# THE EFFECT OF ICT SERVICES ON BUSINESS PERFORMANCE IN THE INFORMAL SECTOR IN KENYA. A CASE OF INFORMAL ENTERPRISES IN MLOLONGO TOWN.

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# The Effect of ICT Services on Business Performance in the Informal Sector in Kenya. A Case of Informal Enterprises in Mlolongo town.

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## DECLARATION

This thesis is my original work and has not been presented for a degree in any other University.

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This thesis has been submitted for examination with our approval as University Supervisors.

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## DEDICATION

This research is dedicated to my children Salma and Tim, my mother Catherine, my father Jediel and my brother Justin for encouraging me to further my studies and for supporting me every step of the way. God bless you all.

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## ABBREVIATIONS AND ACRONYMS

| | |
|---|---|
| **CAK** | Communications Authority of Kenya |
| **EASSY** | Eastern Africa Submarine Cable System |
| **GCCN** | Government Common Core Network |
| **GDP** | Gross Domestic Product |
| **GNP** | Gross National Product |
| **GSM** | Global System for Mobile communication |
| **ICT** | Information Communication Technology |
| **ICLS** | International Conference of Labour Statisticians |
| **ILO** | International Labour Organization |
| **KENET** | Kenya Education Network |
| **KIPPRA** | Kenya Institute for Public Policy Research and Analysis |
| **KNBS** | Kenya National bureau of statistics |
| **LION** | Lower Indian Ocean Network |
| **MSE** | Micro and Small enterprises |
| **NOFBI** | National Optic Fiber Backbone Infrastructure |
| **OECD** | Organization for Economic Co-operation and Development |
| **SEACOM** | Sea Sub-Marine Communications Limited |
| **SME** | Small and Medium Enterprises |
| **SMS** | Short Messaging Service |

| | |
|---|---|
| **SPSS** | Statistical Package for the Social Sciences |
| **TAM** | Technology Acceptance Model |
| **TEAMS** | East African Marine System |
| **TV** | Television |
| **UTAUT** | Unified Theory of Acceptance and Use of Technology |

## ABSTRACT

Kenya's informal sector plays an important role in the economy through creation of employment opportunities and provision of affordable goods and services. Nevertheless, Kenya's informal sector operates under difficult circumstances such as lack of enough capital, insufficient preparation, and scanty information for informed decision making, inadequate institutional support and lack of essential infrastructure. It is believed that integrating Information Communication Technology services in business operations may improve productivity. This study sought to assess the effect of ICT usage on the business performance of informal sector enterprises in kenya . The overall objective of this study was to assess the effect of the Mobile phones, the Internet, the Computers and Broadcast Media Technology usage on the business performance of the informal enterprises in Kenya, with a specific focus on those in Mlolongo Township. Exploratory research model and descriptive research design were used in the study. A sample of 100 enterprises was generated using stratified random sampling while the subjects for each stratum were selected using convenience sampling technique. Data was collected using questionnaires and a response rate of 91% was achieved. Data analysis was done using SPSS V20 while the results of the study were presented using tables and charts. The findings showed that ICT usage explained approximately 76.9% of the positive change in business performance. Precisely mobile phone usage was found to explain 93.6%; computer usage 53.4%; internet usage 62.3% while broadcast media explained 85.6% positive change in business growth. The findings also showed that mobile phone was the most preferred ICT tool in the informal sector in Kenya with a diffusion rate of 100%. Broadcast media technology was second with 94.5%, followed by internet at 57.5% and lastly computers with 27.5%. The respondents cited high tariffs, network failure and cyber security as the main challenges experienced across the four ICTs. The study recommends that there is need for the government through the regulator (Communications Authority of Kenya) to come up with policies and regulations that favor the informal sector such as preferential tariffs, development of TV and radio programs that offer education on business management. The study also

recommends strict monitoring of the quality of network and services offered by the ICT service providers. To reduce insecurity in the ICT platforms the study recommends that the regulator needs to drive consumer education initiatives both from the ICT operator level and regulator level to create awareness of information security.

***Key words*****:** *Information Communication Technology, Informal Sector, Business Performance, Computer, Mobile phone, Internet, Broadcast media technology.*

# CHAPTER ONE

# INTRODUCTION

## 1.1 Background of the Study

This chapter of the research gives a clear description of the problem from global, national and local perspective of the effect of the usage of ICTs in the informal sector. The chapter also outlines the objectives of the study, research questions and justification of the study, scope, limitations and definition of terms.

Information Communication Technology (ICT) has penetrated the economies world over. Though different forms of ICT services are being used by both the formal and informal economies, the final result has been in changing the way business was traditionally done. ICTs are believed to reduce the coordination and transaction costs of doing business. Malone *et al.* (1987) argue that ICT lowers transaction costs because technology allows information to be communicated in real-time and at much lower costs, thereby reducing costs that are required in order to find a particular good that is focus of the transaction.

Benjamin and Wigand (1995) on their discussion on how ICT can reduce transaction costs, points out that ICT decreases coordination costs within the value chain, resulting in benefits for consumers through lower prices. Additionally, producers/retailers can reduce their intermediation and coordination costs. Bakos (1998) depicts the effect of ICT on electronic markets through its impact on search costs in particular, with a resulting reduction in transaction costs occurring when subsequent exchanges take place in electronic markets.

### 1.1.1 Global Perspective of ICT usage

ICT facts and figures (2014) report indicates that, there are almost seven billion mobile-cellular subscriptions worldwide. The developing countries are home to more than three quarters of all mobile-cellular subscriptions. Mobile-broadband uptake continues to grow at double-digit rates. The number of mobile-broadband subscriptions reaches 2.3 billion, with 55% of them in developing countries. Africa leads in mobile-broadband growth. Mobile-broadband penetration in Africa has reached close to 20% in 2014, up from 2% in 2010. Almost 3 billion people, that is, 40% of the world's population are using the internet. Approximately one out of three people in the developing countries are online.

Going by the above facts and figures, it is inevitable that ICT has similarly infiltrated the informal sector and its effect on business performance is being felt significantly. In line with the increase in services and applications offered over the Internet and on mobile devices, an increasing number of businesses worldwide are using ICTs. Monitoring is important in development of policy framework that will build confidence in ICT usage and encourage its uptake.

### 1.1.2 Kenya Perspective of ICT usage

Kenya officially the Republic of Kenya, is a country in the African Great Lakes region of East Africa. Its capital and largest city is Nairobi. Kenya lies on the equator with the Indian Ocean to the south-east, Tanzania to the south, Uganda to the west, South Sudan to the north-west, Ethiopia to the north and Somalia to the north-east. Kenya covers 581,309 $km^2$ and has a population of approximately 45 million as of June 2014 (Central Intelligence Agency, 2014). According to CAK (2014), Kenya has witnessed a significant growth in the ICT as demonstrated by the number of subscriptions in Mobile telephony, fixed telephony, Internet/Data, Electronic Transactions, Broadcasting, Postal and Courier. The key indicators below confirm this growth.

**Table 1.1: Key Indicators Measuring Information Society, 2010 – 2013**

| Measure | 2010 | 2011 | 2012 | 2013 |
|---|---|---|---|---|
| Fixed telephone lines per 100 inhabitants | 1.2 | 1 | 0.6 | 0.5 |
| Mobile-cellular telephone subscriptions per 100 inhabitants | 64.9 | 68.2 | 74.9 | 74.9 |
| Wireless Internet Subscribers per 100 inhabitants | 8 | 15.4 | 20.8 | 31.4 |
| Internet subscribers per 100 inhabitants (Wireless and Fixed) | 8.1 | 15.7 | 21 | 31.7 |
| Bits per second per capita (Bps/person) | 550.8 | 855.7 | 6824.7 | 9168 |
| Broadband subscriptions per 100 inhabitants (wireless) | 0.2 | 0.3 | 2.4 | 3.3 |
| Broadband subscriptions per 100 inhabitants (Fixed and Wired) | 0.3 | 0.3 | 2.5 | 3.4 |
| Mobile Telephone Capacity ('000 ) | 46629 | 47350 | 49977 | 55077 |

Source: Kenya Facts and Figures (2014)

The Kenyan Government has underscored universal access to ICTs as a major objective of Vision 2030, which is Kenya's economic blueprint that is aimed at propelling Kenya from a developed to a middle-income country (Kenya National ICT Master Plan, 2014-2017).

Kenya has done a lot in terms of infrastructure development. The country is connected to the international broadband highway through the SEACOM, TEAMS, EASSY, and LION undersea fiber cables. Major towns in Kenya are now connected through the National Optic Fiber Backbone Infrastructure (NOFBI). In addition, the Government has also developed a Government Common Core Network (GCCN). This is meant to serve as a shared and secure interoperable Government-wide ICT Architecture.

Apart from the Government ICT infrastructure, operators in the private sector have been busy developing their own national ICT infrastructure. In particular, the mobile and data sub-sector has resulted in extensive and aggressive deployment of infrastructure in most parts of the country by the competing telecommunications businesses (Orange Telkom, Safaricom & Airtel). In addition, large data infrastructure operators, including Jamii Telecom, Liquid Telcom, Access Kenya Group, Wananchi Group, Kenya Education Network (KENET), MTN, Internet Solutions, amongst others are developing infrastructure. This has resulted to competition leading to a relative reduction of tariffs and increased usage of mobile phones and internet. By September 2014, there were 32.8 million mobile subscribers and mobile penetration of 80.5 per cent.

At the same time, there were 26.9 million mobile money subscribers. Estimated internet users were 23.2 million which translated to 57.1 of 100 inhabitants having access to internet services. The International internet bandwidth available was 847,516 Mbps of which 56.4 per cent was being utilised (CAK, 2014).

### 1.2 The Informal sector

According to International Labour Office (1993), the informal sector, which essentially covers the unorganized spectrum of economic activities in commerce, agriculture, construction, manufacturing, transportation and services, now absorbs as much as 60% of the labour force in urban areas of developing countries. The informal sector comprises economic activities not regulated by laws such as environmental, labor or taxation, but is subject to the regulations of the local authorities for orderly business operation, and generally not monitored for inclusion in the Gross Domestic Product (GDP) of Nations (Mohamed, 2009).

The informal sector in Kenya was initially associated with manufacturing –operations under the hot sun hence the term *Jua kali*. In Kenya only about 19 per cent of all employment is formal, while the share of informal economy jobs has steadily increased

from 70 per cent in 2000 to 83 per cent in 2012. (Kenya Economic Report, 2013). The declining capacity of the formal sector to create employment is evidenced by the fact that out of the 445,900 new jobs created in 2009, 88 per cent were in the informal economy (Government of Kenya, 2010). Informal sector enterprises are taxed through the value added tax charged on goods purchased, business licenses and daily business fees targeting the hawkers and roadside vendors. The informal sector characteristics according to Meir and Rauch (2000) include: ease of entry; reliance on indigenous resources; family ownership of enterprises; small-scale operations, labour intensive and adapted technology; skills acquisition outside the formal school sector and; unregulated and competitive markets. These characteristics are basically what drive the growth of this sector.

### 1.3 Mlolongo town

Mlolongo Township is situated along the Nairobi-Mombasa highway about 15 km southeast of Nairobi (1°23'38"S, 36°56'28"E). It is strategically positioned, with Nairobi's industrial area eight kilometers to the north, the Kitengela urban sprawl six kilometers to the south, and the densely populated Athi river mining area five kilometers to the southeast. Mlolongo is the Swahili word for "queuing". It earned this name because trucks form long queues for the weighbridge here while they rest and wait for goods to be inspected. By the mid-1980s, sand traders from Machakos district some 30 km further east had found Mlolongo a suitable place for trading. By the 1990s, Mlolongo was booming and the town's trade was fast expanding. From a small long-distance truck stopover, Mlolongo grew rapidly until its present size. The township has recently received a face lift from the Machakos government, which is trying to improve its infrastructure development through the provision of urban services that have been lacking.

Located in Syokimau sub location of Machakos County which comprises of a population of 42,154 (2009 national census) and cover an area of 37.30sq.km, Mlolongo town is

important to Machakos County because it serves as the gate way to the county from Nairobi. Mlolongo town serves Syokimau, Katani, Sabaki estates as their main source for building materials such as sand, cement and steel and food stuff. In addition Mlolongo is a home to commuters who work in Nairobi City Centre, in the factories in Athi River, Industrial area as well as in the construction sites within Syokimau sub-location. As a result of increasing population, too many informal sector enterprises thrive so well due to ever increasing demand for goods and services. It is with this background that the town was identified as a site for this research.

### 1.4 Statement of the Problem

Informal sector has for many years been perceived as no more than a survival tactic for the poor in urban Kenya. However the significance of the informal sector in providing opportunity to generate wealth for Kenyan citizens cannot be undervalued. The sector plays a big role in economic development through job creation, the supply of affordable goods and services and the reduction of poverty. It is estimated that about 10million persons were engaged in the informal sector in the year 2012, up from about 6m and 9m in 2004 and 2010 respectively. (KIPPRA, Kenya Economic Report, 2013). The report also depicted that the proportion engaged in the informal employment has been increasing over the years while the formal employment has been decreasing. According to Kenya National Bureau of Statistics, Economic Survey (2013), the informal sector constitutes 89.7% of the employment opportunities.

Several studies have been done on factors that influence the growth of businesses in the informal sector. Many studies (APF, 2008; Kramer *et al.*, 2007; Kodakanchi *et al*., 2006) singled out ICTs as an important factor that promotes the growth of businesses in this sector. While other studies (Esselaar *et.al,* 2007; Frempong, 2007; Okiy & Ogbomo, 2011; Adebayo *et.al,* 2013) have done an analyses of the ICT usage trends in the informal sector, it is interesting to note that none of these studies have explained how exactly ICTs influence business performance. This study therefore focused on the

effect of ICT services on business performance in the informal sector in Kenya. The researcher limited the study on the four main ICTs namely: the Mobile phones, the Internet, the Computers and Broadcast Media Technology.

### 1.5 Overall Objective

The overall objective of this study was to assess the effect of the ICTs on the businesses performance in the informal sector in Kenya, with a specific focus on those in Mlolongo Township.

#### 1.5.1 Specific Objectives

To assess the effect of Mobile phone usage on the business performance in the informal sector in Mlolongo Township.
To explore the effect of Computer usage on the business performance in the informal sector in Mlolongo Township.
To evaluate effect Internet usage on the business performance in informal sector in Mlolongo Township.
To determine the effect of Broadcast Media Technology on the business performance in the informal sector in Mlolongo Township.

### 1.6 Research questions

What is the effect of Mobile phone usage on the business performance in the informal sector in Mlolongo Township?

What is the effect of Computer usage on the business performance in the informal sector in Mlolongo Township?

What is the effect Internet usage on the business performance in informal sector in Mlolongo Township?

What is the effect of Broadcast Media Technology on the business performance in the informal sector in Mlolongo Township?

### 1.7 Justification of the study

There is very little data on the effect of ICT usage on the business performance in the informal sector in Kenya. The study will contribute to the body of knowledge on the usage of ICTs by the informal sector. Such studies will also assist the government in monitoring and evaluating the impact of ICT initiatives and developments in the informal sector. The Kenya National ICT Master plan (2014) identifies limited uptake of ICT in SMEs as one of the challenges preventing Kenya from transitioning into a knowledge economy. The results of this study will give facts on how the use of ICTs is transforming businesses and this can be generalized in the whole sector. The ICT authority can now make informed decisions on prioritizing of infrastructure development and also digital literacy initiatives.

It is also hoped that government of Machokos will use the results of this study to develop polices and strategies that will guide the planning for and location of informal enterprises within its county. The county stands to gain from the results of the study in that they will be able to plan for business structures to incorporate ICT infrastructure, develop online license application and payment applications for use by the informal enterprises. Non-Governmental Organizations (NGOs) and other Development Partners dealing with poverty eradication will also find the report useful in that they can partner with the county government and ICT service providers in setting up ICT projects like ICT schools to reduce digital illiteracy. The ICT service providers will also find results of the study useful in that, they can develop innovative solutions that serve the needs of the informal enterprises. The academia will use the results of the study as a basis for further studies by doing similar studies in other towns as well as add to the already existing body of knowledge.

## 1.8 Scope of the Study

Though there are several ICT services in use by the informal sector, the study was limited to four namely: the Cellular phones, the Internet, the Computers and Broadcast Media Technology. The decision to focus on the four ICTs only is because study would be too wide and general if the entire group of ICTs formed the object of study. The informality of the business enterprises will be determined on the bases of the 15$^{th}$ International Conference of Labour Statisticians (ICLS) classification by ILO. This study therefore classifies the informal enterprises based on: Legal organization – the enterprise should be unincorporated: Ownership- the enterprise should be owned and controlled by members of household: Type of accounts –lack of accounts or incomplete financial books of accounts and lastly Production destination- the enterprise should be generating some form of output to the market.

All the enterprises in Mlolongo Township that meets the above criterion formed the study population. The decision to narrow down on the informal enterprises meeting the criteria above is because they face similar challenges. Categorizing based on the number of employees was eliminated because; it would lead to inclusion of medium sized enterprises that face lesser challenges. All informal businesses licensed by the Mavoko sub county are classified as personal businesses. So the study only focused on the personal businesses.

## 1.9 Limitations of the Study

The informal enterprises more often face frequent harassment by the council officials, so the research team faced resistance from them and were not willing to divulge information for fear of such information being used against them. To avert this, the research team reassured the respondents that the data would be treated as confidential. In addition, the research attached an introduction letter from the university to the questionnaires so show why the data was needed.

## 1.10 Definitions of Terms

### Informal sector

The informal sector may be broadly characterized as consisting of units engaged in the production of goods or services with the primary objective of generating employment and incomes to the persons concerned. These units typically operate at a low level of organization, with little or no division between labour and capital as factors of production and on a small scale. Labour relations, where they exist, are based mostly on casual employment, kinship or personal and social relations rather than contractual arrangements with formal guarantees (ILO, 2013).

### Information Communication Technology

Dzidonu (2010) defines Information and Communications Technologies (ICT) as a term that cuts across a variety of technologies including computer, microelectronics and related technologies such as microchip and microprocessor-based technologies, multimedia and other information processing technologies and systems; telecommunications technologies and infrastructure (fixed line, wireless, satellite based and mobile infrastructure); and communication network technologies and infrastructure including local and wide area communications and computer networks for voice, data and video. The term ICT is also used to refer to the convergence of audio-visual and telephone networks with computer networks through a single cabling or link system. There are large economic incentives (huge cost savings due to elimination of the telephone network) to merge the telephone network with the computer network system using a single unified system of cabling, signal distribution and management.

