

FACTORS THAT INFLUENCE ADOPTION AND FREQUENCY OF USE OF E-COMMERCE BY MICRO AND SMALL ENTERPRISES (MSEs) IN KISUMU, KENYA

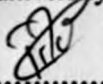
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A Management Research Project submitted in partial fulfilment for the requirements of the award of the Degree of Master of Business Administration, Department of Business Administration, School of Business, University of Nairobi.

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DECLARATION

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


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Date 8th November 2011

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This research project has been submitted for examination with my approval as the University Supervisor

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DEDICATION

This study is dedicated to my loving father and mother for their love, support, encouragement and prayer which saw me through the entire course.

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God bless you all.

ABSTRACT

The objectives of this study were to find out the factors that influence the adoption of e-commerce and frequency of use of e-commerce in Kisumu, Kenya.

The study revealed that the variable knowledge of benefits derived from e-commerce and infrastructure would enable businesses to actively pursue e-commerce. Cost of e-commerce implementation within the business and technical skills and IT knowledge amongst owners and employees would additionally encourage businesses in venturing into e-commerce.

The research design appropriate for this study was a survey. A sample of one hundred and fourteen Micro and Small Enterprises based in Kisumu town were used for the study and data collected majorly from owner-managers. The respondents were selected from the Local Municipal Council of Kisumu town 2010 records and the survey ensured that information gathering was comprehensive. The data was coded by using SPSS. Descriptive statistics was used mainly to summarize the data whilst frequency tables used to analyse the general information and e-commerce application data.

The research recommended that workshops should be conducted for MSE's owners and employees should be educated on the importance of and benefits of e-commerce in business. The knowledge by the owners and employees on the benefits of IT tools would drive the increased and sustainable adoption of e-commerce in the MSE sector in the country. Accordingly, there is need for further studies to be done to investigate easy and sustainable approaches that can be employed to educate owners and employees of MSEs on the benefits of e-commerce tools in business. This kind of a study would build on the existing body of knowledge and give greater insights on how e-commerce can be adopted faster and easily for greater growth of the MSE sector in Kenya.

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CHAPTER ONE: INTRODUCTION

1.1. Background of the Study

The advent of Internet has delivered a window of latent opportunities for small firms and/or entrepreneurs to creatively engage in new value creating activities. Internet is increasingly widely accepted that it is important for business to embrace e-commerce and to adopt Internet technologies. Electronic commerce (e-commerce) technologies include searching for products, services and information, advertising and the buying, selling and paying for products and/or services through the internet.

E-commerce is a powerful way of conducting business and one that presents many opportunities for companies and consumers. Yet despite the advantages that its technologies and practices offer, it has not been adopted as anticipated and has not reached its full potential. With the advent of Internet technology and its rapid growth during the last few years, electronic commerce has become an increasing reality. While e-commerce still constitutes a small part of many countries' economies, it is seen by many as an opportunity to reduce cost and improve productivity. This is true as many economies are transferring themselves into knowledge based economies, where information and innovation are competitive instruments (Chan and Al-Hawamdeh, 2002).

Chan and Al-Hawamdeh (2002), also found that the Web and the Internet make tremendous impacts on society particularly its effect on the way companies conduct their business activities. In the knowledge-based economy, many organizations are forced to re-think their business strategies and move away from the traditional approach of organizing and measuring their economic activities.

They are forced to adopt new and more innovative ways of maximizing the use of information technology and the Internet in their business activities. Improving productivity, reducing cost and enhancing customer support are some of the key competitive factors in any successful enterprise. Geographical locations and size of operations are no longer important factors, as small companies are now able to sell their products on the Internet and penetrate new markets in a very short time.

1.1.1. Adoption of E-Commerce

Adoption of e-commerce refers to the use of internet technology in business operations. Although small businesses may not have the money and expertise to build a sophisticated web presence, the adoption of e-commerce is important for their ongoing survival. E-commerce improves the ability of small businesses to compete with larger organizations, enables the small business to operate on an international scale and e-commerce provide a cost-effective way for small organizations to market their business, launch new products, improve communications, gather information and identify potential business partners.

Internet use amongst MSEs (Micro and Small Enterprises) may take many forms, from simply using the web to purchase supplies to developing a website to sell products and services (Martin and Maggi, 2005). According to CURDS (2000) as cited by Matlay and Addis (2003), a hierarchy of levels of e-commerce employment could be helpful for analyzing the uptake of e-commerce in MSEs. According to Matlay and Addis (2003) it is useful to differentiate between distinct e-commerce activities, such as Exchanging – swapping information between and amongst customers, partners or suppliers; Publicizing – advertising and marketing goods and/or services is made by traditional means; Transacting – as in ‘interacting’ but payment takes place online. Integrating – sales and purchases are fully integrated into one, online operation.

The distinctions in the hierarchy of levels in e-commerce uptake are particularly important for the small business sector. Unfortunately, according to Vibert and Vibert (2001), it is not well understood how MSEs can improve their performance with the use of Internet and associated technologies. However, as a successful company grows rapidly, it will become increasingly aware of the need to improve and extend its performance. MSEs' adoption of ICT (Information Communication Technology) does develop, and these changes are made as the strategic focus of the business changes.

Implementation of Internet technologies in small businesses has been slow. Many small businesses resist using Internet technologies and instead continue to use printed materials to market themselves and use more traditional means to search for information and communicate with others. It would be more difficult for a small

business owner/manager to envisage the benefits associated with using Internet technologies without being fair with the Internet and World Wide Web (WWW).

Small business owners/managers are unlikely to adopt sophisticated Internet technologies if they are not familiar with more basic ones. Once a small business has adopted use of the Internet on the adoption of entry-level, they can get familiar and comfortable with the Internet and in time, move on to the adoption of more sophisticated Internet technologies like e-commerce. Entry-level technologies can provide tangible benefits to small business users. Despite the commonly accepted advantages of Internet, there is lack of any established criteria for measuring the use of internet-based e-commerce.

1.1.2. Micro and Small Enterprises (MSEs) in Kisumu

In Kenya, "micro-enterprises" are those with 10 or fewer workers, while "small enterprises" have from 11 to 50 workers. Censuses indicate that micro-enterprises comprise the lion's share of enterprises in Kenya, while there are a few medium enterprises. The number of employees engaged by the enterprises is the more commonly used unit of measurement of the size of a business than the turnover, the degree of formality or legitimacy of the enterprise; capital investment; and degree of skills per worker. The 1999 National Micro and Small Enterprise Baseline Survey also defined MSEs as enterprises employing 1- 50 workers (Republic of Kenya Sessional Paper No.2, 2005).

MSEs are said to face a "liability of smallness." Because of their size and resource limitations, they are unable to develop new technologies or to make vital changes in existing ones. Still, there is evidence that MSEs have the potential to initiate minor technological innovations to suit their circumstances (Jeffcoate et al. 2002).

Van Akkeren and Cavaye (1999) found that for MSEs to fully develop and use this potential, they need specific policy measures to ensure that technology services and infrastructure are provided. Further, research and development institutions that are publicly funded should be encouraged to target the technology needs of MSEs. Previous studies have indicated that significant benefits are achieved by those MSEs that adopt and use e-commerce in their organisations. However, such benefits have not been hugely realised in MSEs in developing economies like Kenya owing to the

slow adoption of e-commerce. Consequently, this paper sought to establish the positive relationship that exists between costs of e-commerce implementation, Information Technology (IT) skills and training, with e-commerce adoption by MSEs.

1.2. Statement of the Problem

Realizing that digital technology has become a key factor of economic growth, e-commerce has become one of the key interests for businesses. It is noted e-commerce use in SME is still at its infancy despite the benefits indicated by different studies. This is because there has been an explosion on technology in the recent past and business realise that they stand to gain a lot if they maximised the use of ICT tools. E-commerce is therefore important to business in that the ICT tools will assist the MSEs to improve their productivity as this provides an avenue in which business can market their businesses, launch new products, improve communication and gather information. This study therefore sought to build on the knowledge on rate of adoption and frequency of use of e-commerce amongst MSEs.

Micro and Small Enterprises in Kisumu have over the years increased in numbers and incidentally some firms have adopted the use of e-commerce in running their business and it is still not quite clear why others have not adopted or are yet to adopt the same. Thus this study will try to explore and find out what challenges face MSEs' adoption of e-commerce in Kisumu town. The MSE operations cut across almost all sectors of the economy, and sustain a high percentage of households in Kenya. The MSEs also contribute to long-run industrial growth by producing an increasing number of firms that grow up and out of the small sector and in turn contribute immensely to the growth of the GDB of the country. It has been observed that MSEs' activities form a breeding ground for businesses and employees, and provide one of the most prolific sources of employment. This study therefore unearthed some of the factors influencing adoption of e-commerce and consequently would be useful for the government and academicians in coming up with strategic policies and procedures.

