ICT in your business?

	1	2	3	4	5
Using mobile phone to transact business					
Using the internet for product research					
Posting my products online for advertisement					
It helps me get customer feed-back in a timely manner					
It has assisted in my business management					

- Others.Specify.....
.....

THANK YOU FOR YOUR ASSISTANCE