### Business Performance Measurement

Many definitions have been used to define business performance, and one of the definitions explain that business performance is “the operational ability to satisfy the

desires of the company's major stakeholders" (Smith & Reece, 1999, p. 153) and as a subset of the overall concept of organisational effectiveness (Venkatraman & Ramanujam, 1986). This indicate that business performance must be evaluated to achieve organisational goals by measuring success or failure, and can be defined in several ways, such as subjective or objective, and financial or non-financial.

# CHAPTER TWO

# LITERATURE REVIEW

## 2.1 Introduction

This chapter analyses theoretical and empirical literature reviews related to effect of ICT usage on business performance in the informal sector. The chapter is divided into three major sections that include theoretical review of past studies, a critical review of the literature reviewed and a summary of the gap to be filled.

## 2.2 Theory Review

The most well-known theory and models in technology adoption have been Technology Acceptance Model (TAM) (Davis 1989), Theory of Diffusion of Innovation (DOI) (Rogers 1995), and Unified Theory of Acceptance and Use of Technology (UTAUT) (Venkatesh *et al.,* 2003). Each of these theories is discussed in detail below.

### 2.2.1 Technology Acceptance Model (TAM)

The Technology Acceptance Model (TAM) is an information systems theory that models how users come to accept and use a technology. The model suggests that when users are presented with a new technology, a number of factors influence their decision about how and when they will use it. This is as shown in figure 2.1.

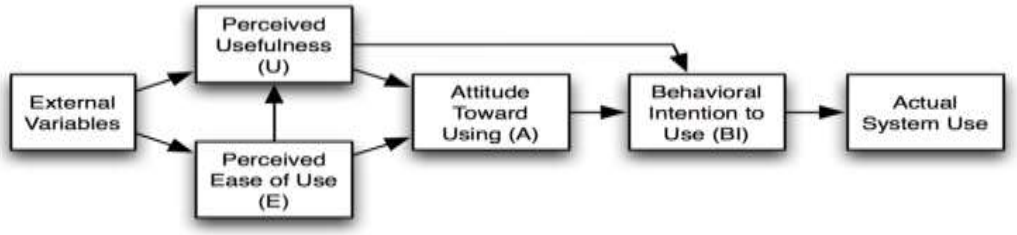


**Figure 2.1 : Technology Acceptance Model**

Source: The Technology Acceptance Model, version 1. (Davis 1989)

**Perceived usefulness** (PU) was defined by Fred Davis as "the degree to which a person believes that using a particular system would enhance his or her job performance". Davis also defined **Perceived ease-of-use** (PEOU) as "the degree to which a person believes that using a particular system would be free from effort" (Davis 1989).

### 2.2.2 Diffusion of Innovations Theory

Diffusion of innovations is a theory seeks to explain how, why, and at what rate new ideas and technology spread through cultures (Rogers, 2003). He explained that diffusion is the process by which an innovation is communicated through certain channels over time among the members of a social system. The origins of the diffusion of innovations theory are varied and span from multiple disciplines. The theory espouses that there are four main elements that influence the spread of a new idea: the innovation, communication channels, time and a social system. This process relies heavily on human capital. The innovation must be widely adopted in order to self-sustain. Within the rate of adoption, there is a point at which an innovation reaches critical mass. The categories of adopters are: innovators, early adopters, early majority, late majority and laggards (Rogers, 2003). Diffusion of Innovations manifests itself in different ways in various cultures and fields and is highly subject to the type of adopters and innovation-decision process.

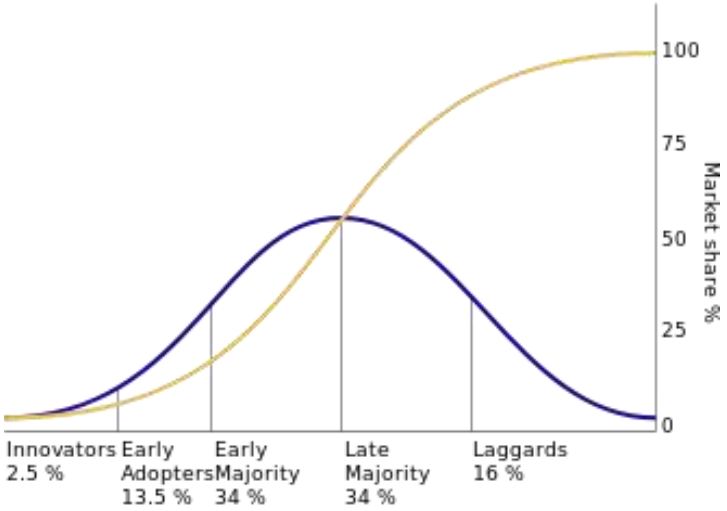


**Figure 2.2: The Diffusion of Innovations,** (Source: Rogers, 2003)

With successive groups of consumers adopting the new technology (shown in bold), its market share (light) will eventually reach the saturation level. In mathematics the S curve is known as the logistic function.

### 2.2.3 Unified Theory of Acceptance and Use of Technology

Unified Theory of Acceptance and Use of Technology (UTAUT**)** is a technology acceptance model formulated by Venkatesh *et al.* (2003) in "*User Acceptance of Information Technology: Toward a Unified View*".

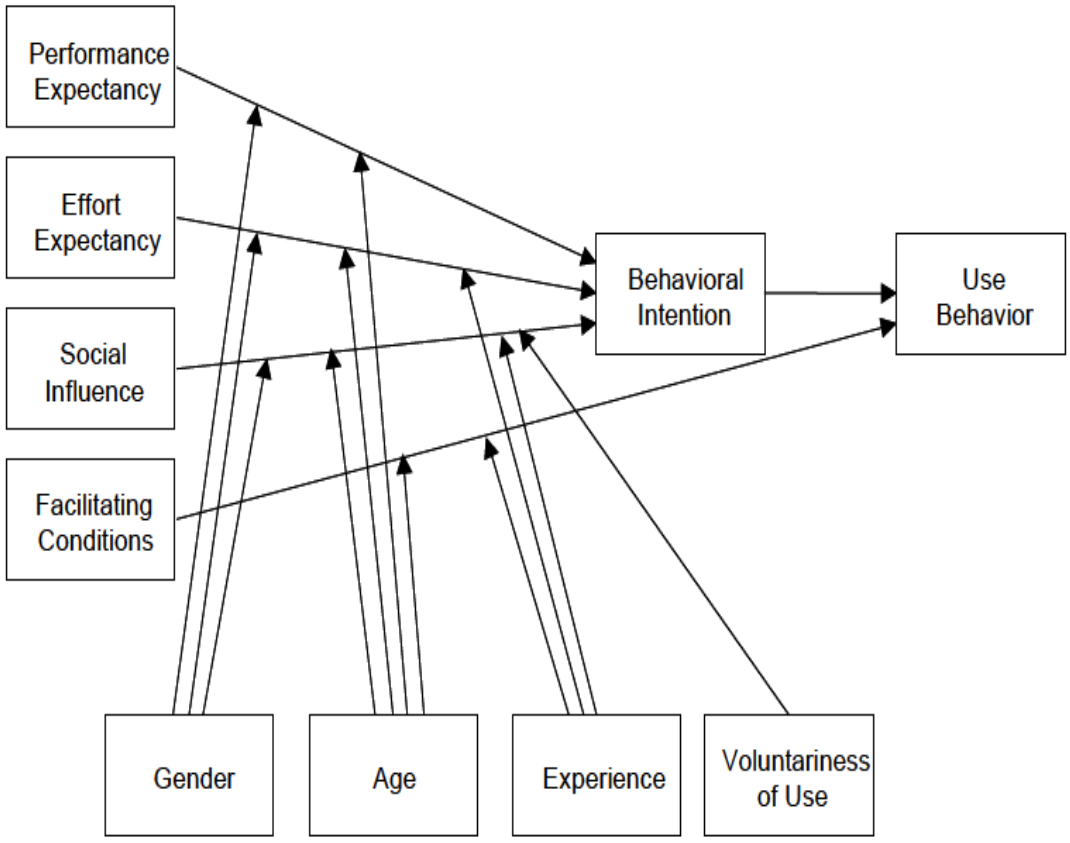


**Figure 2.3: Unified Theory of Acceptance And Use of Technology**,(Venkatesh *et al.*, 2003)

The UTAUT model aims to explain user intentions to use an information system and subsequent usage behavior. The theory identifies four key constructs namely: performance expectancy, effort expectancy, social influence, and facilitating conditions; the first three being direct determinants of usage intention and behavior, and the fourth a direct determinant of use behavior.

Gender, age, experience and voluntariness of use are posited to moderate the impact of the four key constructs on usage intention and behavior. The theory was developed through a review and consolidation of the constructs of eight models that earlier research had employed to explain information systems usage behavior. These were: Theory of Reasoned Action, Technology Acceptance Model, Motivational Model, Theory of

Planned Behavior, a Combined Theory of Planned Behavior/Technology Acceptance Model, Model of Personal Computer use, Diffusion of Innovations Theory and Social Cognitive Theory. Subsequent validation by Venkatesh *et al*., (2003) of UTAUT in a longitudinal study found it to account for 70% of the variance in behavioral intention and about 50% in actual usage.

## 2.3 Empirical Review

This section looks at the existing studies on the use of ICTs by the informal sector. It looks at the uptake levels, effect of ICT and finally the factors that affect the adoption of ICT by the informal sector.

### 2.3.1 Uptake Levels of ICT in the Informal Sector

Existing studies on the usage of ICTs in the informal economy indicate that ICTs are widely in use. Studies in Ghana by Frempong (2005) showed that 41% of SMEs used mobile phones, 25% fixed lines, 7% internet connection, 17% computers and 10% fax. The study also revealed that uptake levels of computers, fixed lines and internet was associated more with SMEs in the formal sector. Studies done in Mumbai on impact of ICT on women micro-enterprises revealed that 87.9% used mobile phones, fixed line 77.5%, and computer 10.4% while internet connectivity was 5.2 %.( Han, *et.al*, 2010).

Esselaar *et al.,* (2007) in their study on usage and impact of ICTs on 13 African countries identified four main ICTs in use by the SMEs namely: mobile phones, fixed lines, internet and computers. Mobile phones were ranked the most popular ICT where most enterprises use it for keeping contacts with customers and clients. Han *et.al*, (2010) studies indicate that computers are less important for the work on the enterprises in Mumbai, India as compared to mobile phones and fixed lines. Okiy and Ogbomo, (2011) studies in Delta state Nigeria show that the radio, television, mobile phone and computer were available for use by rural women.

### 2.3.2 Effect of ICT usage in the Economy

ICT is a general purpose technology, but is more appropriate for some activities than for others. ICT may not fit in all contexts and specific technologies, such as electronic commerce, may not be suited to all business models. In the study on the economic and social benefits of ICT usage (CompTIA, 2007), the author identified various benefits. To start with, ICT usage produces substantial economic benefits such as it being a major contributor to real economic growth, labor productivity is higher in countries where ICT is used more and greater ICT usage contributes increasingly more to GDP and labor productivity regardless of a country's level of development. Moreover, ICT usage provides individual and societal benefits such as e-education, e-health care, public safety, national defense, e-government and infrastructure as well as poverty alleviation.

Han *et al.,* (2010) in their study on the economic impact of information and communication Technologies (ICTS) on microenterprises in the context of Development in Mumbai, India found out that 87.9 percent of the women surveyed had mobile phones and that 62.1 percent of these micro entrepreneurs strongly agreed or agreed with the proposition that "having a mobile makes me more confident that this business will survive". The study also revealed that in microenterprises with computers, the most common uses of the business computers were to email friends and family 66.7 percent; to email customers 58.3 percent; and to track supplies 54.2 percent.

Esslaar *et al.,* (2007) in their study on the ICT usage and its impact on profitability of SMEs in thirteen African countries revealed that ICTs are significant input factors for both formal and informal SMEs and contribute positively to revenue generation and increased labour productivity.

Kiganane *et al.,* (2012) in their study reported that there was significant increase in sales volume, improved profitability, increased worker productivity that medium and small enterprises in Thika associated to the use of mobile phone in their operations.

Opiyo and Owiti (2006) in their study on ICT Application in the Informal Sector in Nairobi Kenya also agreed that ICT is seen as a tool which, if properly utilised, can lead to growth and improvement of the informal sector. Their findings indicated that 38 percent of the informal entrepreneurs said that ICT could be used to access market information, such as demand for goods and services, 22 percent stated that ICT could inform entrepreneurs in terms of being aware and locating where to go for business support services and about 17 percent were of the opinion that ICT could assist in identifying where inputs are sold cheaply, so as to reduce production costs.

Ssewanyana and Busler (2007) study on usage and impact of ICT in informal sector shows that majority of the respondents strongly agreed that ICT provides increased savings, efficiency, improved service delivery, low transaction costs and improved market performance to the organization that invests in ICT. ICT has emerged over the past decade as a key technology than can transform economic and social activities. However, its full potential remains unknown, requiring continued monitoring of its impacts and the appropriate policies to seize its benefits.

### 2.3.3 Factors affecting Usage of ICT by the Informal Economy

Frempong (2005) in his study on the usage of ICT by SMEs in Ghana showed that mobile phones were most popular among the informal sector because the use of other ICT services required a more permanent, secured business structures and premises. However, most of the informal operators, especially the artisans, operate in temporary and make shift structures, most often sited at unauthorized places. Therefore the temporary nature of their operations made the mobile phones popular because one can easily carry a mobile phone as they relocate the businesses. High cost of other ICT services like computers, fixed lines and internet also influenced ICT uptake. The third factor was the literacy levels of the informal enterprise owners as use of internet and operating computers requires some literacy level.

Ssewanyana and Busler (2007) found out that usage of computers and internet is high in medium and large firms, and especially firms owned by foreigners. The small firms which are mainly locally owned, have low usage due to the high cost of required investment, limited knowledge and skills, and being very responsive to taxation. The findings further indicated that the people do appreciate the contribution of ICT to the performance of their firms, but the various barriers such as high costs of hardware, software, internet and ICT professionals among others are a hindrance to their progress.

Esslaar *et al.,* (2007) identified that mobile phone was a preferred tool by the informal SMEs. This was attributed to the fact that mobile phone required little training and increasingly more people own mobile phones (the network externality effect). The study further revealed that owners of informal SMEs were less educated implying that lack of knowledge of how to use a computer and accounting packages prevents many informal business operators from using them in addition to the financial constraints

## 2.4 Conceptual Framework

Theoretical and empirical review above guided the researcher in developing the conceptual framework for this research.

A conceptual framework is a logically developed and elaborated network of interrelationships among variables integral in the dynamics of a situation being investigated. It explains the theory underlying these relationships and describes the nature and direction of these relationships. A variable is a measurable characteristic that assumes different values among the subject. It is therefore a logical way of expressing a particular attribute in a subject (Mugenda & Mugenda, 2003). A dependent variable is the variable of the primary interest to the researcher. Mugenda and Mugenda (2003) also defines a conceptual framework is a diagrammatical representation that shows the relationship between dependent variable and independent variables.

The conceptual framework for this study demonstrates the linkage between the business performance and ICT with specific focus on the mobile phones, computers and internet and broadcast media as depicted by figure 2.4.

Independent Variable Dependent Variable

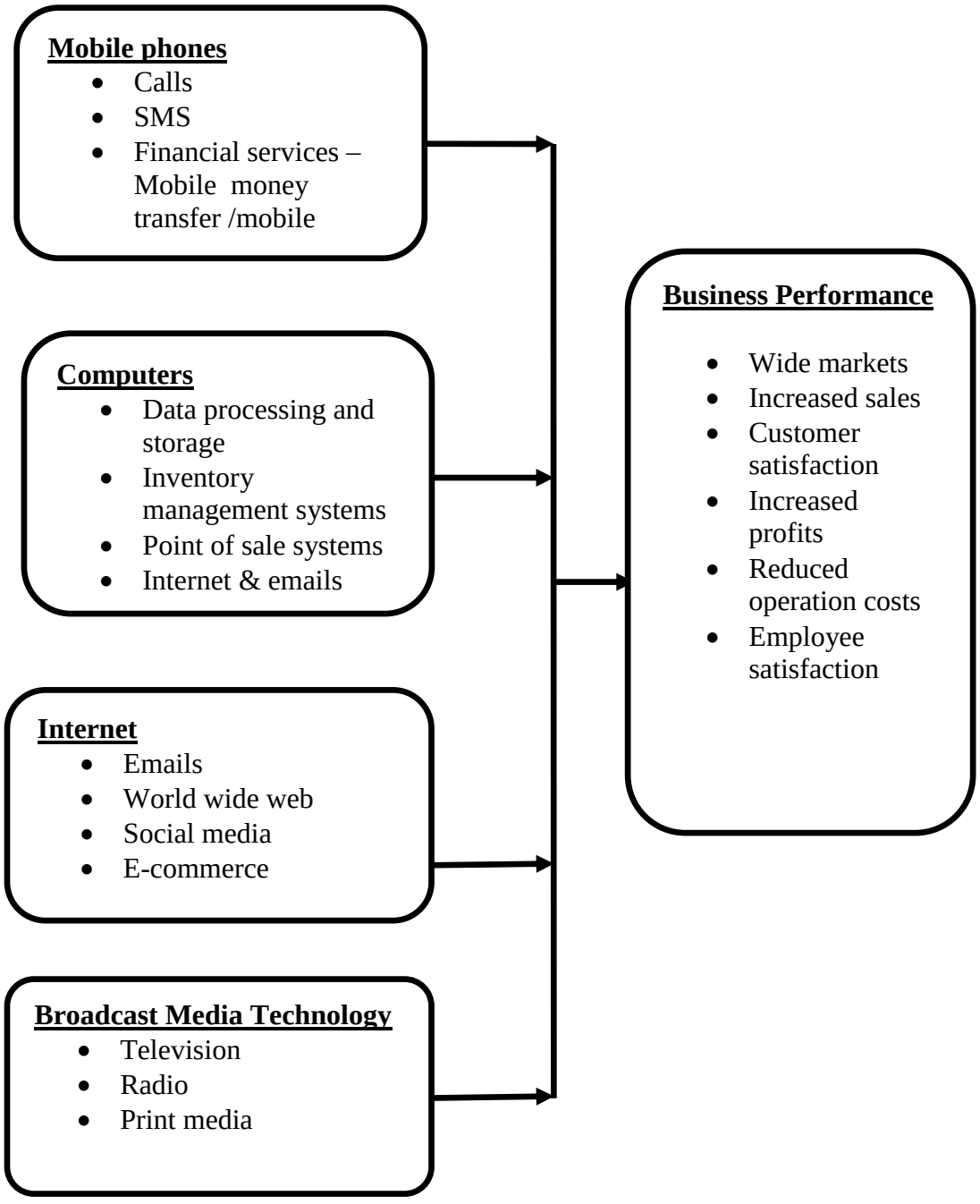


**Figure 2.4: Conceptual framework**

### 2.4.1 Effect of Mobile Phones on Business Performance

Since the late 1990s, cellular phones have gone from being a luxury to a necessity in the business world. With people and companies becoming increasingly connected, cell phones allow you to perform job duties whenever and wherever you might find yourself. By being easily accessible, you can grow in your business. In business, Cell phones are mainly used for making calls, sending SMS, mobile money transfer, mobile internet and mobile banking. There has been a significant growth in mobile phones in Kenya. As of September 2014, there were 32,768,828 mobile subscriptions in Kenya. (CAK, 2014)

Kiganane *et al.,* (2012) in their study reported that there was significant increase in sales volume, improved profitability, increased worker productivity that Medium and small enterprises in Thika associated to the use of mobile phone in their operations. Mobile phones were used to inform clients of finished goods, enquires, advertising and promoting new products, placing orders, following up and making payments. Mobile money transfer service assists the informal sector operators to complete simple financial transactions (Mwaura, 2009); they are able to receive payments from customers, pay suppliers, pay employee salaries and bill payments.