A number of studies have been done on various aspects of e-commerce in Kenya. Wangechi (2006) conducted a study on ICT use in Kenya amongst MSMES in Kenya. The research was a case study of firms in Nairobi and found out that there was a correlation between costs of commerce, technical skills and IT knowledge and the adoption of e-commerce. Onyango (2008) investigated the role of Kenyan media in

influencing the adoption of electronic commerce among businesses in Nairobi. E-commerce is increasingly becoming an important tool for businesses to gain a competitive advantage especially in reaching customers across the globe. This therefore creates a knowledge gap worth looking into and the study will attempt to unearth other underlying factors that influence adoption of e-commerce.

1.3. Objectives of the study

The objectives of the study were as follows:

- (i) To determine the factors that influence adoption of e-commerce by MSEs in Kisumu, Kenya.
- (ii) To determine frequency of use of e-commerce by MSEs in Kisumu, Kenya

1.4. Importance of the Study

The growth of MSEs in Kenya is increasing and the Government could use the study to create favorable policies to ensure that the growth of the MSEs Sector and increased use of technology. By identifying the major facilitators and inhibitors, this study may help government and industry bodies to provide appropriate information and support and thus enhance e-commerce technology adoption by small business.

The study can be a reference point for stakeholders in the technology industry. The study would guide them on the factors that influence technology adoption and will help the stakeholders understand what measures and strategies they need to adopt to ensure that MSEs will be able to easily use the technology presented to them. Further to this they would be able to customize the technology to suit the demand of Kenyan MSEs.

The study can be of importance to the owners-managers of MSEs in Kenya, as it would help them understand the factors that influence the adoption of electronic commerce and how they can overcome the barriers. It can also guide them in the strategies they should adopt in relation to technology based on the trends in the industry. This is also useful to other researchers who are interested in MSEs and adoption of Internet technologies, scholars and the general public.

CHAPTER TWO: LITERATURE REVIEW

2.1. Introduction

Kenya has a developing economy, agriculture being the chief economic activity. Most of the people in Kenya work in the agricultural sector. Some practice subsistence farming, while a very small number practice large-scale farming. For those who practice large-scale farming. For those who practice small scale farming, their source of income is mainly from the sale of the farm produce. Some are in small businesses like selling of agricultural goods in market places while others trade in livestock and selling of milk. There are all sorts of small businesses related to Agricultural sector.

2.2. E-Commerce

Simpson and Docherty (2004) notes that Electronic commerce is the paperless exchange of business information using electronic data interchange (EDI), e-mail, electronic bulletin boards, fax transmissions, and electronic funds transfer. E-commerce involves the buying and selling of products and services by businesses and consumers through an electronic medium. E-commerce is widely considered the buying and selling of products over the internet. The Internet has created a new economic ecosystem, the e-commerce marketplace, and it has become the virtual main street of the world. It provides a quick and convenient way of exchanging goods and services both regionally and globally; e-commerce has boomed.

E-commerce has evolved over the years and will continue to shift and change the future. The term 'electronic commerce' was coined in the early 1990s when Internet became commercialized and users began flocking to participate in the World Wide Web (WWW). E-commerce applications were then rapidly expanded. This means taking things that your company is already doing in person, through the mail, or over the telephone, and doing those things in a new place i.e. on the Internet (Dawn et al., 2002). Turban et al (2006) found out that although e-commerce is still a relatively new term within the society, it actually has been around for several decades.

The first e-commerce application, Electronic Funds Transfer (EFT), was developed in the early 1970s to allow funds to be routed electronically between financial institutions (Johnston, 1998). As an extension to EFT, Automatic Teller Machine

(ATM) was introduced in the early 1980s, to enable financial transactions to be carried out over a computer network (Barnes and Hunt 2001). Then Electronic Data Interchange (EDI) was developed later in 1980s to enable a wider application of e-commerce across industries. It allows structured business documents to be exchanged electronically between different computer systems without human intervention (Johnston 1998). In 1990s, the Internet was commercialized and the term e-commerce was introduced. With the availability of the Internet and the popularity of the World Wide Web to access the Internet, e-commerce has grown significantly in the last few years.

Kula and Tatoglu (2003) noted that the concept of e-commerce is all about using the Internet to do business better and faster. It is about giving customers controlled access to your computer systems and letting people serve themselves. It is about committing your company to a serious online effort and integrating your Web site with the heart of your business. The Internet's role in business can be compared to that of the telephone. It is a way for people to communicate with each other. It is also a way for a consumer to communicate with a company's computer systems without human intervention. In fact, the Internet is a communication medium like the many others we use in business every day. The opportunities and situations in which online business is possible are limitless.

Turban et al. 2006 mentioned that e-commerce is not only limited to buying and selling over the Internet, but it is also concerned with transferring or exchanging products/services and/or information via computer networks, including the Internet, Extranet and Intranet. E-commerce is important for an economy's growth because it assists businesses with many levels of current business transactions, as well as creating new online business opportunities that are global in nature. According to Jeffcoate, Chappell and Feindt (2002), businesses can do things with e-commerce that would be prohibitively expensive or logistically difficult to do through older channels of commerce.

A Web site is naturally a 24-hour-a-day operation, unlike a traditional 8-to-5 company. It is much easier to keep a Web site up to date with all your company and product information than it is to do the same thing with print materials. The interactivity and completeness of an e-commerce Web site can engage customers

more directly, giving them a feeling of empowerment and control that is difficult to duplicate through other methods of doing business. Cloete *et al.*, (2005), businesses today are using e-commerce to open their doors to the entire world. People are getting more exposed to the world of instant response that e-commerce makes possible, they are starting to expect that kind of connection with more and more of the businesses with which they deal. For instance, people prefer booking their travel online rather than talking to a travel agent or buying their theatre tickets over the Internet rather than standing in line at a box office. These people welcome the ability to evaluate and buy products on their own schedules rather than on someone else's.

However, Van Akkeren and Cavaye (1999) reported that not every business will be able to take full advantage of e-commerce right away. Few companies have built their existing data systems with the idea that it would be necessary to give the outside world access to any part of those systems. Busy small companies may find it difficult to set aside the time necessary to define and implement e-commerce in a way that makes sense for the way they do business. Companies should keep the possibility of future electronic commerce plans in mind when they start new initiatives or products.

In the business world, whether you are doing business online or in the real world, you have to have a product to sell or a service to offer and a place from which to do business. In the traditional world of commerce this can be a physical store or, in a more figurative sense, a catalogue or phone number. In the world of e-commerce the place from which you do business is your Web site. Poon and Swatman (1997) also identified that technology is no longer an afterthought in formulating business strategy, but the actual cause and driver. E-commerce is about structural transformation i.e. revolution of the rules of business. The ability to streamline the structure and to influence and control the flow of information is dramatically more powerful and cost-effective than moving and manufacturing physical products. E-Commerce is enabling companies to listen to their customers and become the cheapest, the most familiar or the best.

2.3. Benefits of E-Commerce

According to Bowles and Wilson (2002), the concept of e-commerce is fast becoming advantageous for both the business and consumer in today's fast moving and electronically-connected world. For many businesses, e-commerce is becoming the

only option, as companies become more and more interested in expanding their operations online. E-commerce has many benefits and advantages not found in the typical brick and mortar location, and therefore, explains why so many businesses are flocking to the web. Agarwal and Prasad (2002) note that e-commerce offers advantages that include the ability to expand into global markets with a minimum of expense, thus allowing firms to reach narrow market segments that are geographically scattered.

As the Internet is a cost effective medium of delivery, the main advantage of online e-commerce is its cost efficiency. The reason behind this is that e-commerce decreases the cost of creating, processing, distributing, storing and retrieving paper-based information. High mailing and printing costs are also lowered or, in many cases, completely eliminated as the buyer most often pays for the shipping of the products that they buy. The cost of marketing of promotional material also drops drastically. Another major advantage that most companies see is the increase in sales e-commerce brings, and increased sales typically mean increased profits as well. Additionally the advantage of moving a business online is that it allows the flexibility to target market segmentation, which in turn allows business to focus on a select group of customers, thus having a competitive advantage in giving them what they want and satisfying unique needs (Utomo and Dodgson, 2001).