M-Pesa, which is a service offered by the Kenya's leading telecommunication service provider has over time come up with innovative solutions such as Lipa na M-Pesa, M-Shwari, and mobile banking services. Lipa na M-Pesa enables customers to pay for the goods and services via M-Pesa, M-shwari services enables both individuals and businesses to save their money and get loans. Mobile banking services enables individuals and business to do their banking activities from their mobile phones (Safaricom Limited, 2014)

### 2.4.2 Effect of Computers of Business Performance

Computers are best described as a "general purpose technology" whose primary contribution is to make new production methods possible when combined with

complementary investments such as new work systems, organizational redesign, and business process reengineering (Greenwood & Jovanovich, 1997; Bresnahan *et al.*, 2002). These changes, in turn, yield substantial productivity improvements and perhaps even structural changes in the economy over longer periods of time (Greenspan, 1997; Brynjolfsson & Hitt, 2000). Computers have made our life easier. With greater precision and accuracy and less time taking computers can do a lot in short time while that task can take a lot of time while doing manually. Computers have taken industries and businesses to a whole new level.

Ssewanyana and Busler (2007) in their study on usage of ICT reported that the employees in administration and the support staff use computers mainly for word processing, while those in finance for accounting and those in production, marketing/sales use them for information processing. The secondary usage for these computers is communication and the Internet. The production department uses them also for inventory control and storage optimization. Use of applications such as accounting, inventory management systems and point of sale system improve the business efficiency while at the same time computers can be used to store data, communicate via internet, create reports and also creating websites for marketing purposes.

### 2.4.3 Effect of the Internet on Business Performance

A business is no longer dependent on its local customer base for its survival; it now has a worldwide audience for its goods and services. The Internet has changed not only a business' customer base, but how a business communicates with its employees, and finds and manages the competition. Internet is allowing many SMEs to become global players in ways that have previously been reserved primarily for large multinational companies (OECD, 2001)

In addition OCED identifies potential effects of the Internet on business as lowering search costs and improving search effectiveness; speeding and improving communication within firms and with outside parties; facilitating networking with suppliers and other business clients (B2B),consumers (B2C), specialists, research institutions, government, etc.; improving efficiency and/or effectiveness of key business operations (administrative functions, human resource management, product development, manufacture and assembly, marketing, after-sales service); facilitates and expanding direct sales potential; potential markets; providing a venue for new or modified products.

### 2.4.4 Effect of Broadcast Media Technology on Business Performance

Broadcasting is the distribution of audio and/or video content to a dispersed audience via any electronic mass communications medium, but typically one using the electromagnetic spectrum (radio waves), in a "one to many" model (Durham,1999). Broadcasting is usually associated with radio and television, though in practice radio and television transmissions take place using both wires and radio waves. The receiving parties may include the general public or a relatively small subset; the point is that anyone with the appropriate receiving technology can receive the signal (Douglas, 1987)

Treutler and Levine (2010) carried out a research to gain a deeper understanding of how different media effectively communicate advertising messaging. The results revealed that television had: 1.8 times more Total Emotional Engagement than online video; Television also had 1.4 times more next day recall than online video; Television had 5.5 times more Total Emotional Engagement than newspaper; Television and newspaper performed comparably on next day recall; Television had three times more Total Emotional Engagement than radio; Television also had three times more next day recall than radio.

### 2.4.5 Measuring Business Performance

In the real business world, there are many obstacles to small and medium firms' revealing their actual financial performance to the public. The use of subjective measurements for business performance is made more necessary by the relative difficulty, particularly for small firms, of gathering objective financial data. Either these types of data are unavailable, or they are obscured or manipulated by managers eager to protect their firms' reputations or avoid personal or corporate taxes (Dess & Robinson, 1984; Sapienza *et al.,* 1988). In this research the business performance of the informal enterprises will be measured using subjective measurements.

The main characteristic of subjective performance measures is that they are under control of the principal. A few examples of non-financial subjective measures of performance are product quality, delivery performance, customer service, product development performance, manufacturing flexibility and technological capability (Hirsch, 2000). A main advantage of subjective performance measures is that they help overcome the distortions that resulted from using objective measures and a main disadvantage is that they are more difficult to verify and change with the opinion of the person responsible for measurement.

Superior financial performance according to Santos and Brito (2012) is a way to satisfy investors and can be represented by profitability, growth and market value. They further point out that customer and employee are other aspects of business performance. Other stake holders include government and communities who are affected by the firm's actions especially the social and environmental ones. Conceptualizing of firm's performance as based on satisfying the stakeholders can be thought of as having at least seven facets: growth, profitability, market value, customer satisfaction, employee satisfaction, social performance and environmental performance (Santos & Brito, 2012). For the purposes of this research, business performance will be measured using five facets namely: growth; profitability; market value; customer satisfaction and employee satisfaction.

## 2.5 Critic of the Review

Few studies done in Africa mainly looked at the usage trends of ICTs by the small and medium size companies (Ssewanyana & Busler, 2007), Frempong (2005), Esselaar *et al.,* (2007). In addition, they analyzed the factors that affect the adoption of ICTs which singled out the size of the enterprise as the key determinant of which ICT service to use. In Kenya, a few studies have looked at the factors affecting the adoption and usage of ICT by the informal sector (Maina *et al.,* 2012), Gikenya and Ocholla (2012). All these authors neglected the effect of ICT and over emphasized on the usage trends.2.2

## 2.6 Summary

The application of ICT in business and social life has opened up new possibilities for running and managing organisations, for marketing products and services and for communications between individuals and groups. In relation to communications ICT enable electronic communication through facsimile (fax), email, voicemail and video conferencing and have led to the widespread employment of networking technologies such as internet, the World Wide Web, Intranets, Extranets, online databases integration of information systems and mobile communication (Kiganane *et.al*, 2012). ICT are versatile and powerful technologies, they can assist business with its data storage and processing, with the information flows in and around the business, in the control and management of the business and in establishing internal links between different parts of the organization and external links with business partners, customers and suppliers (Jessup & Valacich, 2003).

## 2.7 Research Gap

In the literature effect of ICT on the business performance in the informal sector has not been adequately covered. Moreover, there are very few studies that have been done in Kenya targeting the informal sector population. This study seeks to cover in detail the effect of ICT usage on the performance of the informal sector. The informal sector

forming part of the study is those enterprises not registered (unincorporated enterprises) whose operations are licensed by the county council under business permits. The reason for this selection is that this group of informal enterprises faces similar challenges and opportunities.

# CHAPTER THREE

# RESEARCH METHODOLOGY

## 3.1 Introduction

Kothari (2012) defines research methods as to all those methods/techniques that are used for conducting research. This chapter deals with the research method utilised in the empirical part of the study. The research designs, population, sampling and sampling technique are explained. The pilot study followed by data collection & analysis methods is highlighted.

## 3.2 Research design

Orodho (2003) defines a research design as the scheme, outline or plan that is used to generate answers to research problems. Kothari (2012) describes the research design as the conceptual structure within which the research is conducted; it constitutes the blue print for the collection, measurement and analysis of data. For the purposes of this study, the researcher applied descriptive research design, which according to (Kothari 2012), is concerned with describing the characteristics of a particular individual or a group. According to Cooper and Schindler (2008) a descriptive study tries to discover answers to the questions who, what, when, where, and sometimes how. The study sought to establish and describe the effects of ICT usage on the business performance of the informal sector enterprises using descriptive research design.

## 3.3 Population

A population is the total collection of elements about which we wish to make inferences (Cooper & Schindler, 2008). According to Mugenda (2008) and Sekaran (2010) a population is the entire group of people or objects having common observable

characteristics of interest that the researcher desires to investigate and upon whom the research findings are generalized.

The population for this study comprised of the informal sector enterprises in Kenya with specific focus on informal enterprises in Mlolongo town within Mavoko Sub County of Machakos County. The 15th International Conference of Labour Statisticians (ICLS) resolution came up with the criteria for defining informal sector enterprises as shown in table 3.1.

**Table 3.1: Criteria for defining informal sector enterprises (15th ICLS resolution)**

| Criterion | Purpose |
|---|---|
| 1. Legal organization: enterprise not constituted as a legal entity separate from its owner(s) | Identification of unincorporated enterprises |
| 2. Ownership: enterprise owned and controlled by member(s) of household(s) | Identification of household unincorporated enterprises |
| 3. Type of accounts: no complete set of accounts, including balance sheets | Exclusion of quasi-corporations from household unincorporated enterprises |
| 4. Product destination: at least some market output | Identification of household unincorporated enterprises with at least some market production; exclusion of household unincorporated enterprises household goods exclusively for own final use by the producing |
| 5. Kind of economic activity | Exclusion of households employing paid domestic workers; possible exclusion of enterprises engaged in agricultural and related activities |
| 6.1 Number of persons engaged/employees/employees employed on a continuous basis: fewer than 'n'.and/or<br>6.2 Non-registration of the enterprise, and/or<br>6.3 Non-registration of the employees of the enterprise | |

**Source: Measuring informality: A statistical manual on the informal sector and informal employment** (ILO, 2013).

This study therefore classified the informal enterprises based on the Legal organization. The enterprise should be unincorporated; Ownership- the enterprise should be owned and controlled by members of household; Type of accounts –lack of accounts or incomplete financial books of accounts and Production destination- the enterprise should be generating some form of output to the market.

All the enterprises in Mlolongo Township that met the above criterion formed part of the study population. All informal businesses licensed by the Mavoko sub county were classified under single business permit. According to the Government of Machakos (2014), Mlolongo town registered a total of 1,542 businesses that were issued with single business permit by Mavoko Sub County in the year 2014 as you will find in Appendix II.

### 3.4 Sample and Sampling Technique

Cooper and Schindler (2008) defines a sample as a group of cases, participants, events or records consisting of a portion of the target population, carefully selected to represent that population. They further describes sampling frame as the list of all population units from which the sample is selected. Kothari (2012) defines a sample design as a definite plan for obtaining a sample from a given population. It refers to the technique or the procedure the researcher would adapt in selecting items for the sample. Sample designs are basically of two types according to Kothari (2012); probabilistic and non – probabilistic sampling designs.

The sampling frame for this study represented in table 3.2 was derived from the Mavoko Sub County database .The sample was obtained using stratified random sampling which according to Cooper and Schindler (2008) refers to probability sampling that includes elements of each of the mutually exclusive strata within the population. A sample size of 100, was obtained which constituted 10% of the population forming part of the study. This is validated by Mugenda and Mugenda (2008) assertion that a sample size of 10%

of the target population is large enough and allows for reliable data analysis and testing for significance of differences between estimates.

**Table 3.2: Sampling frame**

| **Mavoko Sub County Informal Business Classification** | |
|---|---|
| **Category** | **No of registered businesses** |
| Shop | 310 |
| Salon | 90 |
| Hotel | 71 |
| Bar | 53 |
| Boutique | 51 |
| Barber shop | 38 |
| Tailoring | 29 |
| Electronics | 23 |
| Auto Spares & Services | 25 |
| Wines & Spirits | 22 |
| Hardware | 34 |
| Butchery | 33 |
| Second Hand clothes | 31 |
| Cosmetics Shop | 28 |
| pool table | 27 |
| Workshop | 25 |
| Mali Mali | 22 |
| Accessories | 22 |
| Gas Vendor | 30 |
| cyber café | 30 |
| Welding | 12 |
| **Total** | **1000** |

Source: Government of Machakos, Mavoko Sub County (2014)

The businesses whose operations were related were grouped into one strata and a sample of 10% was derived from each strata.

**Table 3.3: Sample size**

| Business classification | Sample size |
|---|---|
| Shops | 31 |
| Salon and Barber shops | 12 |
| Hotel, Bar and Wines and Spirits and Pool table | 18 |
| Boutique, Cosmetic shops and Tailoring | 10 |
| Electronics, Auto Spares and Services | 5 |
| Hardware, Workshop, Welding | 7 |
| Butchery | 3 |
| Second Hand clothes, Mali Mali, Accessories | 8 |
| Gas Vendor | 3 |
| cyber café | 3 |
| **Total** | **100** |

The elements of each stratum was generated using convenience sampling techniques which according to Cooper and Schindler (2008) is the non-probabilistic sampling in which researchers use any readily available individuals as participants. This is because was difficult to tell which business is incorporated by looking at it, so issued the questionnaires to the business that meets our criterion.

### 3.5 Data Collection Methods

Cooper and Schindler (2008) define data as the facts presented to the researcher from the study's environment. Data collection on the other hand is a means of obtaining information from the selected respondents for an investigation (Creswell, 2007). Donald (2009) singles out two major sources of data used by respondents' primary and

secondary data. Primary data according to Kothari (2012) are those which are collected afresh and for the first time and thus happen to be original in character. Secondary data on the other hand are those which have already been collected by someone else and which have been passed through the statistical process. For this study, the researcher collected primary data using questionnaires comprising of open and close ended questions. Materials comprised of printed questionnaires, pens, and a computer for data analysis. A team of five research assistants were employed to issue the questionnaires and assist the respondents in filling up the questionnaire. The researcher obtained a research permit from the government of Machakos and a research authorization letter from JKUAT to facilitate smooth data collection process.

**The Pilot Study**

Cooper and Schindler (2011) point out that pilot test is conducted to detect weakness in design and instrumentation and to provide proxy data for selection of a probability. A pilot test was carried out to test the data collection instruments for validity and reliability of the research instruments Pilot testing was conducted on 10 informal enterprises in Mlolongo Township representing 1% of the sample which according to according to Cooper and Schindler (2011), 1% of the sample should constitute the pilot test.

### 3.6.1 Validity of the Research Instruments

According to Somekh and Cathy (2005) validity is defined as the degree by which the sample of test items represents the content the test is designed to measure. Mugenda and Mugenda (2008) argues that the content validity of a research instrument is tested by use of a professional or expert in a particular field. The researcher established the validity of the research instruments by seeking the opinions of the experts in knowledge management and the supervisors.

### 3.6.2 Reliability of the Research Instruments

Reliability of a research instrument means that the instrument yields the same results on repeated trials. The researcher used Cronbach's alpha (Cronbach, 1951) to measure the internal consistency of the research instruments. SPSS was used to compute the Cronbach's alpha values. The recommended alpha value of 0.7 was used as a cut-off point for the reliabilities.

### 3.7 Data Analysis and Presentation

According to Kothari (2012) data processing implies editing, coding, classification and tabulation of collected data so that they are amenable for analysis. He further points out that data analysis refers to the computation of certain measures along with searching for patterns of relationship that exist among data- groups. Data collecting in this study was sorted, coded and tabulated based on study objectives and variables using statistical program for social sciences (SPSS version 20) the results obtained were presented in tables, charts and graphs where applicable. Descriptive statistics including measures of association and measures of dispersion were used to analyse data variables. SPSS was used to compute Pearson's rank correlation coefficient to find out the relationship between dependent and independent variables.

Regression analysis was used to predict the impact of ICT (independent variable) on business performance (dependent variable). Regression equation was developed to show dependent variable as a function of independent variable.

$Y = \beta 0 + \beta 1X1 + \beta 2X2 + \beta 3X3 + \beta 4X4 + \varepsilon$ where Y= Business performance, $\beta 0$ = Coefficient of Intercept; B1...$\beta 4$ = Regression coefficients of independent variables. X1…X4= Independent variables (Mobile phones, Computers, Internet, Broadcast Media Technology)

$\varepsilon$ = Error term.

# CHAPTER FOUR

# DATA ANALYSIS, PRESENTION AND INTERPRETATION

## 4.1 Introduction

This chapter analyses the findings, interprets and presents the data that was collected in line with the objectives of the study. The data obtained is presented in tabular form, percentages and in descriptive statistics such as pie charts and bar graphs. This chapter is further subdivided into several sub-sections that are pertinent to the subjects under study. The objective of the study sought to assess the effect of the ICTs on the businesses performance in the informal sector in Kenya, with a specific focus on those in Mlolongo Township. The research further sought to explain the effects of Mobile phone usage, Computer usage, Internet usage and Broadcast Media Technology on the business performance in the informal sector in Mlolongo Township. The opinion of business persons in different enterprise in the informal sector has been captured. This chapter is structured along those variables of study, in line with the conceptual framework and the objectives of the study. Discussions analysis on the findings of the study is made based on the variable of interest, which forms the basis for conclusions and recommendation, explained in a later chapter. However, only analysis key to answering the research questions have been done.

## 4.2 Response Rate

One hundred questionnaires were administered to the target population, and only ninety one were returned representing a response rate of 91%. According to Kaplowitz *et al.*, (2004) 75% is considered adequate for any study. Higher response rates assure more accurate results in any study.

### 4.3 Results of the Pilot test

A pilot test was carried out to test the data collection instruments for validity and reliability of the research instruments. Pilot testing was conducted on 10 informal enterprises in Mulolongo Township representing 1% of the sample which according to according to Cooper and Schindler (2011), 1% of the sample should constitute the pilot test. The researcher used Cronbach's alpha (Cronbach, 1951) to measure the internal consistency of the research instruments. SPSS was used to compute the Cronbach's alpha values. The recommended alpha value of 0.7 was used as a cut-off point for the reliabilities.

### 4.4 Respondents Demographics

The respondents were asked to indicate their gender, age, marital status and their highest level of education attained.

#### 4.4.1 Gender and Age

The respondents were ask to give their gender and age .The finding from the study revealed that 60.4% of the respondents were male while 39.6% were female as presented in figure 4.1. This indicates that we have a high number of male than female entrepreneurs in the informal sector. The findings also showed that majority of the respondents were below 30yrs indicating that due to scarcity of formal employment in Kenya, majority of the youth are going into informal employment.

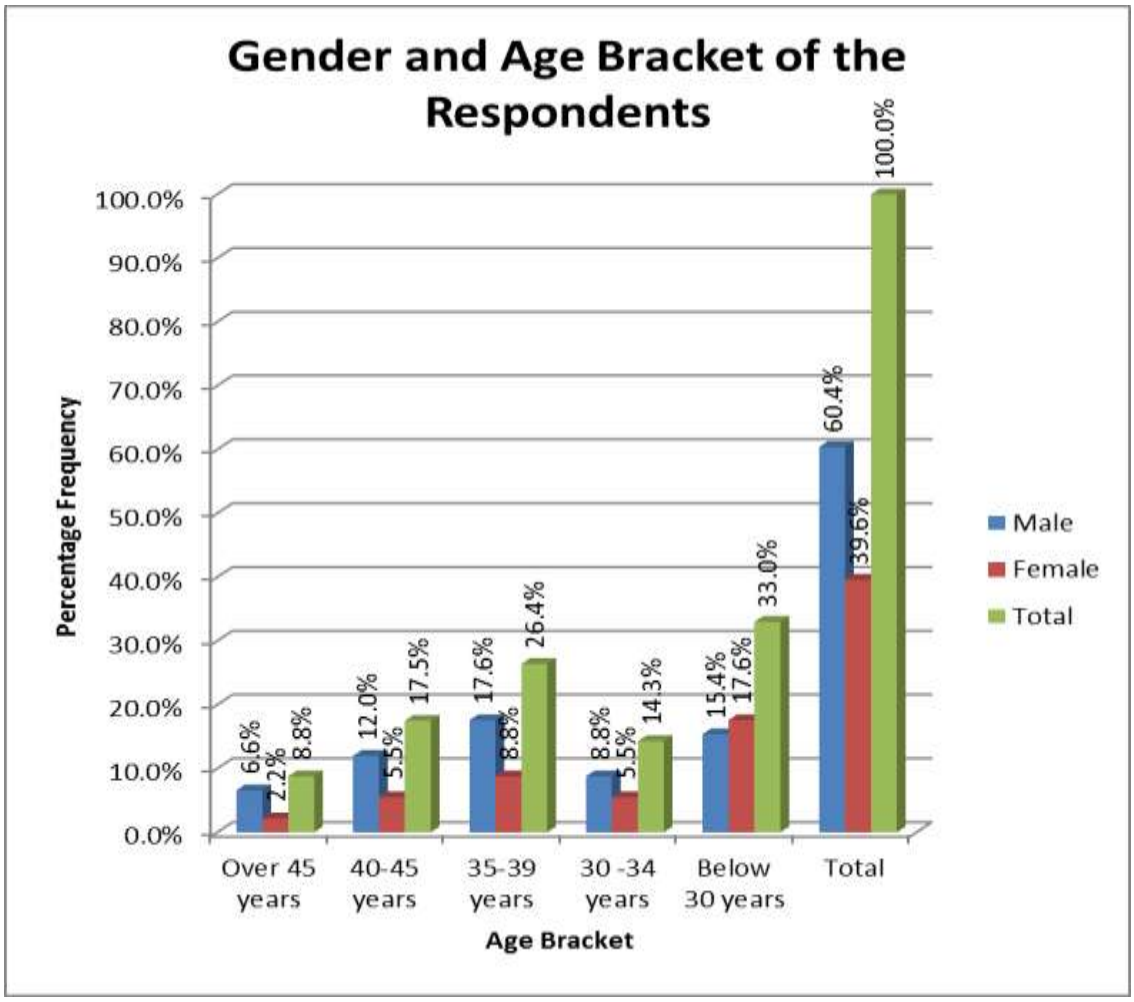


**Figure 4.1: Gender and Age Bracket of the Respondents**

### 4.4.2 Education Level of Respondents

The respondents were asked what was the highest education level attained. The results showed that 57.1% of the respondents had attained the secondary level, 28.6% Diploma level, 8.8% Bachelor's degree level, 3.3% Master's Degree level while 2.2% had attained primary level of education. This indicates that majority of the informal entrepreneurs are secondary school leavers explaining the high diffusion rate of easy to use ICTs like mobile phones and broadcast media.

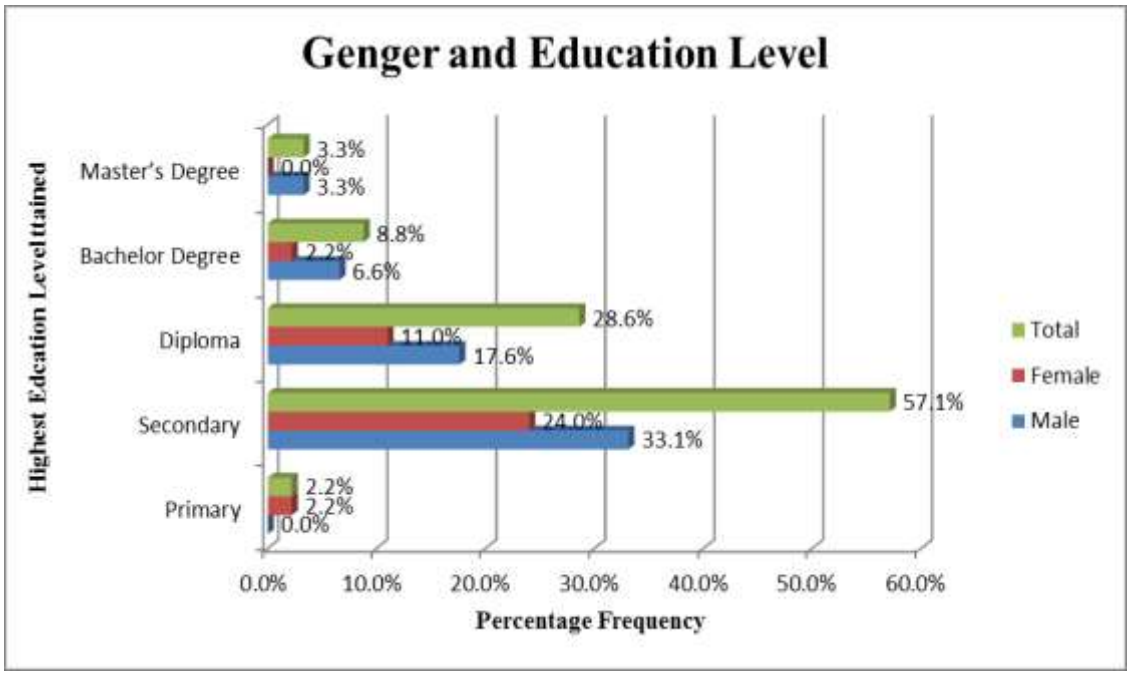


**Figure 4.2: Education Level of Respondents**

### 4.4.3 Nature and age of Business

The respondents were asked to indicate the nature of their businesses and how long the businesses have been in operation. The findings showed that the top five areas of operation were: general shops 24.2% ; hardware, workshop and welding 14.3% ; boutique, cosmetics & tailoring 12%; hotel ,bar, wine & spirits 11% and salon & barber shops at 9.9%. 44% of the businesses were in operation for over five years; 28.6% were in operation for a period between one and three years, while 24.1% are less than one year. Of the businesses in operation for over five years, hardware, workshop and welding formed the bulk of them, while general shop formed the bulk of the businesses in operation for less than three years. This indicates that majority of the businesses are general shops. These findings conforms with the characteristics of informal sector which according to Meir and Rauch (2000) include: ease of entry; reliance on indigenous resources; family ownership of enterprises; small-scale operations, labour intensive and

adapted technology; skills acquisition outside the formal school sector and; unregulated and competitive markets .The results are presented in table 4.1.

**Table 4.1: Nature and Age of Business**

| Nature of Business | Age of Business | | | | |
|---|---|---|---|---|---|
| | %< 1 Yr. | %1-3 Yrs. | %3 -5 Yrs. | %>5 Yrs. | %Total |
| **General shop** | 5.5 | 9.9 | 0 | 8.8 | 24.2 |
| **Hardware, workshop, welding** | 0 | 1.1 | 0 | 13.2 | 14.3 |
| **Boutique, cosmetic shops and Tailoring** | 3.3 | 5.5 | 0 | 3.3 | 12 |
| **Others** | 2.2 | 3.3 | 0 | 5.5 | 11 |
| **Hotel, bar ,wines and spirit** | 2.2 | 3.3 | 0 | 4.4 | 9.9 |
| **Salon and barber shop** | 1.1 | 3.3 | 1.1 | 2.2 | 7.7 |
| **Mitumba, Malimali, accessories** | 4.4 | 1.1 | 1.1 | 0 | 6.6 |
| **Electronics, Auto spares and services** | 2.2 | 0 | 0 | 3.3 | 5.5 |
| **Butchery** | 1 | 0 | 1.1 | 1.1 | 3.3 |
| **Gas vendors** | 1.1 | 0 | 0 | 2.2 | 3.3 |
| **Cyber café** | 1.1 | 1.1 | 0 | 0 | 2.2 |
| **Total** | **24.1** | **28.6** | **3.3** | **44** | **100** |

### 4.4.4 Number of Employees

The respondents were asked how many employees each business had in comparison with the age of the business. The results showed that the majority of the respondents (62.6%) had employed while only 37.4% of the businesses had not employed meaning that the owner operated the business. Of the 62.6% respondents, 8.8% of them had

employed more than five staff. This indicates that majority of the business employ staff, an evidence that informal sector creates employment opportunities. This agrees with the job creation characteristic of informal sector which according to International Labour Office (1993), the informal sector, which essentially covers the unorganized spectrum of economic activities in commerce, agriculture, construction, manufacturing, transportation and services, now, absorbs as much as 60% of the labour force in urban areas of developing countries. These results are presented in figure 4.4.

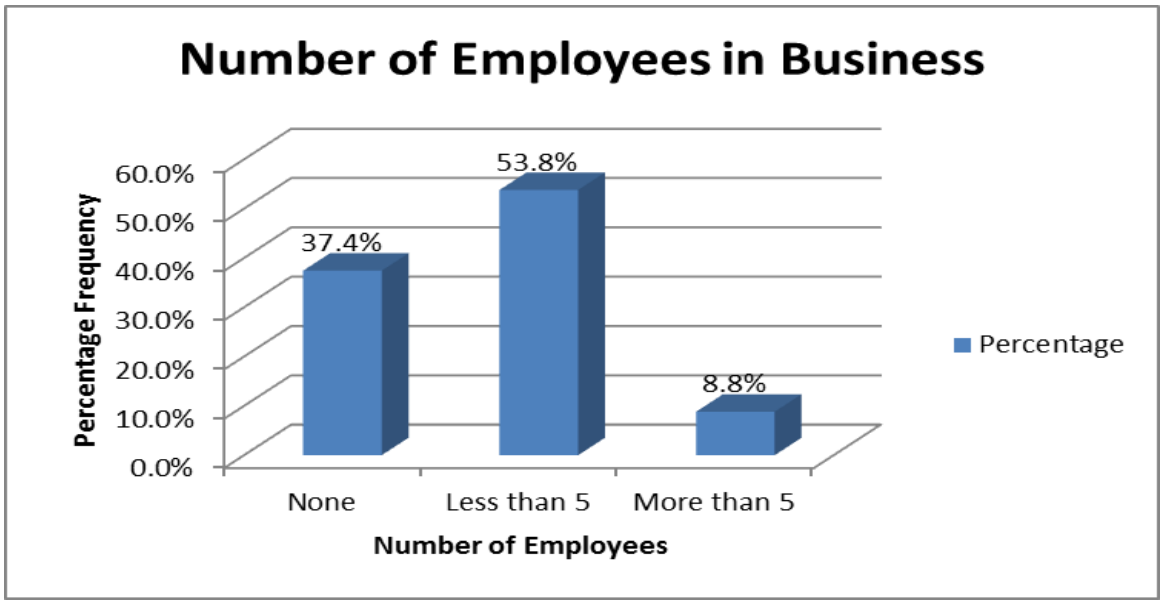


**Figure 4.3: Number of employees in business**

### 4.4.5 Education Levels of Employees.

The respondents were asked the education level of employees in their businesses. The findings showed that 58% of the employees had attained secondary school level, 26% were primary level while only 16% had attained Diploma level. This indicates that majority of the employees in the informal sector are secondary school leavers. The results are presented in table 4.2.

**Table 4.2: Education Levels of Employees.**

| Workers | Number of Workers | | | | | |
|---|---|---|---|---|---|---|
| **Education level** | **Less than 5** | **%** | **More than 5** | **%** | **Total** | **%** |
| Primary | 14 | 24.6 | 1 | 1.8 | 15 | 26 |
| Secondary | 28 | 49.1 | 5 | 8.7 | 33 | 58 |
| Diploma | 7 | 12.3 | 2 | 3.5 | 9 | 16 |
| **Total** | **49** | **86** | **8** | **14** | **57** | **100** |

### 4.5 Effect of Mobile Phone Usage on Business

The respondents were asked whether they owned a mobile phone, the purpose it served for their business, its effect on the business and the challenges.

#### 4.5.1 Ownership Mobile Phones

Asked if they owned a mobile phone, 100% of the respondents said owned mobile phones. Asked how many phones one had, 63.7% said they owned one phone while 36.3% own more than one phone. This indicates that diffusion rate of mobile phones in the informal sector is 100%. These results conforms to studies by Frempong (2005) ;Han, *et.al*,( 2010) and Esselaar *et al.,* (2007) on uptake levels of ICT in the informal sector while Mobile phone had the highest diffusion rate. This is represented in the table 4.3.

**Table 4.3: Ownership of Mobile phone**

| Number of phones owned | Frequency | Percentage |
|---|---|---|
| **One** | 58 | 63.7 |
| **More than one** | 33 | 36.3 |
| **Total** | 91 | 100 |

### 4.5.2 Purpose of Mobile Phone in Business

Asked the purpose the phone was used for, 34.9% of the respondents said they used them for financial services like sending and receiving cash and M-banking services while 27.8% contacting customers, 20.3% contacting customers and 17% for personal use. The responses are presented in figure 4.5 below. This indicates that the mobile phone serves multiple purposes with the top purpose being financial services.

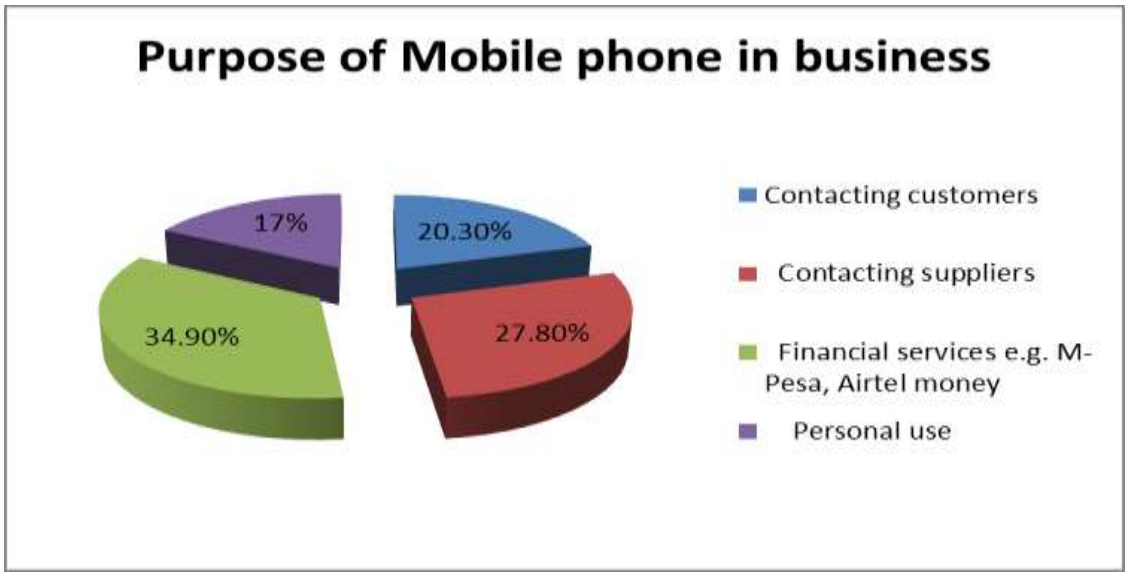


**Figure 4.4: Purpose of the Mobile Phone**

### 4.5.3 Effects of Mobile Phone to Business

The respondents were asked to give their opinion on the effect of mobile phone use in business. An ordinal scale was used to measure their level of agreement with the statements given five point scale. 1 -represented strongly disagree, 2 -disagree, 3-slightly agree, 4 -agree and 5 -strongly agree. The respondents were also asked to highlight the challenges they faced in the use of mobile phones in business. The responses to the each question are analyzed in the subsections that follow.

#### 4.5.3.1 Increased Sales

The respondents were asked their level of agreement with the statement that "sales have increased as a result of mobile phone usage". The findings revealed that majority of the respondents strongly agreed that mobile phone usage had led to increased sales. The results are presented in the table 4.4.

**Table 4.4: Mobile phone usage lead to increased sales**

| Agreement level | Percentage |
|---|---|
| **Strongly Disagree** | 4.4% |
| **Disagree** | 14.3% |
| **Slightly Agree** | 25.4% |
| **Agree** | 27.5% |
| **Strongly Agree** | 28.6% |

#### 4.5.3.2 Reduced Operation costs

The respondents were asked their level of agreement that 'Operation costs have reduced as a result of mobile phone usage" 41.8% of the respondents agreed that the operation costs had reduced. These results are presented in table 4.5.

**Table 4.5: Mobile phone usage leads to reduced operation costs**

| Reduced operation costs | Percentage |
|---|---|
| **Strongly Disagree** | **13.2%** |
| **Disagree** | **24.2%** |
| **Slightly Agree** | **11.0%** |
| **Agree** | **41.8%** |
| **Strongly Agree** | **9.9%** |

#### 4.5.3.3 Happier Customers

The respondents were asked their level of agreement on the statement **"**Customers are happier in that we are able to give them updates/ after sale service". 35.2% agreed that use of mobile phones has led to happier customers. These results are presented in the table 4.6.