This benefit ties in with the advantage of 'customer customization," in which the concept of 'built-to-order', allowing for inexpensive customization of products and services and provides a competitive advantage for companies who adapt this strategy. Bowles and Wilson (2002) noted that e-commerce removes barriers of global trading due to the fact that the Internet is a zero-cost delivery channel, and thus, many products and services, which are generally delivered as a physical object or service, are now delivered virtually in the form of data. This removes barriers such as time, distance and of course cost. E-commerce marketing also allow for real-time communications and the interchange of data in the supply chain, making the supply chain more effective. By having better visibility across the supply chain, company inventory levels can be reduced, as supplies are more predictable. With lower inventory levels, costs can once again be automatically decreased (McCole et al., 2001). It also allows information to flow freely between cooperating businesses, making it easier and simpler for organizations to share information.

Koh and Maguire (2004) found that the cost savings and efficiencies from sharing and economies of scale can have a profound effect on the profitability of any online business. As a result this has led to the development of collaborative working practices around the world, as collaborating businesses manage, share, and enhance project work regardless of location. It is important to consider, however, that buyers or customers also benefit from doing their buying online. As sales opportunities expand for the business, they also increase the buying opportunities and power for the buyer. It's a win-win for all involved. Many buyers choose to shop online as it provides them with an almost unlimited variety of choices from many different products and services from a wider variety of sellers (Lawson et al., 2003)

Consumers also benefit from less expensive products and services as e-commerce allows customers to shop the convenience to shop from any location and at any given time of the day. E-commerce offers buyers maximum convenience. They can visit the web sites of multiple business round the clock a day to compare prices and make purchases, without having to leave their homes or offices from around the globe. In some cases, consumers can immediately obtain a product or service, such as an electronic book, a music file, or computer software, by downloading it over the Internet.

According to Furnell and Karweni (1999) for sellers, e-commerce offers a way to cut costs and expand their markets. They do not need to build, staff, or maintain a physical store or print and distribute mail order catalogues. Automated order tracking and billing systems cut additional labor costs, and if the product or service can be downloaded then e-commerce firms have no distribution costs involved. Since the products can be sold well over the global Internet, sellers have the potential to market their products or services globally and are not limited by the physical location of a store. Internet technologies also permit sellers to track the interests and preferences of their customers with the customer's permission and then use this information to build an ongoing relationship with the customer by customizing products and services to meet the customer's needs.

According to El-Nawayi and Ismail (2006) the Internet is a huge resource center for any business information; suppliers, resellers, distributors, importers, exporters, products and services. Enterprises can get any kind of business information from all

over the world right from their desktops. The Internet achieved fast, secure and useful access of information. Today, information being a power in the business environment, the integration of ICTs and Electronic commerce is a crucial step for every developing nation. Reduced advertising cost is one of the major benefits E-commerce gives to enterprises. Websites serve 24 hours a day and 7 days a week all over the world. Besides, the cost of owning a website is much less compared to the benefits they provide (Kaynak et al., 2005).

Udo (2001), notes that people buy and sell online in the simplest and easiest ways. Buyers have whatever they need right on their desktops and sellers can reach their customers wherever they are just right from their tables. Besides, the process of buying and selling goods especially that of digital goods is a matter of minutes no matter where sellers or buyers are located. There are no middle men needed, no limit or border. The process will end between the seller and the buyer just in minutes saving much time and energy. E-commerce knows no boundaries. Geographical limits do not seem to exist. Enterprises can reach markets that can be found in their opposite corner of the world in no time. This is one feature of E-commerce; making our globe a very small village.

Customers are treated well enough through enterprise websites. They can get whatever information they need, view products of their preference, compare prices, get in contact with vendors, and buy simple and easy. Hu and Plant (2001) argue that the adoption of E-commerce in the developing nations is becoming mandatory since the world is becoming a global village and for maximum benefits, local business are encouraged to link up with the international firms to expand their horizons.

2.4. Adoption of E-commerce

Chan and Al-Hawamdeh (2002) defines adoption as the up-take of something new, in this case new technology. Economic globalization and the development of information and communications technology are the two principal trends, which have dictated the shape of business and industry in the second half of the 20th century and beginning of the new millennium. According to Soliman and Youssef (2003) the level of adoption of Information and Telecommunication Technologies (ITT) for accessing the Web, and implementing “e-Commerce for Buying” and “e-Commerce for Selling” increases over the time.

Unsurprisingly a much higher proportion of businesses are adopting the technologies for simply accessing the Web for e-Commerce. Some of the factors influencing a firm's decision to adopt these technologies are: the price of ITT, firm size, network externalities, and learning externalities. At the same time there are different types of unobserved factors, at the regional, temporal and firm level, which influence a firm's decision to adopt the technologies. Sambamurthy *et al.* (2003) found that implementing e-commerce applications to enable a competitive edge has become a core and important strategy in most contemporary corporations. Adoption of e-commerce plays a fundamental role in a firm's ability to enhance output.

Agarwal and Sambamurthy (2002) noted that contemporary firms are making significant investments in e-commerce to align business strategies, enable innovative functional operations and provide extended enterprise networks. These firms have adopted information technology to foster changes in managing customer relationships, manufacturing, procurement, the supply chain and all other key activities and to enhance their competitive capabilities. Firms implement information technology to enhance and/or enlarge the scope of their products and services. As many innovation activities involve adding new services, expanding existing ones and/or improving the service delivery process, the success of an organization hinges on how well it implements its service innovation to create new markets.

Bowles and Wilson (2002) appreciate that adoption of Ecommerce is the new way of doing business. It is highly changing and affecting the whole way of global business transactions. Nations need to integrate this technology in order to compete and secure their survival in the global market. In the course of integration of E-commerce there is a huge divide called the digital divide which divides the world nations into two categories. The first are the developed nations, with high E-commerce and ICT integration hence getting tremendous benefits from the global competition, and the others are the developing nations with low integration of E-commerce and loosing benefits of the global market competition.

Zhu *et al.* (2003) noted that while Internet retail sales have increased tremendously in the past decade, they still represent a relatively small share of total retail sales. There are many retail firms that do not transact over the Internet yet. Better insight into entry determinants can help companies in improving their strategies and coping with the

impact of new entry. Therefore, awareness of the industry evolutionary dynamics is important both for new entrants and incumbents.

2.5. Factors Influencing Adoption of E-commerce

2.5.1. Knowledge of Benefits

Cloete et al. (2005) found that several studies have researched the benefits of the adoption of e-commerce in an organization. While the potential benefits have been established, a number of inhibitors to the adoption of these new business models still exist. For small businesses the advantages of e-commerce adoption are often perceived to be applicable and few success stories are available to convince owners of such firms that e-commerce offer as real benefit to their organizations. Van Akkren and Cavaye (1999) found that e-commerce and internet technologies could benefit an organization. This is particularly true for MSEs due to the fact that e-commerce improves the MSEs' ability to compete with larger organizations and operate on an international scale. They also found that e-commerce can deliver the tools to provide cost effective ways for MSEs to market themselves, launch new products, improve communication, gather information and identify potential business partners, the aim being to extend their capabilities to higher turnovers and larger markets.

However, according with Cloete et al. (2005), despite these potential benefits of e-commerce to an SME, there seem to be a perception by owners by of MSEs that there is a lack of business benefit, if the input is weighted against immediate returns. Due to the fact that the ownership of a decision making power in an MSE is held by just one or two people, adoption of e-commerce into such an organization is held heavily reliant on these people's acceptance of a technology. The potential user of e-commerce must not only be convinced of the relevant usefulness of e-commerce, but s/he must also have a positive attribute towards it i.e. embrace e-commerce; the user must be comfortable with the technology employed i.e. ease of use, although s/he expects factors affecting acceptance of the technology to be beyond the control of the use.

Van Akkren and Cavaye (1999) found that it would be difficult for a small business owner/manager to envisage the benefits associated with using Internet technologies without being familiar with the Internet and World Wide Web. Adoption of e-

commerce is largely based on perceived benefits. These benefits are classified into 'direct' and 'indirect benefits (Cloete et al. 2005). Direct benefits are quantifiable by using customers as a result of e-commerce implementation. Indirect benefits are not easily measured but rather have a positional effect on the business, for example customer loyalty and goodwill as a result of e-communication implementation. Indirect benefits are not easily measured but rather have a positional effect on the business, for example customer loyalty and goodwill as a result of added value and services provided online.

Poon and Swatman (1997) found that MSEs are reaping insignificant, marginal short-term benefits from e-commerce. They identified long-term benefits as being the key motive for ongoing Internet activities. These might include additional customer enquiry, forming new networks and reaching previously untapped markets. Other benefits identified included: Improved information exchange with customers/suppliers; improved customer service; expanded business reach; access to international markets; reducing costs. Early use of the internet by MSEs was driven by a combination of management enthusiasm and the need for improved communications (Jeffcoate et al. 2002). The authors found that perceived benefits formed a key reason why participants adopted and continued to use the internet. They put forward a framework for perceived benefits related to Internet use based on the classification into short terms and long term, direct and indirect. Their findings indicated that small businesses were not reaping significant short term benefits from the internet.

The Internet based electronic commerce generates revenues by providing customers access to their accounts, transactions and orders. The level of satisfaction for those customers interacting electronically will undoubtedly rise. By receiving information about competition through the internet, it is possible to develop a competitive strategy much faster than using traditional methods.

2.5.2. Influence of Infrastructure

E-commerce is still in an early stage and a number of related issues are not yet solved – security, privacy, data protection, encryption, copyright and intellectual property. The constantly evolving policies and rules governing the Internet and its operations will affect the future of global e-commerce. Given the enormous economic

opportunities at stake for all companies across the world, developing countries should be involved as equal partners in the development of the growing body of Internet governance (Golobic, Davis, McCarthy, and Mentzer, 2002).

The development of a web presence requires sophisticated technology and a supporting infrastructure (Yrle, Hartman and Walsh, 2004). E-business requires an extensive infrastructure that must be designed and maintained properly to ensure reliable performance, particularly as customer expectations of reliable, on-demand access becomes the norm. They further defined infrastructure as consisting of an Internet connection, internal networks, computer hardware and power and data backup system. Failure of any of these systems takes the e-business offline.

Developing intranets and linking into extranets will allow small firms to exploit the business benefits of Information and Communication Technology (ICT), (Koh and Maguire, 2004). They noted that small organizations may be less likely to be exposed to unproven technology, unlike larger organizations. However, the personal computer has made computing accessible to business of all sizes. Further to this, they also noted that technical advances have made computers more powerful and less expensive.

According to Aljifri, Pons and Collins (2003), the infrastructure is the backbone or supporting complexes that are in place to promote implementation, communication and usage of networks. A resilient infrastructure is needed for e-commerce to flourish. Unfortunately, developing countries typically lack a good communication infrastructure. The non-integrated nature of most IT infrastructure causes numerous problems to organizations, which need to unify their information systems and fully automate their business processes. There is therefore a need for a technology that results in a flexible, manageable and maintainable integrated IT infrastructure. Such an infrastructure can lead to differentiation and therefore competitive advantage. Existing IT infrastructure of an organization is a factor that affects the introduction of EAI, as the needs of the infrastructure often stimulate the process for adoption integration (Puschmann and Alt, 2001).

The Economic Recovery Strategy Paper 2003, as cited in Republic of Kenya Sessional Paper No 2 (2005) has identified poor infrastructure as a critical factor that constraints profitable business in Kenya. Infrastructural problems include

inaccessibility to land, workspace, feeder roads, electricity and other utilities. Limited access to electricity by MSEs is compounded by the fact that the MSEs are expected to obtain an approval from local authorities before a connection can be made. In addition, energy costs in Kenya are extremely high and have a negative impact on all businesses, large and small scale alike. This constraint limits MSEs' technologies capacity thereby adversely affecting the competitiveness of their products and services (Republic of Kenya Sessional Paper No.2 2005).

2.5.3. Cost of Implementation

According to Koh and Maguire (2004), a major constraint for small firms in the area of e-business may be their inability to make the necessary investment to take advantage of the new concepts and ICT. They may have to rely on outside consultants, which are problematic, as most small firms cannot afford to employ private consultants. MSEs have special needs because of their limited resources in terms of personnel, finance, and knowledge pertaining to management, marketing, commercialization, or information technology. Globalization pressures arising from e-commerce operations often mean that MSEs have to acquire international trade knowledge. Some smaller supplier businesses have suffered because large customers have started buying online on a global basis or joined international purchasing portals, resulting in downward and sometimes unsustainable price pressures. It is now critical for smaller suppliers to compete internationally or regionally and they often lack knowledge and expertise about international trade issues and foreign markets (Dawn, Bodorik and Dhaliwal, 2002)

Costs of implementation of e-business can be a serious barrier for MSEs. Although limited resources are a distinguishing characteristic of MSEs and thus a barrier for them to compete in the global e-business sector, there are also many counterbalancing advantages as well. An obvious advantage is that MSEs are usually more entrepreneurial and willing to experiment and innovate in terms of business models and operations than larger organizations with established hierarchies. Thus, government initiatives aimed at increasing the e-business readiness of MSEs can result in a higher level of national competitiveness in this crucial sector (Dawn et al., 2002).

The cost of setting up an e-business includes preliminary planning, procuring hardware and/ or software tools (installation, training and subsequent reorganization, continuous maintenance, servicing costs and telecommunication charges. Kaynak *et al.* (2005) noted that MSEs are highly concerned with the start up costs of developing e-commerce in-house. They found that there are four basic components of the cost involved with e-commerce as significant impediments to e-commerce adoption of MSEs. These include connection cost to the Internet, the cost of adequate hardware/software, set up and maintenance costs. The relatively large number of customers and suppliers not being online and decreasing productivity level due to unnecessary usage was also considered to be a limiting factor in the adoption of e-commerce by MSEs.

MacGregor and Vrazalic (2005) found out that high costs as a barrier to the adoption of e-commerce by MSEs arises from the fact that small businesses faces difficulties obtaining finance, unlike their larger counterparts. If the finance was readily available to small businesses, high cost may not be a barrier to e-commerce adoption. The exact nature of the relationship between the unique features of small business and cost related barriers is a topic that they proposed for further research. The associated high risk of IT investment could discourage some owner/manager to adopt IT for their company (Agarwal and Prasad, 2000). Limited financial resources also mean that MSEs might not be able to obtain external expertise such as consultant or additional training from the vendors. MSEs would have to rely on the availability of government assistance or voluntary consultancy from higher education institution (Utomo and Dodgson, 2001).

2.5.4. Technical Skills and IT Knowledge Amongst Owners and Employees

Bowles and Wilson (2002) noted that in the study of MSE demand for IT and e-commerce, it is important to appreciate the dynamism of the subject and thus its continual change. According to Koh and Maguire (2004), there are a wide range of Internet applications that MSEs have at their disposal. However, whether they are actually using them fully to gain competitive advantage is not clear. Lack of resources and skill in both the technical and business areas, makes the introduction of e-business unworkable in its current format. Simpson and Docherty (2004) found that ignorance surrounding technology is fuelling concerns about security, costs and legislation.

They also found that in Australian MSEs barriers to taking advantage of the Internet were lack of skills, knowledge, and poorly trained staff.

According to Lawson, Alcock, Cooper and Buegess (2003), diffusion of new technology can take decades, and involves more than simply reproducing distributing the technology. Indeed making full use of new technologies will rely on the IT skills for staff within the organization. Intense competition and rapid technological developments are accelerating the change in skill requirements across almost all industries. The ability to learn continually and update skills is becoming more and more important (McCole, Marrow, Ponsonby and Kelly, 2001). One of the key aspects of MSEs must consider when embracing technological advances is the need to develop skills and competencies, technological changes demand a new set of skills. Rapid movements require that companies possess skilled and competent employees to function, let alone compete.

The lack of technical skills amongst owner-managers of MSEs places a heavy reliance on external advice and support; however reliance on external advice does not necessarily have to be from experts (Simpson and Docherty, 2004). They also found that a major factor in determining whether external advice will be sought is the size of the firm, with the smallest firms least likely to seek external advice. Taylor and Murphy (2004) found that many MSEs lack the necessary IT skill base to engage with the digital economy. Some may have IT enthusiasts as owner-managers, but the majority of firms do not. They noted that the lack of staff to implement IT is a separate aspect of this same deterrent. It may be difficult or too expensive for an MSE to hire people with the necessary technical expertise to pursue an IT strategy.

However, the institutions expected to provide technical services to MSEs are weak and lack specialised capacity to meet the needs of the sector. There are no information networks between MSE operators and technology experts. The constraints limiting the availability and accessibility of relevant technology to MSEs are further compounded by the general low investment in research and Development (Republic of Kenya Sessional Paper No.2, 2005).

2.6. Challenges of E-Commerce

E-commerce has become so convenient, that we don't spend much time thinking about the disadvantages of e-commerce. According to Bowles and Wilson (2002), it has taken e-commerce a few years to get established. In fact some of the leading e-commerce businesses looked for a few years like they might not make it. It also took customers a few years to feel safe about typing in their credit card information and also there wasn't always an alternative means of paying if one didn't have a credit card.

In most developing countries, there is lack of proper infrastructure in place and accessibility to the internet for majority of the people. Thus this poses a huge obstacle since customers in some cases have to travel large distances to gain any access to the internet. This takes time and money which the developing countries are yet to embrace as a way of life. Agarwal and Prasad (2000) found that non-standardized protocols for certain processes, insufficient telecommunications bandwidth and ever-evolving software tools (with incrementing versions), are some of the technical issues that contain e-Commerce from being a seamlessly integrated component of the contemporary organizational IT systems.