**Table 4.6: Customers are happier as a result of mobile phone usage**

| **Happier customers** | Percentage |
|---|---|
| Strongly Disagree | 13.2% |
| Disagree | 12.1% |
| Slightly Agree | 16.5% |
| Agree | 35.2% |
| Strongly Agree | 24.2% |

#### 4.5.3.4 Happier Employees

The respondents were asked their level of agreement with the statement **"**Employees are happier as they can consult over the phone". 52.1% agreed that their employees were happier as a result of mobile phone usage in business. The results are presented in the table 4.7.

**Table 4.7: Employees are happier as a result of mobile phone usage**

| Happier employees | Percentage |
|---|---|
| Strongly Disagree | 1.4% |
| Disagree | 4.2% |
| Slightly Agree | 4.2% |
| Agree | 52.1% |
| Strongly Agree | 38.0% |

#### 4.5.3.5 Ability to do banking via mobile phones

The respondents were asked their level of agreement with the statement "I am able to bank my sales using Mobile money service and M-banking". Majority of the respondents agreed that mobile phone enables them to bank their sales using mobile money services like M-pesa with 46.2% while 30.8% strongly agreed. These results are presented in the table 4.8.

**Table 4.8: Ability to do banking via mobile phones**

| Banking | Percentage |
|---|---|
| Strongly Disagree | 0.0% |
| Disagree | 1.1% |
| Slightly Agree | 22.0% |
| Agree | 46.2% |
| Strongly Agree | 30.8% |

#### 4.5.3.6 Higher profits

The respondents were asked their level of agreement with the statement "the profits are higher with mobile phones usage'. Majority of the respondents slightly agreed that profits were higher as a result of mobile phone usage. These results are presented in the table 4.9.

**Table 4.9: Profits are higher as a result of mobile phone usage**

| Higher profits | Percentage |
|---|---|
| Strongly Disagree | 6.6% |
| Disagree | 20.9% |
| Slightly Agree | 33.0% |
| Agree | 22.0% |
| Strongly Agree | 17.6% |

#### 4.5.3.7 Improved overall business performance

The respondents were asked their level of agreement with the statement **"**Overall business performance has improved as a result of mobile phone usage". Majority of the respondents agreed that the overall business performance had improved with 38.5% agreeing. These results are presented in the table 4.10.

**Table 4.10: Improved overall business performance**

| Improved overall business performance | Percentage |
|---|---|
| Strongly Disagree | 3.3% |
| Disagree | 9.9% |
| Slightly Agree | 25.3% |
| Agree | 38.5% |
| Strongly Agree | 23.1% |

#### 4.5.3.8 Challenges Faced in the use of Mobile Phones

The respondents were asked what challenges they faced with the use of mobile phones in business. 26.9% high tariffs and this formed the biggest challenge followed by network issues at 17.9% and theft of mobile phone equipment at 12.8%. Others included exposure to fraud, unreliable customers and system delays. These results are presented in the figure 4.6.

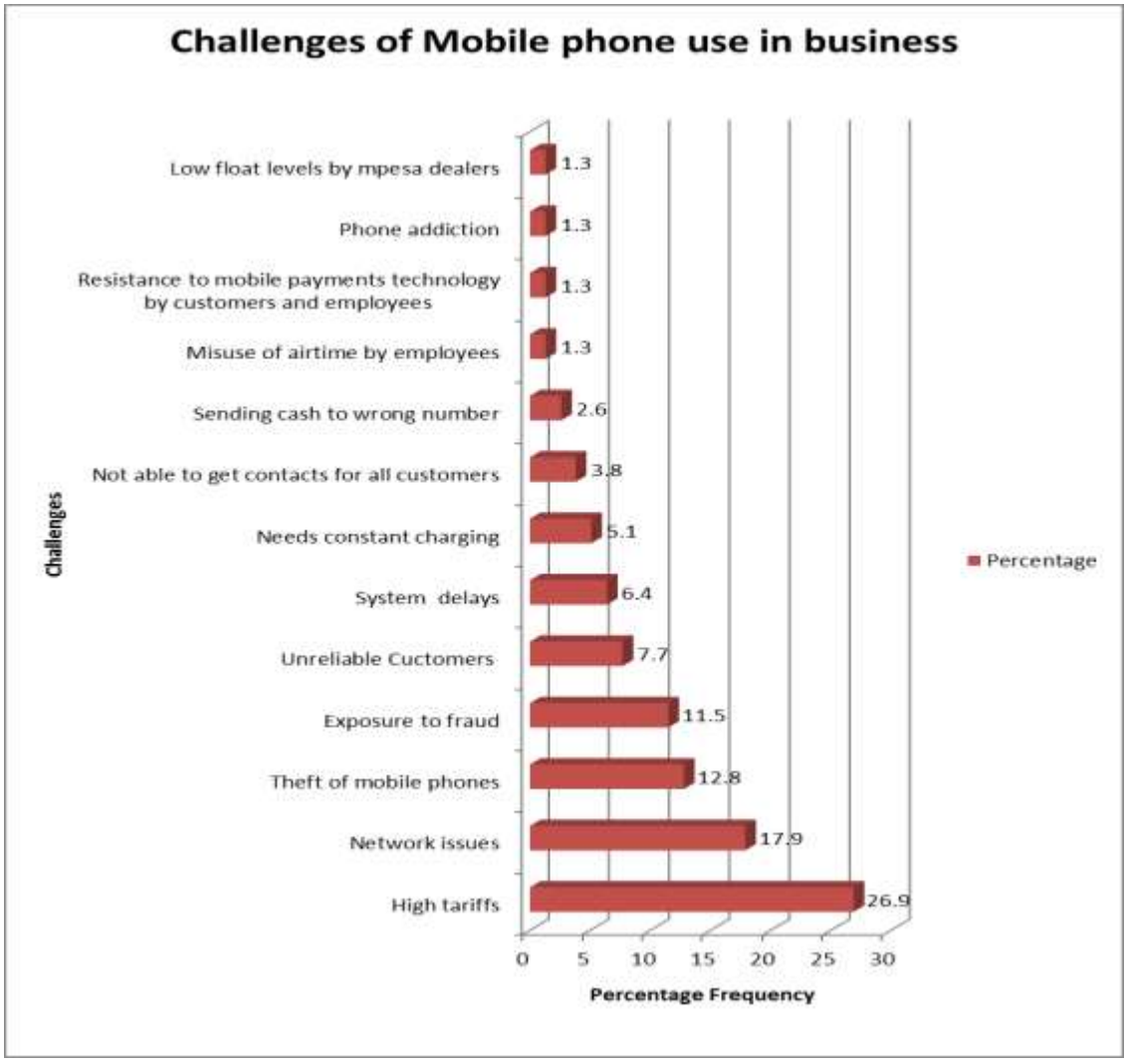


**Figure 4.5: Challenges Faced in the Use of Mobile Phone in Business**

### 4.6 Effect of Computer Usage in Business

The respondents were asked if they owned computers and what purpose it served for their business. They were also asked to rate its effect on business performance and the challenges encountered.

#### 4.6.1 Ownership Level of Computers

Asked if they owned a computer for their business, 27.5% of the respondents said they owned a computer while the majority 72.5% did not own a computer. This indicates that diffusion of computer in the informal sector is very low. The results conforms to the study by Frempong (2005) which revealed that uptake levels of computers, fixed lines and internet was associated more with SMEs in the formal sector. The study also conforms findings by Esslaar *et al* (2007) which revealed that owners of informal SMEs were less educated implying that lack of knowledge of how to use a computer and accounting packages prevents many informal business operators from using them in addition to the financial constraints. These results are presented by figure 4.7.


**Figure 4.6: Computer Ownership in Business**

### 4.6.2 Purpose of Computer in Business

The respondents were asked what purpose the computer served in their business .The findings showed that 88% of the respondents use computer to keep business records; 52% to access internet and 20% for preparing documents for business. This is presented graphically in the figure 4.7. This indicates that majority of the informal entrepreneurs who own computers use them for keeping business records.

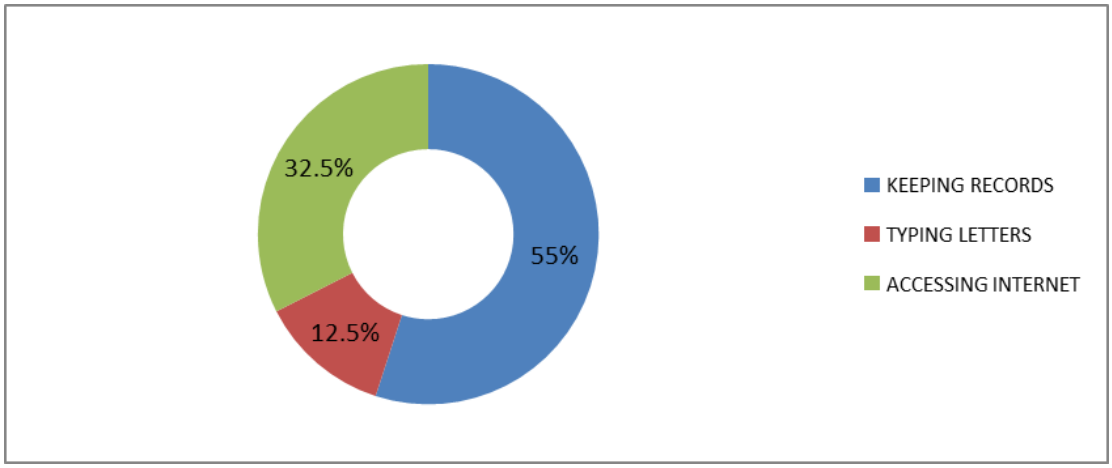


**Figure 4.7: Purpose of Computer in Business**

### 4.6.3 Effects of Computer Usage on Business

The respondents were asked to give their opinion on the effect of computer use in business. An ordinal scale was used to measure their level of agreement with the statements given five point scale. 1 -represented strongly disagree, 2 -disagree, 3-slightly agree, 4 -agree and 5 -strongly agree. The respondents were also asked to highlight the challenges they faced in the use of computer in their businesses. The responses to the each question are analyzed in the subsections that follow.

#### 4.6.3.1 Business information management

The respondents were asked their level of agreement with the statement "I am able to manage the business information better". The results revealed that 56% of the respondents strongly agreed that they were able to manage their business information better. These results are presented in the table 4.11.

**Table 4.11: Able to Manage Business Information Better.**

| Able to manage business information better | Percentage |
|---|---|
| Strongly Disagree | 0% |
| Disagree | 0% |
| Slightly Agree | 12% |
| Agree | 32% |
| Strongly Agree | 56% |

#### 4.6.3.2 Gathering market information

The respondents were asked their level of agreement with the statement "I am able to access internet and gather market information". 56% were in agreement that they were able to access internet and gather market information. These results are presented in table 4.12.

**Table 4.12: Gathering market information**

| Able to surf for market information | Percentage |
|---|---|
| Strongly Disagree | 0% |
| Disagree | 4% |
| Slightly Agree | 12% |
| Agree | 56% |
| Strongly Agree | 28% |

#### 4.6.3.3 Communication to suppliers and customers

The respondents were asked their level of agreement with the statement" I am able to communicate to suppliers and customers via email & social media". Majority of the respondents agreed that they were able to communicate to suppliers and customers via email and social media with 32%. These results are presented in table 4.13.

**Table 4.13: Able to communicate with suppliers and customers via email and social media**

| Communicate via email and social media to suppliers and customers | Percentage |
|---|---|
| Strongly Disagree | 4% |
| Disagree | 16% |
| Slightly Agree | 28% |
| Agree | 32% |
| Strongly Agree | 20% |

#### 4.6.3.4 Improved overall business performance

The respondents were asked for their level of agreement on the statement "Overall business performance has improved as a result of internet usage". Majority of the respondents (44%) strongly agreed that the overall business has improved. These results are presented in the table 4.14.

**Table 4.14: Improved business performance**

| Over all business performance has improved | Percentage |
|---|---|
| Strongly Disagree | 0% |
| Disagree | 12% |
| Slightly Agree | 20% |
| Agree | 24% |
| Strongly Agree | 44% |

#### 4.6.3.5 Challenges of Computer Usage on Business

Asked about the challenges of computer use in business, the top five challenges mentioned were security at 32%; connectivity issues 20.8%; electricity losses/costs 16%; computer literacy 12.5% and Internet charges 8.3%. This information is represented in figure 4.8.

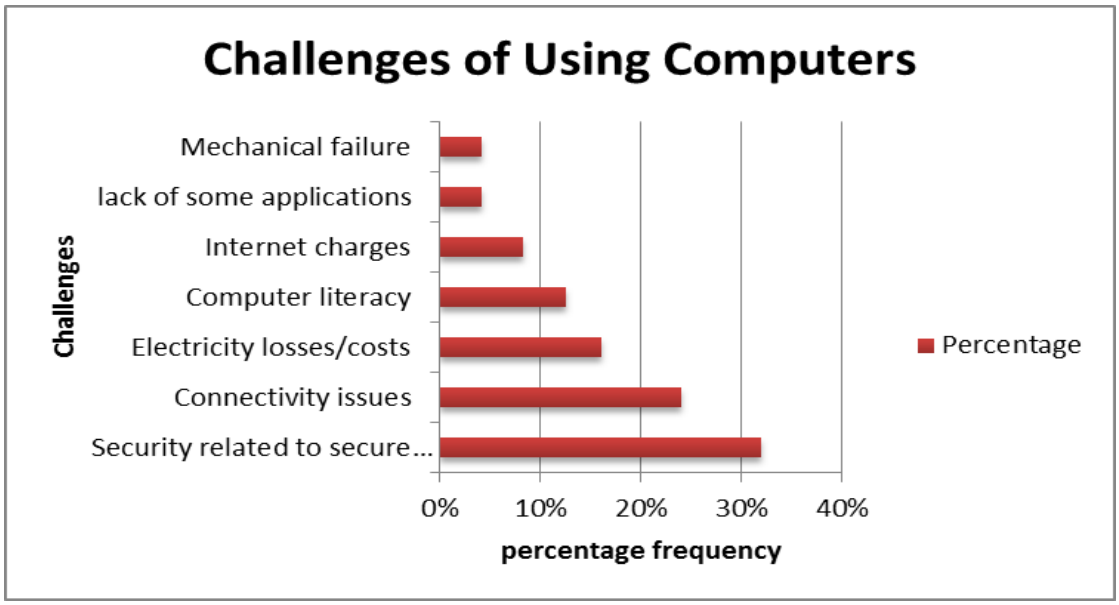


**Figure 4.8: Challenges of Computer Usage on Business**

### 4.7 Effect of Internet Access in Business

The respondents were asked if they had access of internet, the equipment used; purpose it served in business, its effects and challenges.

#### 4.7.1 Access Levels of Internet in Business.

Asked if they have internet connectivity in their business, 59.3% said they had access to internet while 40.7% did not have access to internet. This indicates that the diffusion rate

of internet is high in the informal sector which can be attributed to availability of internet functionality in the mobile phones which enables mobile phone users to access internet. This resonates with the Technology Acceptance Model (Davis 1989) an information systems theory that models how users come to accept and use a technology. The model suggests that when users are presented with a new technology, a number of factors influence their decision about how and when they will use it. Specifically **Perceived ease-of-use** (PEOU) "the degree to which a person believes that using a particular system would be free from effort" .Most mobile phones and especially the smartphones come with preloaded links such as Google, Facebook, Microsoft exchange, internet at the same time the internet settings are also preinstalled making it easy to use. This has resulted to increased subscriptions to mobile internet. This is presented in the table 4.9.

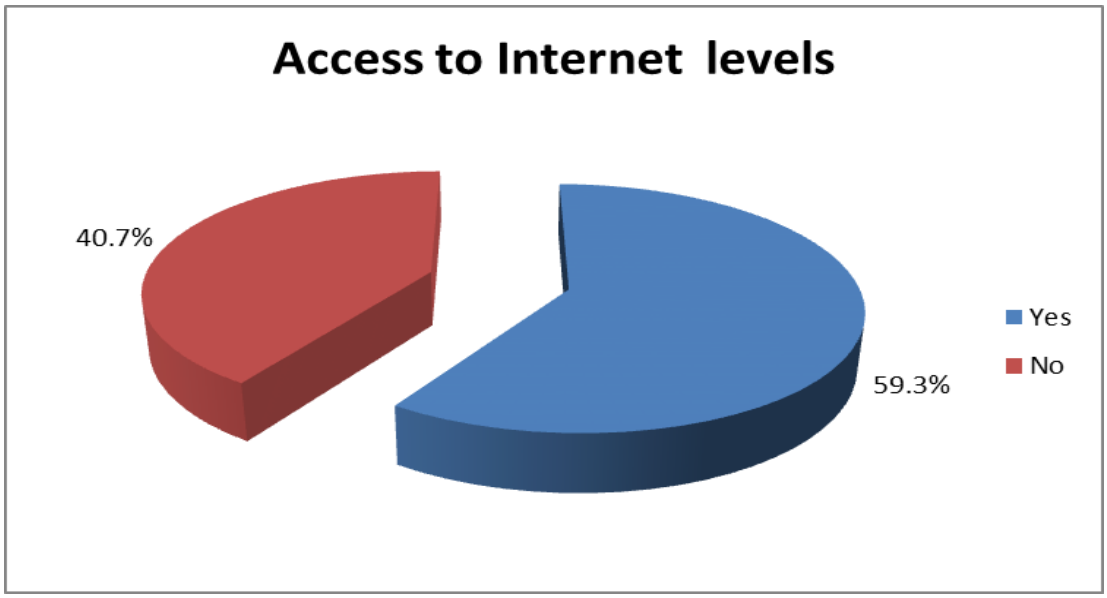


**Figure 4.9: Access Levels of Internet**

### 4.7.2 Equipment Used to Access Internet

Asked what equipment they use to access internet in their business, the findings revealed that 67.7% said they used the mobile phone, 21% the computer while 11.3% accessed

internet from a cyber café. This information is represented in figure 4.10. This indicates that there is high internet diffusion rate in the informal sector. This can be attributed to the internet access functionality on mobile phones which conforms to the TAM theory by Davis (1989) as discussed in sub section 4.6.1.

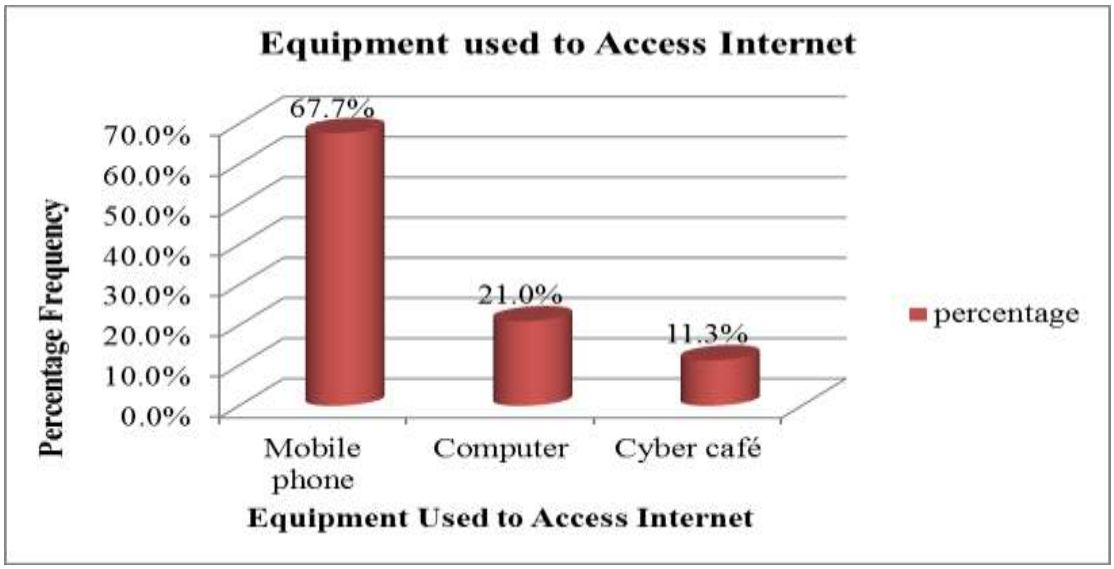


**Figure 4.10: Equipment used to access internet**

### 4.7.3 Purpose of Internet in Business

The respondents were asked what purpose internet served in their business. The results revealed that 40.7% used internet to gather market information, while 36% used internet for contacting suppliers and customers via email and social media platforms. These results are presented in figure 4.11.

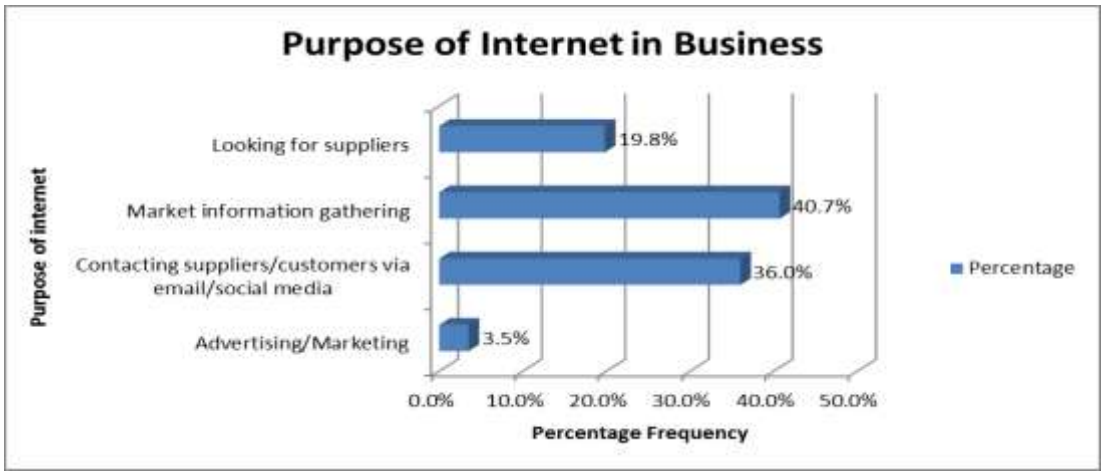


**Figure 4.11: Purpose of Internet in Business**

### 4.7.4 Effects of Internet Usage on Business

The respondents were asked to give their opinion on the effect of internet use in business. An ordinal scale was used to measure their level of agreement with the statements given five point scale. 1 -represented strongly disagree, 2 -disagree, 3-slightly agree, 4 -agree and 5 -strongly agree. The respondents were also asked to highlight the challenges they faced in the use of internet in their businesses. The responses to the each question are analyzed in the subsections that follow.

#### 4.7.4.1 Gathering Market information

The respondents were asked their level of agreement with the statement "I am able to get market information on e.g. prices of commodities, changes in government policy etc." The results revealed that 34.6% strongly believed that they were able to gather market information from the internet. These results are presented in the table 4.15.

**Table 4.15: Ability to Gather Market Information**

| Ability to gather market information | Percentage |
|---|---|
| Strongly Disagree | 5.80% |
| Disagree | 7.70% |
| Slightly Agree | 21.20% |
| Agree | 30.80% |
| Strongly Agree | 34.60% |

### 4.7.4.2 Wider markets

The respondents were asked their level of agreement with the statement "I am able reach more suppliers and customers via internet". The findings revealed that 44.20% of the respondents agreed that they were able to reach more customers and suppliers. This is presented in the table 4.16.

**Table 4.16: Able to Reach Wider Markets**

| Ability to reach more customers and suppliers | Percentage |
|---|---|
| Strongly Disagree | 13.50% |
| Disagree | 15.40% |
| Slightly Agree | 11.50% |
| Agree | 44.20% |
| Strongly Agree | 15.40% |

### 4.7.4.3 Cheaper Means of Communication

The respondents were asked their level of agreement with the statement "It's cheaper to communicate via email and social media". The results revealed that 38.50% agreed that it was cheaper to communicate via email and social media. These results are presented in the table 4.17.

**Table 4.17: Cheaper Means of Communication**

| Cheaper means of communication | Percentage |
|---|---|
| Strongly Disagree | 5.80% |
| Disagree | 17.30% |
| Slightly Agree | 21.20% |
| Agree | 38.50% |
| Strongly Agree | 17.30% |

#### 4.7.4.4 Improved Overall business performance

The respondents were their level of agreement with the statement "Overall business performance has improved as a result of mobile phone usage". The findings revealed that majority of the respondents agreed that overall business had improved as a result of internet usage. These results were presented in table 4.18.

**Table 4.18: Improved Overall Business Performance**

| Overall business performance has improved | Percentage |
|---|---|
| Strongly Disagree | 11.50% |
| Disagree | 15.40% |
| Slightly Agree | 21.40% |
| Agree | 34.60% |
| Strongly Agree | 17.30% |

#### 4.7.4.5 Challenges of Internet Usage on Business

Asked about the challenges of internet usage in business, these results showed that 29.7% complained of unstable internet connection, 21.6% said not all customers use internet, while 16% said the cost of internet usage was high. This information is represented in figure 4.11.

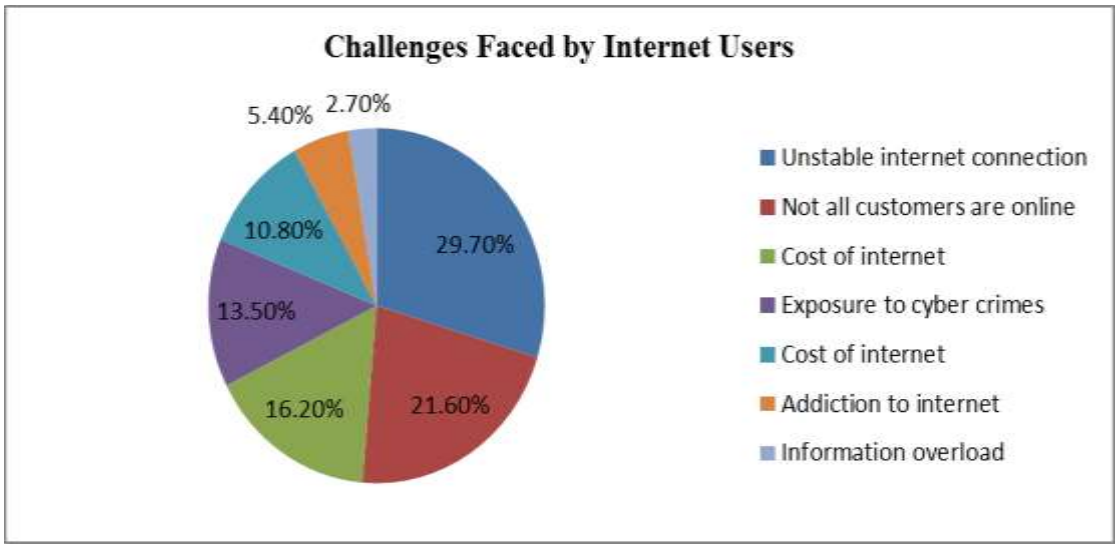


**Figure 4.12: Challenges of Internet Usage on Business**

## 4.8 Effect of Broadcast Media Technology use in Business

The respondents were asked if they owned TV or Radio, the effect it had on their business and the challenges they encountered.

### 4.8.1 Ownership levels of Radio and TV

On broadcast media the respondents were asked if they own a Television set or Radio. 5.5 % said they did not own a television sate or radio while 94.5% said they owned at least one of the two. These findings conform to findings by Okiy & Ogbomo, (2011) in their study in Delta state Nigeria which showed high diffusion rate of the radio and television. The findings are presented in figure 4.12.

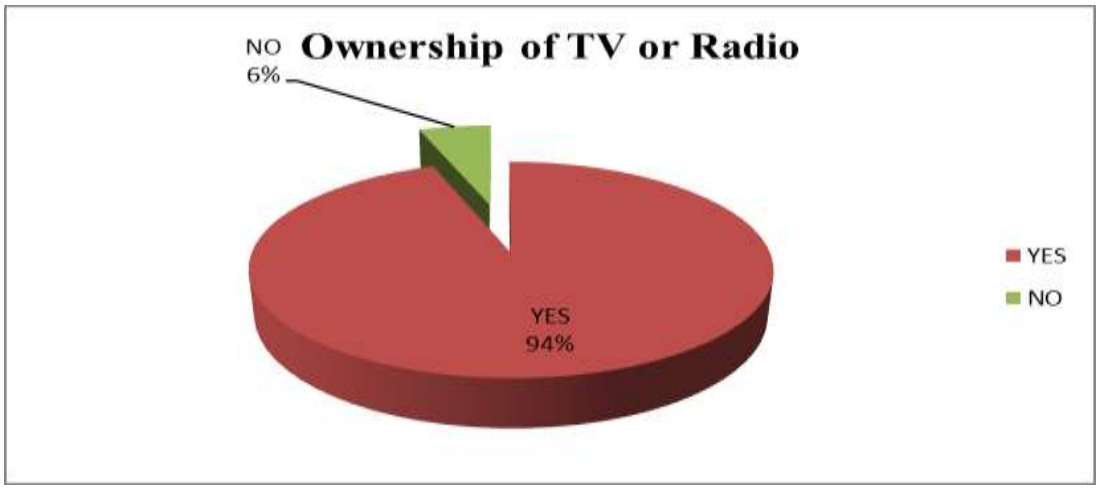


**Figure 4.13: Ownership of TV or Radio**

### 4.8.2 Effects of TV and Radio use in Business

The respondents were asked to give their opinion on the effect of TV or Radio in business. An ordinal scale was used to measure their level of agreement with the statements given five point scale. 1 -represented strongly disagree, 2 -disagree, 3-slightly agree, 4 -agree and 5 -strongly agree. The respondents were also asked to highlight the challenges they faced in the use of TV or Radio in their businesses. The responses to the each question are analyzed in the subsections that follow.

#### 4.8.2.1 Market Information Gathering

The respondents were asked their level of agreement with the statement "I am able to get market information on e.g. prices of commodities, changes in government policy etc." The findings showed that 48.8% agreed that they were able to gather market information. These results are presented in the table 4.19.

**Table 4.19: Market Information Gathering**

| Able to gather market information | Percentage |
|---|---|
| Strongly Disagree | 3.5% |
| Disagree | 7.0% |
| Slightly Agree | 16.3% |
| Agree | 48.8% |
| Strongly Agree | 24.4% |

#### 4.8.2.2 Educative programs on business management

The respondents were asked their level of agreement with the statement "I am able listen/watch educative programs on business management" .The findings revealed that 59.3% of the respondents agreed that they were able to listen to educative programs on business management. These results are presented in table 4.20.

**Table 4.20: Educative Education Programs**

| Able to watch/listen to educative programs on business management | Percentage |
|---|---|
| Strongly Disagree | 0.0% |
| Disagree | 1.2% |
| Slightly Agree | 17.4% |
| Agree | 59.3% |
| Strongly Agree | 22.1% |

#### 4.8.2.3 Current Affairs of the Economy

The respondents were asked their level of agreement with the statement "I am able to get the current affairs of the economy". The findings showed that 58.1% of the respondents agreed that they were able to get current affairs of the economy via TV and Radio. These findings are presented in table 4.21.

**Table 4.21: Ability to get current affairs of the economy**

| Able to get current affairs of the economy | Percentage |
|---|---|
| Strongly Disagree | 1.2% |
| Disagree | 5.8% |
| Slightly Agree | 14.0% |
| Agree | 58.1% |
| Strongly Agree | 21.0% |

#### 4.8.2.4 Improved overall business performance

The respondents were asked for their level of agreement with the statement "Overall business performance has improved as a result of Radio and TV usage". Majority of the respondents slightly agreed that the overall business performance had improved as a result of TV or radio usage. These results are presented in table 4.22.

**Table 4.22: Improved Overall Business Performance**

| Overall business performance has improved | Percentage |
|---|---|
| Strongly Disagree | 1.2% |
| Disagree | 18.6% |
| Slightly Agree | 32.6% |
| Agree | 29.1% |
| Strongly Agree | 18.6% |

#### 4.8.2.5 Challenges of Broadcast Media use in Business

The respondents were asked what challenges they encountered in the use broadcast media in business. Top five challenges cited by the respondents were: lack of time to watch 29.7%; cost of accessing decoder and pay TV after digital migration1 8.9%;

misinformation 17.6%; cost of electricity 6.8% and exposure to pornography 6.8%. This information is represented in figure 4.14.

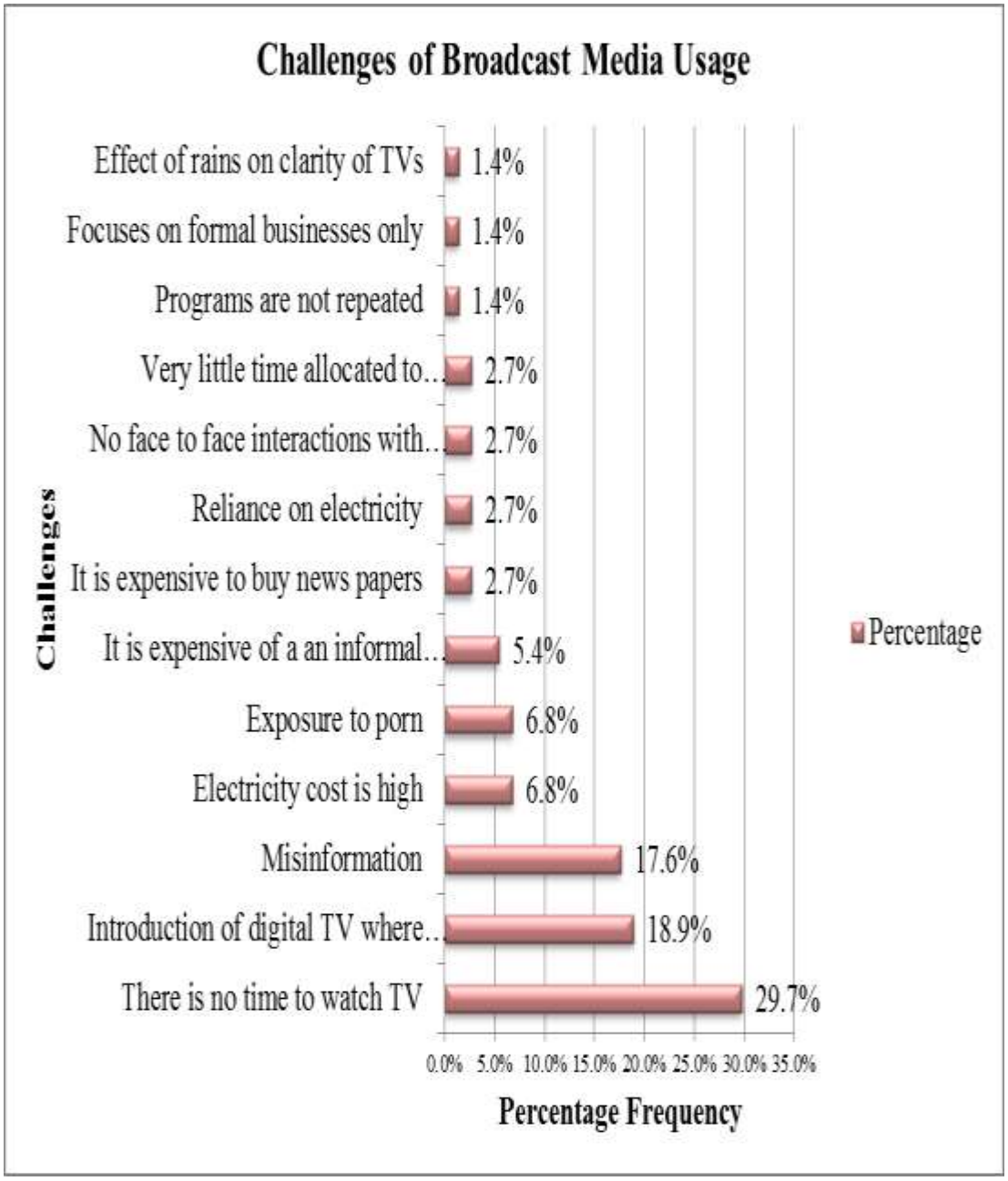


**Figure 4.14: Challenges of Broadcast Media use in Business**

### 4.9 Regression Analysis

In addition, multiple regression analysis was conducted to predict the extent to which use of ICT influences business performance in the informal sector. Regression analysis was done on the each independent variable i.e. Mobile phones, Computers, Internet and Broadcast media and finally another analysis was done on the overall influence of the independent variables on the dependent variable (Business performance).

#### 4.9.1 Effect of Mobile Phone on Business Performance in the Informal Sector

A multiple regression analysis was conducted to predict the extent to which use of Mobile Phones influences business performance in the informal sector. On the use of mobile phone in business the variables looked into include increased sales, reduced operation costs, happier customers, happier employees, banking, higher profits and improved overall business. The R-square was found to be 0.936 meaning that the weighted value of the ICT usage explained approximately 93.6% of the positive change in business growth as shown in table 4.23a.