While technical limitations are completely resolvable, non-technical issues including people's resistance to change and lack of trust for faceless and paperless transactions, is bound to take its due time before it completely erodes (Simpson and Docherty, 2004). Internet in itself is still to touch the lives of a large number of people as an integral way of life. There are tangible privacy and security issues that keep people on guard as they face a dilemma each time they need to divulge highly personal information online as and when they transact online.

E-commerce poses a threat of a customer overspending on credit cards, especially if the client is not careful and does not manage their finances well. The use of e-commerce therefore requires discipline of the customer to avoid running into debt (Taylor and Murphy, 2004). Consumers are hesitant to buy some products online. Online furniture businesses, for example, have failed for the most part because customers want to test the comfort of an expensive product before they purchase it. Many people also consider shopping a social experience. For instance, they may enjoy

going to a store or a shopping mall with friends or family, an experience that they cannot duplicate online (Blackburn and Athayde, 2000).

Barr and Milner (2002) noted that e-commerce lacks the touch and feel aesthetics that come with it. This can especially be of concern when what we are buying carries a substantial price tag. An image on the computer screen can't always capture the true look of any product and certainly not the feel. It isn't at all unusual to order a product and find the color just isn't what we were expecting. One can't also try on the product or service before ordering it either. Chan and Al-Hawamdeh (2002) found that products vary in sizes and shapes and these vary from manufacturer to manufacturer, or from one country to another and unless you can contact someone knowledgeable in Customer Service, one wouldn't tell whether large or medium is the right choice. This can be especially troublesome with personal products items like clothing.

Van Akkeren and Cavaye (1999) also identified returns of products to the supplier whether you shop locally, by mail order, or over the Internet, a hassle, especially in the latter two instances. Many e-commerce businesses will not charge shipping for returns, but others will. The convenience of on line shopping is at least partially offset by the cost of shipping and the time it takes to receive the product might also be predictable. In addition, some retailers will use the USPS, while others insist upon using specific transport companies like UPS or FedEx, a possible problem when one is used to an alternative supplier.

Jones, Hecker and Holland (2003), noted that unexpected delays that come with e-commerce from some suppliers can also be annoying. There are instances where one can't tell whether the delay came from the supplier or at dispatch with the transporter, especially for clients doing business across the globe. Some of the factors that could contribute to these delays could be the weather. Additionally, due to challenges in distance, clients might be enjoying the benefits of the products delivered almost immediately to their premises. Thus the customer is forced to pay the price of items being shipped on time and shipping costs as well.

Carter S and Daylan E (2006, noted that with the proliferation of Information and Communication Technology (ICT) the way the businesses are conducted and the rules and the way the business operations are done have changed considerably in the last two decades world over. However, MSE here are concerned, they have to grow

further as there exist a lack of awareness and understanding about the benefits from ICT adoption. This calls for training, education, awareness generation and further enhancing the efforts in making ICT services more accessible and affordable for both general public and the MSEs. The most crucial aspect is the need to make MSEs understand the benefits of ICT adoption. They have to understand that there are new ways of delivering products and services for enterprises today.

Kapurbandara and Lawson (2006) noted that MSEs are not often keen on ICT adoption when internal and external barriers, related to infrastructure, legal, political, social and cultural factors, come their way. Barriers include: lack of skills, lack of awareness about possible return on ICT spending, little support and policies for MSEs from the government, lack of suitable software standards and low internet penetration. Harindranath et al., 2002 observes that barriers to ICT come from costs and skill requirement. Lack of ICT literacy has been as being cited as a major barrier in every part of the world. Improvement of e-skills of the general workforce is critical to the ICT network infrastructure as the most significant aspect in ICT adoption in addition to human resource aspects in terms of knowledge workers, high cost of accessing ICTs/Internet/telephone and inexperience in integrating ICTs into the business process.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1. Research Design

The research was carried out in the form of a survey design. This was deemed appropriate as the study involved investigations of the factors that influence the adoption and frequency of use of e-commerce in Kisumu, Kenya.

The survey design methodology has three main advantages in that the cost is lower, data collection is faster and since the data set is smaller it is possible to ensure homogeneity and to improve the accuracy and quality of the data. This is mainly because the research covered various MSEs in Kisumu Town, and the survey ensured that information gathering was comprehensive.

3.2. Target Population

Cooper and Schindler (2001) defined a population as the total collection of elements which the researcher wishes to make inferences. The target population of the study comprised all Micro and Small Enterprises in Kisumu town. The survey defined MSE's as enterprises employing between 1-50 workers.

A list was obtained from the Local Municipal Council of Kisumu Town 2010 records, which showed that there are a total of 3,897 registered businesses out of which 1,141 were MSE's. These MSEs included beauty shops, general shops, entertainment establishments, grocers, chemists and computer shops amongst others.

3.3. Sample Design

Sampling design involves the research plan on how cases will be selected for observation (Kombo and Tromp, 2006). The sample frame for the study was the list of 1,141 registered MSEs as seen in the 2010 Municipal Council of Kisumu Town's list of registered businesses. Malterud (2001) defines a sample frame as a list that includes every member of the population from which a sample is to be taken. A sample size of 114 MSEs was selected to participate in the study. The researcher used Simple Random Sampling technique in the survey.

Easton and McColl (2002) defined Simple Random sampling technique as the basic sampling technique where each individual is chosen entirely by chance and each

member of the population has an equal chance of being included in the sample. Every possible sample of a given size has the same chance of selection.

3.4. Data Collection

The source of data was primary data collected using a questionnaire a copy which is attached as appendix II. It constituted both open and closed-ended questions. The main respondents of the questionnaire were either the owners or managers of the business. Primary data was collected through interviews using self administered questionnaires (by drop and pick' method upon completion). Each respondent was given a questionnaire, requested to fill it in and then collected immediately or after a few hours as agreed upon.

The questionnaire generally constituted of Likert Type scale and was sub-divided into several sections as follows; general information, e-commerce applications and factors influencing adoption of e-commerce. The section on factors influencing adoption of e-commerce was broken down into knowledge of benefits derived from e-commerce, infrastructure, cost of e-commerce implantation and IT skills and training.

3.5. Data Analysis

On receiving the feedback from the respondents, the data was thoroughly checked to ensure completeness, accuracy and consistency. The data was cleaned, coded and entered into Statistical Software for Social Sciences (SPSS) and descriptive analyses were run.

Descriptive statistics were used mainly to summarize the data whilst frequency tables were used to analyse the general information and e-commerce application data. According to Jankowicz (2005) the graphs and diagrams are used to summarize the information based on the subject at hand. Data analysis was done on the basis of the two study objectives which were to determine the factors that influence adoption of e-commerce; and to determine the frequency of use of e-commerce by MSEs in Kisumu, Kenya.

CHAPTER FOUR: DATA ANALYSIS, RESULTS AND DISCUSSIONS

4.1. Introduction

The study sought to investigate the factors that influence adoption and frequency of use of e-commerce by micro and small enterprises in Kisumu, Kenya. This chapter contains the findings of the study and discussions on the findings. The data obtained from the research instruments was analyzed by use of SPSS and was then presented in form of tables.

The target population consisted of 1,141 enterprises, out of which a sample of 114 traders was selected and 50 responses were received which represented a 44% response rate. According to Kombo & Tromp (2006), a sample size of at least 10% or 20% of the population is considered reasonable for the findings of the study to be valid.

4.2. General Information

The demographics regarding the enterprises studied are presented in this section. It looked at the profile of the respondents which included; position or ownership in the business, gender, age, the number of years having worked in the business, level of education and business qualification. Also considered were the forms of the enterprises under study and their utilization of e-commerce in their business transactions.

4.2.1. Position of Respondents at the Enterprise

The position of the respondents in the business was considered important for the study and presented in Table 4.1

Table 4.1: Position of Respondents at the Enterprise

Position in the business	Frequency	Percent
Owner only (someone else manages the business)	4	8
Manager only (some else owns the business)	24	50
Both owner & Manager (you own and manage the business)	22	42
Total	50	100

Table 4.1, illustrates that most of the respondents, 50%, were managers employed to manage the daily transactions of the business. In a few firms, 8%, of the respondents were owners of the business.

4.2.2. Gender of the Respondents

The gender of the respondents was also analysed.

Table 4.2: Gender of the Respondents

Gender	Frequency	Percent
Male	34	68
Female	16	32
Total	50	100

Table 4.2 indicates that most of the respondents were male.