**Table 4.23a: Model Summary**

| Model | R | R Square | Adjusted R Square | Std. Error |
|---|---|---|---|---|
| 1 | 0.936 | 0.927 | 0.89 | 0.176 |

Analysis of Variance (ANOVA) was used to determine the linear relationship among the variables under investigation. Using this method, the sum of squares, degrees of freedom (df), mean square, value of F (calculated) and its significance level was obtained. The results are shown in Table 4.23b.

**Table 4.23b: Analysis of Variance (ANOVA)**

| Model | Sum of Squares | Df | Mean Square | F-calculated | Sig. |
|---|---|---|---|---|---|
| Regression | 0.1562 | 1 | 0.781 | 2.523 | 0.0512 |
| Residual | 0.0124 | 90 | 0.0317 | | |
| **Total** | **0.1686** | **91** | | | |

Table 4.23b above shows that the significance value is 0.0512 which is higher than 0.05 thus the model is statistically significant in predicting usage of mobile phone in business growth at the 5% significance level. A multiple regression was run to predict business growth from the use of mobile phones specifically in increased sales, reduced operation costs, happier customers, happier employees, banking, higher profits and improved overall business. These variables statistically significantly predicted use of ICT in business growth, $F$ (1, 99) = 2.52, $p$ < .0005, *R2* =. 0.626. All seven variables added statistically significantly to the prediction, $p$ < .05.

The regression model was as follows:

Y = $\beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4$ (significant level 0.05)

Where: Y = Dependent variable (Success of Business)

$\beta_0$= Constant (coefficient of intercept)

$\beta_1$= Beta coefficients

$X_1$= Increased Sales

$X_2$= Reduced operation cost

$X_3$= Happier Customers

$X_4$= Happier Employees

$X_4$= Banking

$X_5$= Higher Profits

$X_6$= Improved overall business performance

**Table 4.23c: Multiple Regression Analysis**

| Model | Unstandardized Coefficients B | Std. Error | Standardized Coefficients Beta | t | Sig. |
|---|---|---|---|---|---|
| (Constant) | 0.899 | 1.376 | | 1.542 | 0.005 |
| Increased sales | 0.746 | 0.186 | 0.045 | 0.005 | 0.002 |
| Reduced operation costs | 0.065 | 0.125 | 0.037 | 0.009 | 0.004 |
| Happier customers | 0.975 | 0.065 | 0.025 | 0.011 | 0.001 |
| Happier employees | 0.057 | 0.015 | 0.031 | 0.014 | 0.003 |
| Banking | 0.384 | 0.025 | 0.015 | 0.016 | 0.002 |
| Higher profits | 0.942 | 0.015 | 0.098 | 0.003 | 0.005 |
| Improved overall business performance | 0.145 | 0.135 | 0.023 | 0.018 | 0.001 |

From the findings represented in Table 4.23c above, it can be seen that the increased sales, reduced operation cost, happier customer, happier employees, banking, higher profits and improved overall business performance are significantly different from zero, since they have a p-value of less than 0.05. This study revealed that the use of mobile phone in business had a high impact on Banking with absolute t-values of t (91) = 0.016, p = 0.0036, happier employees with absolute t-values of t (91) = 0.014, p = 0.0024, happier customers with absolute t-values of t (91) = 0.011, p = 0.0012, increased sales with absolute t-values of t (91) = 0.005, p = 0.0014, higher profits with absolute t-values of t (91) = 0.003, p = 0.0006 and improved overall business performance with absolute t-values of t (91) = 0.018, p = 0.0085.

### 4.9.2 Effect of Computer Use on Business Performance in the Informal Sector

On use of computer the variables looked into were: able to manage business information better, able to surf for market information, communication via email and social media to suppliers and customers and overall business performance has improved. The R-square was found to be 0.534 meaning that the weighted value of the ICT usage explained approximately 53.4% of the positive change in business growth as shown in table 4.24a.

**Table 4.24a: Model Summary**

| Model | R | R Square | Adjusted R Square | Std. Error |
|---|---|---|---|---|
| 1 | 0.534 | 0.351 | 0.129 | 0.1233 |

Analysis of Variance (ANOVA) was used to determine the linear relationship among the variables under investigation. Using this method, the sum of squares, degrees of freedom (df), mean square, value of F (calculated) and its significance level was obtained. The results are shown in Table 4.24b.

**Table 4.24b: Analysis of Variance (ANOVA)**

| Model | Sum of Squares | Df | Mean Square | F-calculated | Sig. |
|---|---|---|---|---|---|
| Regression | 0.117 | 16 | 0.095 | 0.654 | 0.0521 |
| Residual | 0.037 | 75 | 0.005 | | |
| **Total** | **0.154** | **91** | | | |

Table 4.24b above shows that the significance value is 0.0521 which is higher than 0.05 thus the model is statistically significant in predicting usage of mobile phone in business

growth at the 5% significance level. A multiple regression was run to predict business growth from the use computers specifically in management of business information better, able to surf for market information, communication via email and social media to suppliers and customers and overall business performance has improved. These variables statistically significantly predicted use of ICT in business growth, $F$ (16, 75) = 0.65, $p < .0005$, $R^2$ =. 0.063. All four variables added statistically significantly to the prediction, $p < .05$.

The regression model was as follows:

Y = $\beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4$ (significant level 0.05)

Where: Y = Dependent variable (Success of Business)

$\beta_0$= Constant (coefficient of intercept) $\beta_1$= Beta coefficients

$X_1$= Able to manage business information better $X_2$= Able to surf for market information

$X_3$= Communicate via email and social media to suppliers and customers

$X_4$= Improved overall business performance

**Table 4.24c: Multiple Regression Analysis**

| Model | Unstandardized Coefficients B | Std. Error | Standardized Coefficients Beta | t | Sig. |
|---|---|---|---|---|---|
| (Constant) | 0.114 | 0.064 | | 1.177 | 0.008 |
| Able to manage business information better | 0.673 | 0.207 | 0.035 | 0.006 | 0.003 |
| Able to surf for market information | 0.0329 | 0.016 | 0.027 | 0.014 | 0.005 |
| Communicate via email and social media to suppliers and customers | 0.0245 | 0.003 | 0.013 | 0.005 | 0.001 |
| Over all business performance has improved | 0.0131 | 0.017 | 0.002 | 0.006 | 0.003 |

From the findings represented in Table 4.24c above, it can be revealed that the able to manage business information better, able to surf for market information, communication via email and social media to suppliers and customers and overall business performance has improved are significantly different from zero, since there have a p-value of less than 0.05. This study revealed that the use of computers in business had a high impact on ability to surf for market information with absolute t-values of $t$ (91) = 0.014, $p$ = 0.009, followed by ability to manage business information better with absolute t-values of $t$ (91) = 0.006, $p$ = 0.0003, and lastly ability to communicate via email& social media to suppliers & customers with absolute t-values of $t$ (91) = 0.005, $p$ = 0.0006. Their impact on overall business performance had an absolute t-values of $t$ (91) = 0.006, $p$ = 0.0003.

### 4.9.3 Effect of Internet Usage on Business Performance in the Informal Sector

On use of internet the variables looked into included ability to gather market information, reach more customers and suppliers, cheaper means of communication, ability to advertise and improved overall business. The R-square was found to be 0.623 meaning that the weighted value of the ICT usage explained approximately 62.3% of the positive change in business growth as shown in table 4.25a.

**Table 4.25a: Model Summary**

| Model | R | R Square | Adjusted R Square | Std. Error |
|---|---|---|---|---|
| 1 | 0.623 | 0.491 | 0.127 | 0.288 |

Analysis of Variance (ANOVA) was used to determine the linear relationship among the variables under investigation. Using this method, the sum of squares, degrees of freedom (df), mean square, value of F (calculated) and its significance level was obtained. The results are shown in table 4.25b.

**Table 4.25b: Analysis of Variance (ANOVA)**

| Model | Sum of Squares | Df | Mean Square | F-calculated | Sig. |
|---|---|---|---|---|---|
| Regression | 0.105 | 6 | 0.046 | 1.613 | 0.0576 |
| Residual | 0.005 | 85 | 0.067 | | |
| **Total** | **0.11** | **91** | | | |

Table 4.25b above shows that the significance value is 1.613 which is higher than 0.05 thus the model is statistically significant in predicting usage of mobile phone in business growth at the 5% significance level. A multiple regression was run to predict business

growth from the use of internet specifically in ability to gather market information, reach more customers and suppliers, cheaper means of communication, ability to advertise and improved overall business. These variables statistically significantly predicted use of ICT in business growth, $F$ (6, 85) = 1.613, $p < .0005$, $R2$ =. 0.046. All four variables added statistically significantly to the prediction, $p < .05$.

The regression model was as follows:

Y = $\beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4$ (significant level 0.05)

Where: Y = Dependent variable (Success of Business)

$\beta_0$= Constant (coefficient of intercept) $\beta_1$= Beta coefficients

$X_1$= Ability to gather market information

$X_2$= Ability to reach more customers and suppliers

$X_3$= Cheaper means of communication

$X_4$= Improved overall business performance

**Table 4.25c: Multiple Regression Analysis**

| Model | Unstandardized Coefficients B | Std. Error | Standardized Coefficients Beta | t | Sig. |
|---|---|---|---|---|---|
| (Constant) | 0.044 | 0.002 | | 2.062 | 0.015 |
| Ability to gather market information | 0.005 | 0.001 | 0.035 | 0.325 | 0.01 |
| Ability to reach more customers and suppliers | 0.006 | 0.013 | 0.027 | 0.373 | 0.05 |
| Cheaper means of communication | 0.001 | 0.018 | 0.013 | 0.245 | 0.08 |
| Ability to advertise | 0.0001 | 0.007 | 0.002 | 0.176 | 0.004 |
| Overall business performance has improved | 0.007 | 0.003 | 0.002 | 0.133 | 0.009 |

From the findings represented in table 4.25c above, it can be revealed that the ability to gather market information, reach more customers and suppliers, cheaper means of communication, ability to advertise and improved overall business performance are significantly different from zero, since they have a p-value of less than 0.05. This study revealed that the use of internet in business had a high impact on the ability to gather market information with absolute t-values of $t$ (91) = 0.325, $p$ = 0.025, ability to reach more customers and suppliers with absolute t-values of $t$ (91) = 0.373, $p$ = 0.031, cheaper means of communication with absolute t-values of $t$ (91) = 0.245, $p$ = 0.003, ability to advertise with absolute t-values of $t$ (91) = 0.176, $p$ = 0.0018 and improved overall business performance with absolute t-values of $t$ (91) = 0.133, $p$ = 0.0010.

### 4.9.4 Effect of Broadcast Media on business performance in the informal sector

On use broadcast media the variables looked into include Ability to gather market information, watch / listen to educative programs on business management, get current affairs of the economy and improved overall business. The R-square was found to be 0.856 meaning that the weighted value of the ICT usage explained approximately 85.6% of the positive change in business growth as shown in table 4.26a.

**Table 4.26a: Model Summary**

| Model | R | R Square | Adjusted R Square | Std. Error |
|---|---|---|---|---|
| 1 | 0.856 | 0.691 | 0.328 | 0.1877 |

Analysis of Variance (ANOVA) was used to determine the linear relationship among the variables under investigation. Using this method, the sum of squares, degrees of freedom (df), mean square, value of F (calculated) and its significance level was obtained. The results are shown in table 4.26b.

**Table 4.26b: Analysis of Variance (ANOVA)**

| Model | Sum of Squares | Df | Mean Square | F-calculated | Sig. |
|---|---|---|---|---|---|
| Regression | 0.012 | 3 | 0.084 | 2.571 | 0.0657 |
| Residual | 0.087 | 88 | 0.035 | | |
| **Total** | **0.189** | **91** | | | |

Table 4.26b above shows that the significance value is 0.0657 which is higher than 0.05 thus the model is statistically significant in predicting usage of mobile phone in business growth at the 5% significance level. A multiple regression was run to predict business growth from the use of broadcast media specifically in Ability to gather market

information, watch / listen to educative programs on business management, get current affairs of the economy and improved overall business. These variables statistically significantly predicted use of ICT in business growth, $F$ (3, 88) = 2.571, $p$ < .0005, $R2$ =. 0.084. All four variables added statistically significantly to the prediction, $p$ < .05.

The regression model was as follows:

Y = $\beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4$ (significant level 0.05)

Where: Y = Dependent variable (Success of Business)

$\beta_0$= Constant (coefficient of intercept) $\beta_1$= Beta coefficients

$X_1$= Ability to gather market information

$X_2$= Ability to reach more customers and suppliers

$X_3$= Cheaper means of communication

$X_6$= Improved overall business performance

**Table 4.26c: Multiple Regression Analysis**

| Model | Unstandardized Coefficients B | Std. Error | Standardized Coefficients Beta | t | Sig. |
|---|---|---|---|---|---|
| (Constant) | 0.643 | 1.245 | | 1.375 | 0.006 |
| Ability to gather market information | 0.435 | 0.154 | 0.035 | 0.061 | 0.003 |
| Ability to reach more customers and suppliers | 0.072 | 0.032 | 0.073 | 0.013 | 0.002 |
| Cheaper means of communication | 0.091 | 0.084 | 0.064 | 0.007 | 0.003 |
| Overall business performance has improved | 0.074 | 0.019 | 0.062 | 0.003 | 0.004 |

From the findings represented in Table 4.26c above, it can be revealed that the Ability to gather market information, watch / listen to educative programs on business management, get current affairs of the economy and improved overall business are significantly different from zero, since there have a p-value of less than 0.05. This study revealed that the use of broadcast media in business had a high impact on Ability to gather market information with absolute t-values of t (91) = 0.061, p = 0.056, Ability to reach more customers and suppliers with absolute t-values of t (91) = 0.013, p = 0.029, Cheaper means of communication with absolute t-values of t (91) = 0.017, p = 0.0036, and Overall business performance has improved with absolute t-values of t (91) = 0.003, p = 0.026.

### 4.9.5 Overall Effect of ICT services on Business Performance in the informal sector

The variables were Mobile phones, Computers, Internet and Broadcast media. The R-square was found to be 0.769 meaning that the weighted value of the ICT usage explained approximately 76.9% of the positive change in business growth as shown in table 4.27a.

**Table 4.27a: Model Summary**

| Model | R | R Square | Adjusted R Square | Std. Error |
|---|---|---|---|---|
| 1 | .769 | .591 | .227 | .2777 |

Analysis of Variance (ANOVA) was used to determine the linear relationship among the variables under investigation. Using this method, the sum of squares, degrees of freedom (df), mean square, value of F (calculated) and its significance level was obtained. The results are shown in table 4.27b.

**Table 4.27b: Analysis of Variance (ANOVA)**

| Model | Sum of Squares | Df | Mean Square | F-calculated | Sig. |
|---|---|---|---|---|---|
| Regression | 0.112 | 3 | 0.056 | 2.723 | 0.0639 |
| Residual | 0.077 | 88 | .077 | | |
| **Total** | **0.189** | **91** | | | |

Table 4.27b above shows that the significance value is 0.0639 which is higher than 0.05 thus the model is statistically significant in predicting usage of ICT in business growth at the 5% significance level. A multiple regression was run to predict business growth from the use ICT services specifically Mobile phones, Computers, Internet and Broadcast media technology. These variables statistically significantly predicted use of ICT in business growth, $F$ (3, 88) = 2.72, $p$ < .0005, $R^2$ =. 0.769. All four variables added statistically significantly to the prediction, $p$ < .05.

The regression model was as follows:

Y = $\beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4$ (significant level 0.05)

Where: Y = Dependent variable (Success of Business)

$\beta_0$= Constant (coefficient of intercept)

$\beta_1$= Beta coefficients

$X_1$= Use of Mobile phones

$X_2$= Use of Computers

$X_3$= Use of Internet

$X_4$= Use of Broadcast Media Technology

**Table 4.27c: Multiple Regression Analysis**

| Model | Unstandardized Coefficients | | Standardized Coefficients | | |
|---|---|---|---|---|---|
| | **B** | **Std. Error** | **Beta** | **t** | **Sig.** |
| (Constant) | 3.562 | 1.376 | | 15.464 | 0.015 |
| Use of Mobile phones | 0.013 | 0.012 | 0.153 | 3.954 | 0.008 |
| Use of Broadcast Media | 0.899 | 0.176 | 0.067 | 2.062 | 0.005 |
| Use of Internet | 1.142 | 0.045 | 0.366 | 1.773 | 0.008 |
| Use of Computers | 1.042 | 0.015 | 0.254 | 0.142 | 0.0132 |

From the findings represented in table 4.27c above, it can be revealed that the use of Mobile phones, Computer, Internet and Broadcast media technology are significantly different from zero, since there have a p-value of less than 0.05. This study revealed that the highest impact on the success of the business is dependent on use of Mobile phone with absolute t-values of $t$ (91) = 3.954, $p$ = 0.015, use of broadcast media with absolute t-values of $t$ (91) = 2.062, $p$ = 0.009, use of internet absolute t-values of $t$ (91) = 1.773, $p$ = 0.0036, and use of computers with absolute t-values of $t$ (91) = 0.142, $p$ = 0.002.

The above results showed that all the variables play a major role in business growth. The respondents felt that mobile phone usage had the greatest impact followed by broadcast media, internet and lastly the use of computers.

# CHAPTER FIVE

# SUMMARY OF THE FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

## 5.1 Introduction

The chapter provides the summary of the findings of the research presented in chapter four, and it also gives the conclusions and recommendations of the study based on the objectives of the study. The overall objective of this study was to assess the effect of the ICTs on the businesses performance in the informal sector in Kenya, with a specific focus on those in Mlolongo Township. The study focused on the effect of four main ICTs namely: the Mobile phones, the Internet, the Computers and Broadcast Media Technology. The respondents were also asked to highlight any challenges they encountered in the use of these ICTs. These challenges enabled the researcher to identify the policy and regulation issues in the ICT sector.

## 5.2 Summary of the Findings

The findings of this study reported significant ICT usage levels and a positive influence of ICT services on the business performance in the informal sector. Overall effect of ICT services usage is that the business performance in the informal sector has improved as revealed by the findings. This was supported by the regression analysis model where the R-square was found to be 0.769 meaning that the weighted value of the ICT usage explained approximately 76.9% of the positive change in business growth. Precisely mobile phone usage was found to explain 93.6%; computer usage 53.4%; internet usage 62.3% while broadcast media explained 85.6% positive change in business growth.