4.2.3. Age of the Respondents

Of interest to the study was the age distribution of the respondents. Generally young people have been noted to adapt to technology than the older generation, and the fickle nature of the industry necessitates constant interest of the users.

Table 4.3: Age of the Respondents

Age	Frequency	Percent
Below 21 years	7	14
Between 22 – 30 years	26	52
Between 31 – 40 years	9	18
Between 41 – 50 years	8	16
Total	50	100

Table 4.3 illustrates that most of the respondents were between the ages of 22 to 30 years. All the other age brackets had an almost equal representation in the respondents sampled.

4.2.4. Level of Education and Management Qualifications

The study also investigated the levels of education and management qualifications of the respondents. Education and training are considered key aspects of adoption of technology as tech skills are highly dependent on education.

Table 4.4: Level of Education

Level of Education	Frequency	Percent
Secondary Level	9	18
College Level	28	56
University Level	12	24
Post Graduate	1	2
Total	50	100

Table 4.5: Management Qualifications

Management Training	Frequency	Percent
Yes	19	38
No	31	62
Total	50	100

Table 4.4 shows that only 2% of the respondents had a postgraduate education, with a majority of them being college level graduates. Related to that, Table 4.5 illustrates that 38% of the respondents had Management Training Certificates mainly on Business Management and Administration.

4.2.5. No of Years of Work in the Business

The number of years worked in the business was regarded as an indicator of how knowledgeable the respondents were to the business, its use of e-commerce and the factors affecting the adoption and implementation of e-commerce.

Table 4.6: No of Years of Work in the Business

No of Years Worked	Frequency	Percent
0 to 3	48	80
4 to 6	8	14
7 to 9	1	2
10 and above	3	4
Total	50	100

Table 4.6, illustrates that 80% of the respondents have worked in the MSEs sampled for 0 to 3 years. Those that have worked for 7 to 9 and 10 years and above were 2% and 4% respectively, with the rest, 14%, having worked for 4 to 6 years in the enterprises.

4.2.6. Form of Enterprise

The study sought to examine the prevailing form of enterprise in the MSEs

Table 4.7: Form of Enterprise

Form of Enterprise	Frequency	Percent
Sole trader (proprietorship)	26	52
Partnership	11	22
Private Limited Company	12	24
Public Limited Company	1	2
Total	50	100

Table 4.7 shows that most of the MSEs sampled are sole proprietorships at 52% with only 1 company being a public limited company. Partnerships and private limited companies were 22% and 24%, respectively of the sampled businesses.

4.2.7. Use of E-Commerce, Internet and Other IT Tools

Table 4.8 below shows the general use of e-commerce, internet and other IT tools in the MSEs sampled for the study.

Table 4.8: Use of E-Commerce, Internet and Other IT Tools

Use of IT	Frequency	Percent
Yes	37	74
No	13	26
Total	50	100

74% of the respondents said that they use IT and e-commerce at their place of business as indicated.

4.3. Factors Influencing Adoption of E-Commerce

The first objective of this study sought to determine the factors that influence adoption of e-commerce in MSEs. The respondents were asked to indicate the extent to which various factors influenced their adoption of e-commerce. The scoring ranged from 1 for 'Not at all' to 5 for 'Very great extent'. The data was analysed using mean score which meant that the greater the mean score the greater was the influence of a factor.

4.3.1. Knowledge on Benefits of E-Commerce in a Business

Table 4.9: Benefits of Application of E-Commerce in Business

Knowledge on benefits of E-commerce in a business	Mean Score	Standard Deviation
The business would operate more efficiently	3.74	1.046
Reduced business costs	3.22	1.130
Increased sales volume	3.70	1.035
Increased number of new customers	3.72	1.126
Improved overall customer satisfaction	3.56	1.146
Customers would encourage other customers to support us	3.44	1.146
Grand Mean Score	3.56	

Table 4.9 shows that factors related to knowledge of benefits of e-commerce such as increased efficiency in business operation, increased number of new customers and increased sales volume with mean scores of 3.74, 3.72 and 3.70 respectively had the greatest influence of adoption of e-commerce. As the table shows, reduced business costs had the least influence on adoption of e-commerce which had a mean score of only 3.22.

Overall, knowledge of benefits has a high influence of adoption of e-commerce as can be seen from the grand mean of 3.56. The high scores are consistent with the findings of a study by Furnell and Karweni (1999) who observed that for sellers, e-commerce offers a way to cut costs and expand their markets. These observations were also supported by Kula and Tatoglu (2003) who noted that the concept of e-commerce is all about using the Internet to do business better and faster. The study shows that the

MSEs sampled are aware that information technology can foster changes in managing customer relationships, the supply chain and all other key activities in order to enhance their competitive capabilities.

4.3.1.1 Demographic information on Knowledge on benefits of E-commerce

Table 4.10: Gender and knowledge on benefits of E-commerce

Knowledge on benefits of E-commerce in a business	Male = 34	Female = 16
	Mean	Mean
The business would operate more efficiently	3.74	3.75
Reduced business costs	3.50	2.63
Increased sales volume	3.79	3.50
Increased number of new customers	3.88	3.38
Improved overall customer satisfaction	3.71	3.25
Customers would encourage other customers to support us	3.71	2.88
Grand mean score	3.72	3.23

As shown by Table 4.10 males have a higher level of knowledge of the benefits of e-commerce in a business as shown by the grand mean score of 3.72 as compared to the female grand mean score of 3.23. However, both genders have significant awareness on the benefits of e-commerce with the most knowledgeable areas for both genders being efficiency in business operations due to ecommerce at 3.74 mean for men and 3.75 for females; and increase in sales volume as illustrated by a mean score of 3.5 in females and 3.79 in males.

In both genders there is low knowledge on how e-commerce can reduce business costs as illustrated by a mean score of 2.63 in females and a mean score of 3.50 in males.

Table 4.11: Education Level and Knowledge on Benefits of E-Commerce

Knowledge on benefits of E-commerce in a business	Secondary Level = 9	College Level = 28	University Level = 12	Post Graduate L = 1
	Mean	Mean	Mean	Mean
The business would operate more efficiently	3.44	3.93	3.50	4.00
Reduced business costs	3.22	2.96	3.75	4.00
Increased sales volume	3.67	3.54	4.08	4.00
Increased number of new customers	3.33	3.71	4.00	4.00
Improved overall customer satisfaction	3.67	3.43	3.67	5.00
Customers would encourage other customers to support us	2.89	3.32	4.00	5.00
Grand Mean Score	3.37	3.48	3.83	4.33

Table 4.12 shows that the respondent who has a post graduate qualification is quite knowledgeable on the benefits of e-commerce. The highest scoring components across all the education levels were increase in sales volume at a mean score of 3.67 for respondents in secondary level and a mean score of 4.098 for those with university level education. Respondents from the college level considered efficiency in operations as most critical as shown by a mean score of 3.93.

The lowest scoring components in the education levels were customer encouragement for the business through other customers for secondary level respondents with a mean score of 2.89; reduced business costs for both college and post graduate levels at means scores of 2.96 and 4.00 respectively; and operational efficiency for university level respondents with a mean score of 3.50.

Overall, both male and female agree that e-commerce has benefits on increased efficiency of the business. This can also be attributed to the fact that both the genders mentioned during the interview sessions whilst data was collected that they appreciated the importance of having Information Technology tools for the day to day

running of the business due to the enhanced speed of gathering and reporting business information. The female respondents also mentioned that over time they have become more aware of the importance ICT tools and they are also venturing more into businesses opportunities which was once seen as a male domain.

4.3.2. Infrastructure for E-Commerce Adoption

Table 4.13: Infrastructure for Successful Application of E-Commerce in Business

Infrastructure for E-commerce Adoption	Mean Score	Standard Deviation
In our business we have access to computer technology	3.82	1.063
Assured Internet security	3.42	1.230
A fast and reliable Internet service provider	3.56	1.110
Computer software (e.g. Microsoft office)	3.86	1.030
A telephone line for Internet use	2.88	1.507
Grand Mean Score	3.51	

Table 4.14 shows that factors relating to infrastructure such as availability of computer software and access to computer technology in the business premises with a mean score of 3.86 and 3.82 respectively had the greatest influence in adoption of e-commerce. As shown in the table, a telephone line for Internet use had the least influence in factors relating to infrastructure for e-commerce adoption which had the lowest mean score of 2.88.

In general, infrastructure has a relatively high influence in adoption of e-commerce as can be seen from the grand mean of 3.51. In order to enjoy the benefits of e-commerce the importance of technology and supporting infrastructure cannot be over emphasized. Aljifri, Pons and Collins (2003) note that infrastructure is the backbone or supporting complexes that are in place to promote implementation, communication and usage of networks. Unfortunately for most MSEs in Kenya, poor infrastructure has been cited as a critical factor that constraints profitable business in Kenya (Republic of Kenya Sessional Paper No 2, 2005).

4.3.2. Demographic Information on Infrastructure for E-Commerce Adoption

Table 4.14: Gender and Infrastructure for E-Commerce Adoption

Infrastructure for E-commerce Adoption	Male = 34	Female = 16
	Mean	Mean
In our business we have access to computer technology	4.12	3.19
Assured Internet security	3.53	3.19
A fast and reliable Internet service provider	3.85	2.94
Computer software (e.g. Microsoft office)	4.18	3.19
A telephone line for Internet use	3.12	2.38
Grand Mean Score	3.76	2.98

Table 4.15 shows that male respondents had more infrastructure towards adoption of e-commerce in their businesses as shown by the grand mean score of 3.76 as compared to the female grand mean score of 2.98. Availability of computer software was sighted by both genders as a key infrastructural support towards adoption of e-commerce as shown by a mean score of 3.19 by the females and 4.18 by the males.

A telephone line for Internet use was viewed by both genders not to be significant infrastructure for e-commerce adoption as shown by a mean score of 3.12 in males and 2.38 in females.

Table 4.15: Education and Infrastructure for E-Commerce Adoption

Infrastructure for E-commerce Adoption	Secondary Level = 9	College Level = 28	University Level = 12	Post Graduate= 1
	Mean	Mean	Mean	Mean
In our business we have access to computer technology	3.11	3.89	4.25	3.00
Assured Internet security	3.44	3.29	3.67	4.00
A fast and reliable Internet service provider	3.11	3.46	4.00	5.00
Computer software (e.g. Microsoft office)	3.33	3.82	4.25	5.00
A telephone line for Internet use	2.22	2.93	3.17	4.00
Grand Mean Score	3.04	3.48	3.87	4.20

Table 4.17 shows that the respondents with secondary level education considered internet security as most important infrastructure in adoption of e-commerce as shown by a mean score of 3.44; those with college and university level education considered access to computer technology as most important with a mean score of 3.89 and 4.26, respectively; while those with post graduate education considered computer software and reliable and fast internet as the key considerations both shown by a mean score of 5.0.

A telephone line for internet use was considered least important by secondary, college and university level respondents at mean scores of 2.22, 2.93 and 3.17 respectively. The post graduate respondent considered access to computer technology as least important in infrastructural support for the adoption of e-commerce in business.

Van Akkeren and Cavaye (1999) notes that the existence of knowledge of e-commerce is more and more related with the development of an ICT infrastructure. Without ICT, it is impossible to have an infrastructure able to process automatically the huge flow of information that is required in advancing economies.

4.3.3. Cost of E-Commerce Implementation

Table 4.17: Costs Associated With Application of E-Commerce in Business

Cost of E-Commerce Implementation	Mean Score	Standard Deviation
To use computer technology in our business is affordable	3.42	1.263
It is affordable for our business to subscribe to the Internet	3.26	1.291
To buy computer software for our business is affordable	3.28	1.278
It is costly for our business to have its own website	2.96	1.456
To pay for computer support for our business is affordable	3.22	1.217
To operate a fixed telephone line is expensive	3.02	1.407
Computer maintenance costs are too high	3.22	1.282
Grand Mean Score	3.20	

Table 4.19 shows that factors related to the cost of e-commerce implementation such as affordability of computer technology and purchase of computer software with a mean score of 3.42 and 3.28 respectively have the greatest influence of adoption of e-commerce in MSEs. As the table shows, operating a fixed telephone and having a business website were both costly and these two factors also had the least influence in adoption of e-commerce which had the lowest mean scores of 3.02 and 2.96 respectively.

Generally, the cost of e-commerce was viewed to have relatively low influence in the adoption of e-commerce in MSEs as indicated by the grand mean score of 3.20. This varies slightly from the studies done on the influence of cost to adoption of ICT in small businesses; as investment has been touted as a major constraint for small firms' adoption of e-business (Koh and Maguire, 2004). Kaynak *et al.* (2005) agreed with this by noting that MSEs are highly concerned with the start up costs of developing e-commerce in-house. Utomo and Dodgson (2001) elaborated on this by going further to note that MSEs might not be able to obtain external expertise such as consultant or additional training from the vendors. However, the entrepreneurial nature of small

businesses keeps them as key contenders in e-commerce through their willingness to experiment and innovate on e-business models.

4.3.3.1. Cost of Use of E-Commerce and Other IT Tools

Table 4.20: Cost of Use of E-Commerce and Other IT Tools

Amount spent on ICT	Frequency	Percent
0 to 20000	12	41
20001 to 40000	6	21
40001 to 60000	1	3
60001 to 80000	2	7
80001 to 100000	4	14
Above 100000	4	14
Unknown	21	40
Total	50	100

Table 4.20 shows that 41% of the respondents who said that their businesses use ICT and e-commerce spend Ksh. 20,000 and below annually on ICT related costs. Those that spend between 80,000 and 100,000 and more than Ksh. 100,000 annually were each at 14%.

4.3.3.2. Demographic information on Cost of E-commerce Implementation

Table 4.21: Gender and Cost of E-commerce Implementation

Cost of E-Commerce Implementation	Male = 34	Female = 16
	Mean	Mean
To use computer technology in our business is affordable	3.79	2.63
It is affordable for our business to subscribe to the Internet	3.53	2.69
To buy computer software for our business is affordable	3.41	3.00
It is costly for our business to have its own website	3.03	2.81
To pay for computer support for our business is affordable	3.21	3.25

To operate a fixed telephone line is expensive	3.03	3.00
Computer maintenance costs are too high	3.24	3.19
Grand Mean Score	3.32	2.94

According to Table 4.21 female respondents consider computer support to be affordable at a mean score of 3.25 but consider computer maintenance cost as key hindrances in adoption of e-commerce as shown by the mean score of 3.19. Male respondents consider use of computer technology in business to be affordable as shown by a mean score of 3.79.

Female respondents consider use of computer technology in the business to be the least affordable component as shown by a mean score of 2.63. On the other hand, male respondents consider operating a fixed telephone line and having a business website to be the most expensive components both at a mean score of 3.03.

Table 4.23: Education and Cost of E-commerce Implementation

Cost of E-Commerce Implementation	Secondary Level = 9	College Level = 28	University Level = 12	Post Graduate = 1
	Mean	Mean	Mean	Mean
To use computer technology in our business is affordable	3.22	3.36	3.67	4.00
It is affordable for our business to subscribe to the Internet	3.00	3.21	3.58	3.00
To buy computer software for our business is affordable	3.44	3.36	3.00	3.00
It is costly for our business to have its own website	3.11	2.71	3.42	3.00

To pay for computer support for our business is affordable	3.56	3.11	3.25	3.00
To operate a fixed telephone line is expensive	3.00	3.11	2.83	3.00
Computer maintenance costs are too high	3.22	3.04	3.58	4.00
Grand Mean Score	3.22	3.13	3.33	3.29

As illustrated by Table 4.23 all the levels of education seem to have an almost unanimous opinion on how cost influences the implementation of e-commerce as shown by the grand mean scores of 3.22, 3.13, 3.33 and 3.29 in secondary, college, university and post graduate education levels, respectively.

The most prohibitive costs are operation of a fixed line for the secondary and university level respondents mean scores of 3.00 and 2.83 respectively; and having a business website for the college and post graduate level respondents at mean scores of 2.71 and 3.00 respectively.

4.3.4. Technical skills and IT knowledge of owners and staff in a business

Table 4.25: Technical Skills and IT Knowledge of Owners and Staff

Technical skills and IT Knowledge of owners and employees	Mean Score	Standard Deviation
I know how to use the Internet	4.28	0.991
I have been trained in Information technology tools	3.76	1.153
I know how to use computer software (Microsoft Office)	4.22	1.075
I am knowledgeable in website maintenance	2.68	1.435
I regularly attend workshops to improve my computer skills	2.32	1.285
My employee/s know how to use the internet	3.40	1.178
My employee/s know how to use the Internet	3.24	1.182
My employee/s know how to use computer software and IT tools	3.32	1.019
My employee/s are knowledgeable in website maintenance	2.34	1.189
My employee/s regularly attend courses/workshops to improve their computer skills	2.26	1.259
Grand Mean Score	3.18	

Table 4.25 shows that factors that relate to technical skills and IT knowledge including internet usage skills, use of computer software and general IT training with means scores of 4.28, 4.22 and 3.76, respectively, had the greatest influence in adopting e-commerce by the Mses. As the table shows, knowledge of website maintenance by both owners and employees and attendance on courses to improve computer skills had the least influence of adoption of e-commerce with the lowest mean scores of 2.34 and 2.26 respectively.