### 5.3 Diffusion rate of ICTs in the informal sector

The findings from the study showed that ICT diffusion levels in the informal sector were significant with Mobile phones at 100%, Broadcast Media Technology at 94.5%, Internet access at 59.3% and computers at 27.5%. This can be attributed to the ease of access and use of mobile phones and high prevalent rate while low uptake of computers can be attributed to the cost of acquisition and knowledge of usage. The high level of internet usage can be attributed to the affordable smartphones available in the Kenyan market.

### 5.4 Effect of Mobile phone usage in business performance

The findings of the study revealed majority of the respondents agreed that overall business performance had improved and that mobile phone led to increased sales reduced operational costs, happier customers, happier employees and high profits. Mobile Phone which is the most used ICT service enables the businesses to keep in touch with their suppliers, customers. Mobile money services have made it easier to pay for goods and services from a distance and have also enabled banking and loan services at the comfort of the informal entrepreneurs' business premises. For those informal entrepreneurs with employees, the findings revealed that the employees were happier because they were able to consult with their employers in real time by use of mobile phones. Statistically mobile phones explained 93.6% positive change in business growth. This conforms to the study by Kiganane *et al*. (2012) who reported that there was significant increase in sales volume, improved profitability, increased worker productivity that Medium and small enterprises in Thika associated to the use of mobile phone in their operations. Mobile phones were used to inform clients of finished goods, enquires, advertising and promoting new products, placing orders, following up and making payments. The results also collaborates with (Mwaura, 2009) that mobile money transfer service assists the informal sector operators to complete simple financial

transactions they are able to receive payments from customers, pay suppliers, pay employee salaries and bill payments.

### 5.5 Effect of Computer usage in business performance

Though the diffusion rate of Computer usage was low, the findings revealed that computers enable the business owners to keep their records, type letters and access internet. The respondents agreed that they were able to manage the business information better, gather market information and also connect with suppliers and customers via social media and email. It was noted that majority of the respondents strongly agreed that overall business performance had improved as a result of computer usage. Statistically computers explained 53.4% positive change in business growth. These results confirms to the results by Ssewanyana and Busler (2007) in their study on usage of ICT which reported that the employees in administration and the support staff use computers mainly for word processing, while those in finance for accounting and those in production, marketing/sales use them for information processing. The results also collaborates with the study by Han *et al* (2010) which revealed that in microenterprises with computers in Mumbai ,India , the most common uses of the business computers were to email friends and family 66.7 percent; to email customers 58.3 percent; and to track supplies 54.2 percent.

### 5.6 Effect of Internet usage in business performance

The findings revealed that majority of the respondents agreed that internet usage had improved the business performance. The respondents agreed that they were able to gather market information, contact more suppliers and customers (wider markets) via internet; that internet offered a cheaper means of communication; and that they were able to advertise. Statistically internet usage explained 62.3% positive change in business growth. This results collaborates with OCED (2001) who identifies potential effects of the Internet on business as lowering search costs and improving search

effectiveness; speeding and improving communication within firms and with outside parties; facilitating networking with suppliers and other business clients.

### 5.7 Effect of Broadcast media (TV& Radio) on business performance

The findings revealed that majority of the respondents agreed that overall business performance had improved as a result of broadcast media usage. However, the respondents agreed that TV and Radio enable them to gather market information: watch/listen to educative business programs and that they were able to get the current affairs of the economy. This collaborates with reports by Olming and MacFarquhar (2007) who pointed out TV and Radio offer channels through which small enterprises can be provided with information on the services and products available to them as well as general business and market information; they can also provide platforms through which small businesses can exchange ideas, experiences and opinions for improved awareness and feedback mechanism to services and input providers, and policy and legislative issues.

### 5.8 Challenges of using ICT services

The findings also revealed that there were challenges experienced in the use of ICT services. The challenges that were common among the four ICT services were: High tariffs such as the cost of making a call, accessing internet or paying for TV; Connectivity/Network issues such as poor network, slow internet speeds, blurred clarity of TVs during rainy seasons; Service failures like voice, SMS, and mobile money services; Security issues such as exposure to cyber-crime like virus attacks, identity theft, and exposure to pornography.

### 5.9 Conclusion

This researcher's objective was to assess the effect of the ICTs on the businesses performance in the informal sector. The results of this study further showed that usage

of ICT usage had a positive influence on the business performance in the informal sector with mobile phones and broadcast media having a higher impact and computers and internet having less impact. Mobile phones were mainly used for mobile transfer and banking services; contacting suppliers and customers and personal use. Computers were used for keeping records, typing letters and accessing internet. Internet was mainly used for gathering market information, looking for suppliers, contacting customers and suppliers on social media & email and advertising. Broadcast media mainly TV & radio was used to gather marketing information, listening/watching educative business program and getting current affairs of the economy. Majority of the respondents agreed that the four ICTs had helped their overall business performance improve.

The study also revealed that the informal sector experienced challenges in the ICT usage. The common challenges experienced across the four ICTs were High tariffs such as the cost of making a call, accessing internet or paying for TV; Connectivity/Network issues such as poor network, slow internet speeds, blurred clarity of TVs during rainy seasons; Service failures like voice, SMS, and mobile money services; Security issues such as exposure to cyber-crime like virus attacks, identity theft, and exposure to pornography. This leads to the conclusion that to leverage on the gains of ICT usage in business, there is need for ICT regulator's intervention through the review of the ICT policies and regulations to help protect the consumers at the same time enhance the diffusion rates of the ICT services in the informal sector.

### 5.10 Recommendations

The study recommends that there is need for the government through the regulator i.e. communications authority and ICT authority of Kenya and to come up with policies and regulations that favor the informal sector such as preferential tariffs, development of TV and radio programs that offer education on business management; roll out of digital centers and ICT schools offering computer classes at a small fee.

The study also recommends that the regulator needs to strictly monitor of the quality of network and services offered by the ICT operators. The findings of the study showed that security issues such as loss of mobile phones, impersonation, cybercrimes such as virus attacks, identity fraud, exposure to pornography were a major concern by the ICT users in the informal sector, the regulator needs to drive consumer education programs both from the ICT operator level and regulator level to help users learn about information security. To improve the diffusion rate of computers and internet, the regulator needs to come up with initiatives to lower the costs of ICT equipment and data tariffs. The government of Machakos county need to partner with ICT providers to come up with SMS based solutions that can serve the need of the informal sector like SMS based license payments. The non –governmental organizations can partner with the county government to sponsor ICT schools.

The research focused on the effect of ICT usage on business performance in the informal sector in Mlolongo Township. Similar studies can be done in other towns. The researcher also recommends that further study on the awareness levels of cyber security amongst the ICT users in the informal sector be carried out. Further study can also be done on the challenges of ICT usage in the informal sector.

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# APPENDICES

## APPENDIX I: QUESTIONNAIRE

This questionnaire is designed to collect information from the informal enterprises in Mlolongo town with an aim of establishing the effect of the usage of ICT services on business performance.

Please answer all the questions. The information will be treated with confidence.

### SECTION A: DEMOGRAPHIC DATA

**Personal Information:**

Name ……. Optional

Gender?

Male ☐ Female ☐

Age bracket?

Over 45 years ☐ 40 and 45 years ☐ 35 and 39 years ☐

30 and 34 years ☐ below 30 years ☐

Which is the highest education level you have attained?

Primary level ☐Secondary Level ☐ Diploma Level ☐

Bachelor Degree Level ☐ Masters Level ☐

**Information about the Enterprise:**

Name of the business (Optional) ……

Nature of the business?

General Shop ☐

Salon & Barber shop☐

Hotel, Bar & Wines & spirit☐

Boutique, Cosmetic shops and Tailoring☐

Electronics, Auto Spares & Services☐

Hardware, Workshop, Welding☐

Butchery☐

Second Hand clothes, Mali Mali, Accessories ☐

Gas Vendor☐

cyber café☐

Others ----------

How old is your business?

Less than 1yr ☐ 1-3yr ☐ Less than 5yrs ☐ Over 5yrs ☐

How many of Workers have you employed?

None ☐ Less than 5 ☐ More than 5☐

Which is the lowest education level your workers have attained?

Primary level ☐ Secondary Level ☐ Diploma Level ☐

Bachelor Degree Level ☐ Masters Level ☐

**SECTION B: EFFECT OF MOBILE PHONES USAGE.**

To understand the effect of mobile phones usage on the business performance of the informal sector enterprises. Please answer all the questions.

Do you own a mobile phone? YES ☐ NO☐

How many? One☐ More than one ☐

For what purpose does a mobile phone serve in your business?

Contacting customers ☐Contacting suppliers ☐ Financial services (send and receive cash) ☐ Personal use ☐ others…….

Please indicate the level of agreement with the following statements.

(Where 1=Strongly Disagree, 2=Disagree, 3=Slightly Agree 4=Agree; 5=Strongly Agree)

| | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| Sales have increased as a result of mobile phone usage because we are able to reach wider markets | | | | | |
| Operation costs have reduced | | | | | |
| Customers are happier in that we are able to give them updates/ after sale service | | | | | |
| Employees are happier as they can consult over the phone | | | | | |
| I am able to bank my sales using Mobile money service and M-banking | | | | | |
| The profits are higher with mobile phones usage | | | | | |
| Overall business performance has improved as a result of mobile phone usage | | | | | |

What challenges have you faced in the use of Mobile phones?

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**SECTION C: EFFECT OF COMPUTER USAGE**

To understand the effect computer usage on the business performance of the informal sector enterprises.

Please answer all the questions.

Do you own a computer? YES ☐ NO☐

For what purpose does it serve in your business?

Keeping records ☐

Typing letters ☐

Connecting to internet ☐

Others……..

Please indicate the level of agreement with the following statements.

(Where 1=Strongly Disagree, 2=Disagree, 3=Slightly Agree 4=Agree; 5=Strongly Agree)

| | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| I am able to manage the business information better | | | | | |
| I am able to access internet and surf for market information | | | | | |
| I am able to communicate to suppliers and customers via email & social media. | | | | | |
| Overall business performance has improved as a result of computer usage | | | | | |

What challenges have you faced in the use of computers ?

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**SECTION D: EFFECT OF INTERNET USAGE**

To understand the effect of internet usage on the business performance of the informal sector enterprises.

Please answer all the questions.

Do you access internet? YES ☐ NO☐

If yes what equipment do you use to access internet?

Mobile phone ☐ Computer & Modem ☐ Cyber café ☐ other ----------

For what purpose does internet usage serve in your business?

Advertising/marketing ☐ Contacting customers via email/social media

☐ Information gathering ☐ Looking for suppliers ☐

Others……

……

……

……..

Please indicate the level of agreement with the following statements.

(Where 1=Strongly Disagree, 2=Disagree, 3=Slightly Agree 4=Agree; 5=Strongly Agree)

| | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| I am able to gather market information e.g. prices, new ways of doing business etc | | | | | |
| I am able reach more suppliers and customers via internet | | | | | |
| It's cheaper to communicate via email and social media | | | | | |
| I am able to advertise my business through the internet eg. Social media. | | | | | |
| Overall business performance has improved as a result of internet usage | | | | | |

What challenges have you faced in the use of internet

.....

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**SECTION E: EFFECT OF BROADCAST MEDIA USAGE**

To understand the effect broad cast media technology on business performance of the informal enterprises.

Please answer all the questions.

Do you have access TV, Radio, Newspapers?

YES ☐ NO ☐

How often?

Daily ☐

Weekly ☐

Monthly ☐

Please indicate the level of agreement with the following statements.

(Where 1=Strongly Disagree, 2=Disagree, 3=Slightly Agree 4=Agree; 5=Strongly Agree)

| | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| I am able to get market information on e.g. prices of commodities, changes in government policy. etc | | | | | |
| I am able listen/watch to educative programs on business management | | | | | |
| I am able to get the current affairs of the economy. | | | | | |
| Overall business performance has improved as a result of Radio and TV usage | | | | | |

What challenges have you faced in the use of broadcast Media?

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## Appendix II: Businesses Registered in 2014 MAVOKO SUBCOUNTY

| | Athi River | Githunguri | Joska | K.M.C | Kinanie | Kyumbi | Mavoko (Unspecified) | Mlolongo | Mobile | Syokimau | Grand Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Shop | 138 | 39 | 36 | 36 | 40 | 61 | 72 | 310 | 2 | 62 | |
| Mobile Cash Transfer | 66 | 14 | 8 | 18 | 6 | 14 | 32 | 218 | | 29 | |
| Salon | 31 | 13 | 12 | 4 | 2 | 5 | 22 | 90 | | 17 | |
| Hotel | 32 | 6 | 8 | 6 | 12 | 9 | 24 | 71 | | 12 | |
| Boutique | 18 | 6 | 9 | 6 | 2 | 3 | 12 | 51 | | 11 | |
| Bar | 20 | 4 | 3 | 7 | 3 | 10 | 8 | 53 | | 6 | |
| Hardware | 11 | 17 | 9 | 1 | 5 | 9 | 5 | 34 | | 20 | |
| Professional Services | 19 | | 1 | 3 | | 1 | 15 | 54 | | 7 | |
| Barber shop | 18 | 5 | 3 | 4 | 2 | 2 | 16 | 38 | | 11 | |
| Butchery | 13 | 8 | 5 | 5 | 4 | 4 | 11 | 33 | | 14 | |
| Second Hand clothes | 16 | 10 | 3 | 4 | 4 | 1 | 11 | 31 | | 6 | |
| Tailoring | 14 | 8 | 6 | 5 | 1 | 4 | 8 | 29 | | 4 | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Cosmetics Shop | 6 | 6 | | 4 | 3 | 5 | 11 | 28 | 2 | 5 | |
| Electronics | 13 | 8 | 3 | 5 | | 2 | 5 | 23 | | 6 | |
| Workshop | 15 | 2 | | 3 | 2 | 2 | 4 | 25 | | 9 | |
| Bank Agencies | 14 | 4 | 1 | 2 | 1 | | 6 | 30 | | 2 | |
| Auto Spares & Services | 6 | 4 | | 2 | 2 | 3 | 6 | 25 | 3 | 3 | |
| Gas Vendor | 5 | 5 | | 2 | 3 | | 4 | 30 | | 5 | |
| School | 9 | 4 | 3 | 2 | 4 | 3 | 9 | 7 | | 10 | |
| Wines & Spirits | 11 | | | 2 | 1 | 3 | 9 | 22 | 1 | 1 | |
| Distributor | 9 | | | | | | 7 | 16 | 16 | | |
| Mali Mali | 9 | 3 | | | 3 | 2 | 6 | 22 | 1 | 1 | |
| Manufacturing | 14 | 1 | 1 | | | 1 | 8 | 18 | 1 | 1 | |
| cyber café | 4 | 1 | | 1 | 3 | 1 | 2 | 30 | | 1 | |
| Grocery | 5 | 3 | 1 | 1 | | 7 | 3 | 17 | | 3 | |
| pool table | 3 | | | 1 | 1 | 2 | 3 | 27 | | 2 | |
| Car Wash | 8 | | 1 | 1 | | | 3 | 21 | | 4 | |
| Welding | 4 | 2 | | | | 4 | 5 | 12 | | 9 | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Accessories | 7 | | 1 | | | | 2 | 22 | | 1 | |
| Milk Bar | 6 | 1 | | | 1 | 2 | 1 | 19 | | 2 | |
| Chemist | 1 | | | | 2 | | 2 | 25 | | 1 | |
| Construction Services | 8 | | | | | | 2 | 15 | | 3 | |
| Agrovet | 2 | 5 | 1 | | 1 | 2 | 4 | 2 | 1 | 4 | |
| Movie Shop | 4 | 1 | | 1 | | | 2 | 9 | | 5 | |
| Video Shop | 3 | 2 | | 1 | 2 | | 4 | 6 | | 2 | |
| Bookshop | 6 | 2 | | | | | 1 | 8 | | 2 | |
| Fuel Pump | 3 | 2 | 1 | 3 | 1 | | 4 | 4 | | | |
| Video Show | 6 | 1 | | 1 | | 2 | 2 | 6 | | | |
| Real Estate Agent | 1 | 1 | | | | | 1 | 15 | | | |
| Posho Mill | 7 | 2 | 2 | | | | | 4 | | | |
| Water Vendor | 3 | 1 | 1 | 1 | | | 1 | 5 | 1 | 1 | |
| Exhauster | 3 | 1 | | | | | 5 | | 4 | | |
| Guest House | 2 | | | | | 2 | 1 | 8 | | | |
| Cereal Shop | 1 | 5 | | | | | 3 | 3 | | | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Garbage Collection | 2 | 1 | | | | | 6 | 1 | 1 | 1 | |
| Cycle Repair | 2 | 1 | | 1 | | | 1 | 4 | | 2 | |
| Farm Produce | 7 | | | | | | | 2 | | | |
| Baby Care | 4 | | | | | | 2 | 1 | | 1 | |
| Bakery | | | | | | | 1 | 2 | 5 | | |
| College | 2 | | | | 1 | | | 5 | | | |
| Photo Studio | 2 | 2 | | | | 1 | | 3 | | | |
| Crane Services | | | | | | | 1 | 4 | 1 | 1 | |
| Scrap Metal | 3 | | | | | | 1 | 3 | | | |
| Warehousing | 2 | 1 | | | | | | 4 | | | |
| Supermarket | 1 | 1 | | | 1 | 1 | 1 | | | 1 | |
| Wholesale Shop | 1 | | 1 | | 1 | 1 | | 1 | | 1 | |
| Funfair | 2 | | | 1 | | | | 2 | | | |
| Medical Clinics | | | | | | | 1 | 4 | | | |
| Agency | | | | | | | | 2 | | 2 | |
| Mining | 1 | | | | 1 | | 2 | | | | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Shoe Repair | 2 | | | | | 1 | | 1 | | | |
| Unspecified | 1 | | | | | | 1 | 1 | | 1 | |
| Car Bazaar | 1 | | | | | | 1 | 1 | | | |
| Gym | | | 1 | | | | | | | 2 | |
| Laundry Services | | | | | | | | 3 | | | |
| PSV Sacco | | | | | | 2 | 1 | | | | |
| Transportation Services | | 1 | | | | | 1 | | | 1 | |
| Car Hire | | | | | | | | 2 | | | |
| Financial Services Providers | 1 | | | | | | | | | 1 | |
| Insurance Agencies | | | | | | 1 | | 1 | | | |
| Hospital | 1 | | | | | | | | | | |
| Show Room | | | | | | | | 1 | | | |
| **Total** | **629** | **204** | **121** | **134** | **115** | **173** | **382** | **1542** | **39** | **296** | **3** |

The table above represents businesses registered in Mavoko Sub County trough single business permit in the year 2014(January up to date), A total of 3,635 businesses were captured.