Overall, technical skills and IT knowledge factors has a low influence of adoption of e-commerce as seen from the grand mean of 3.18. E-commerce is fickle and dynamic in nature (Bowles and Wilson, 2002) and one has to continually refine and train to

keep the technological skills sharp enough. McCole, Marrow, Ponsonby and Kelly (2001) rightfully note that the ability to learn continually and update skills is becoming more and more important. The findings of this study are aligned with those of Simpson and Docherty (2004) who found that ignorance surrounding technology - including lack of skills, knowledge, and poorly trained staff - forms the barrier to MSEs taking advantage of e-commerce.

4.3.4.1. Demographical Information on Technical Skills and IT Knowledge of Owners and Staff

Table 4.26: Gender and Technical Skills and IT Knowledge of Owners and Staff

Technical skills and IT Knowledge of owners and employees	Male = 34	Female = 16
	Mean	Mean
I know how to use the Internet	4.50	3.81
I have been trained in Information technology tools	4.03	3.19
I know how to use computer software (Microsoft Office)	4.50	3.63
I am knowledgeable in website maintenance	2.94	2.13
I regularly attend workshops to improve my computer skills	2.62	1.69
My employee/s know how to use the internet	3.65	2.88
My employee/s know how to use the Internet	3.52	2.69
My employee/s know how to use computer software and IT tools	3.62	2.69
My employee/s are knowledgeable in website maintenance	2.47	2.06
My employee/s regularly attend courses/workshops to improve their computer skills	2.41	1.94
Grand Mean Score	3.43	2.67

Table 4.26 illustrates that males have higher technical skills and IT knowledge than the females as shown by the grand mean scores of 3.43 and 2.67, respectively. Ability

to use the internet scored high in both females and males with mean scores of 3.81 and 4.50, respectively.

In males employee attendance to workshops to improve computer skills had the lowest score as indicated by the mean score of 2.41. For the female respondents business owners' attendance to computer skills improvement workshops was the lowest scoring component at a mean score of 1.69.

The female respondents noted that with the engagement they have with the customers on a day to day basis they appreciate the fact that Technical skills and IT knowledge is vital for the operations of the business. Both male and female respondents agreed that it is important to understand the ICT tools in order to reap the benefits of e-commerce. They noted that it is necessary to take up courses/workshop to enable them have the required ICT skills for business operations.

Table 4.28: Education and Technical Skills and IT Knowledge of Owners and Staff

Technical skills and IT Knowledge of owners and employees	Secondary Level = 9	College Level = 28	University Level = 12	Post Graduate = 1
	Mean	Mean	Mean	Mean
I know how to use the Internet	3.89	4.29	4.67	3.00
I have been trained in Information technology tools	3.00	3.79	4.17	5.00
I know how to use computer software (Microsoft Office)	3.56	4.29	4.50	5.00
I am knowledgeable in website maintenance	2.44	2.50	3.08	5.00
I regularly attend workshops to improve my computer skills	2.00	2.11	2.83	5.00
My employee/s know how to use the internet	3.00	3.43	3.58	4.00
My employee/s know how to use the Internet	2.56	3.30	3.58	4.00

My employee/s know how to use computer software and IT tools	2.89	3.32	3.58	4.00
My employee/s are knowledgeable in website maintenance	2.56	2.25	2.25	4.00
My employee/s regularly attend courses/workshops to improve their computer skills	2.44	2.18	2.17	4.00
Grand Mean Score	2.83	3.14	3.44	4.30

As illustrated in Table 4.28 the highest scoring components were knowledge on the use of the Internet at mean scores of 3.89, 4.29 and 4.67 in secondary, college and university level respondents. Some of the high scoring components for the post graduate level respondent were training in information technology tools and knowledge in website maintenance amongst others.

The respondents with secondary and college level education had low scores on workshop attendance to improve computer skills at mean scores of 2.0 and 2.11, respectively. University level respondents had a low score on attendance of employees to skill improvement workshops at a mean score of 2.17.

Overall, it is noted that education plays key role in the ICT world. The table clearly shows that the level of education has an impact on the Technical skills and IT knowledge of e-commerce as demonstrated by the Post graduate level respondents. The respondents also indicated that they do appreciate the fact that IT has an impact in their day to day operations and those with basic computer literacy acknowledge indicated that they would enhance their skills by enrolling in classes to improve their business operations.

4.4. Frequency of use of e-commerce by MSEs

The second objective of this study sought to determine the frequency of use of e-commerce by MSEs. The respondents were asked to indicate how regularly they used e-commerce tools in running their businesses. The frequency of use was rated on a scale ranging from 1 for 'Don't use at all' to 5 for 'Very frequently'. The data was analysed using mean score, whereby, the greater the mean score in each application, the greater the frequency of use of e-commerce in that application.

Table 4.30: Use of E-Commerce Tools

Information and E-Commerce Application	Mean Score	Standard Deviation
To communicate with stakeholders (e.g. customers, suppliers, employees)	3.60	1.212
To perform financial and management accounting	3.22	1.217
To manage payroll and employee benefits	2.36	1.467
To perform market and product research	3.18	1.395
To do business banking	2.54	1.232
To set-up databases (of customers and/or suppliers)	3.14	1.355
To Search for and locate suppliers	2.88	1.154
To place and track orders by email	2.72	1.400
To pay suppliers electronically	2.14	1.262
To accept orders electronically	2.26	1.367
To receive orders from clients	2.74	1.367
To allow customers to track and enquire about their orders by email	2.66	1.171
To promote our products/services via a website, email and/or SMS	3.04	1.261
To search for information of interest to our business on the Internet	3.64	1.174
For Intra-company communication	2.64	1.306
Grand Mean Score	2.85	

Table 4.30 shows that most of the MSEs use e-commerce tools for various tasks. Some of the key tasks that the enterprises use in e-commerce include searching for information of interest to the business and communicating with stakeholders with mean scores of 3.64 and 3.60 respectively. As the table shows, not many businesses use e-commerce tools for office intra-communication which had a low mean score of 2.64. MSEs barely use IT in payroll management as shown by the low mean score of 2.36 but a relatively larger number of MSEs, use IT for financial management as indicated with mean score of 3.22.

Overall, frequency of e-commerce applications has not quite been supported by owners and managers of the business as shown by the grand mean of 2.85. From the findings, the use of e-commerce by MSEs is growing steadily. As Turban *et al.* 2006 mentioned, e-commerce is used in buying and selling over the Internet, transferring or exchanging products/services and/or information via computer networks, including the Internet, Extranet and Intranet. Though e-commerce may not have caught up here in Kenya as it has in the developed countries, the constant shift and change cannot be overlooked, from enabling simple financial transactions over the ATM to a wider application of e-commerce on the mobile phone. It is clear to see that e-commerce plays a significant role in creating and growing businesses. Accordingly e-commerce is important for the growth of an economy with constant growth will continue to shift and change the future.

CHAPTER FIVE: SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.1. Introduction

This chapter presents a summary of the findings and conclusion of the study. The study sought to investigate to investigate the factors that influence adoption and frequency of use of e-commerce by micro and small enterprises in Kisumu, Kenya

5.2. Summary of Findings

This study set out to investigate the factors that influence adoption and frequency of use of e-commerce by micro and small enterprises (MSEs) in Kisumu, Kenya. The study established that e-commerce has been adopted and implemented in MSEs in various levels. Some of the factors that have contributed to the ease or difficulty of adoption in both the owners and the employees in the enterprises the knowledge of benefits of e-commerce, cost of implementing e-commerce, infrastructure and technical skills needed in implementing and sustaining e-commerce in the businesses.

The study found out that enterprises have seen the various benefits of utilization of e-commerce tools at their places of business such as increase in efficiency, increase in customer numbers and overall customer satisfaction. All these benefits are expected to translate into increased and sustainable sales for the business.

It was also found out that most of the MSEs have adequate infrastructure to implement e-commerce in their enterprises. Most of the respondents have access to computer technology with a relative increase also having computer software available in their business premises. In addition, the owners of MSEs demonstrated adequate skills to implement e-commerce acquired through IT training, Internet user skills and knowledge of use of computer software. These skills and knowledge are however at risk as most of the owners of the businesses do not attend courses to improve computer skills and only a few have employees who attend courses on computer skills. The study also found out that a number of the MSEs consider the cost of implementing e-commerce in their business to be a bit prohibitive due to high costs of internet subscription and other related services such as computer maintenance.

In a bid to increase their success rate, the study found out that most MSEs have adopted e-commerce tools in their daily business transactions. The tasks that commonly use e-commerce tools are such simple undertakings as communication with stakeholders, searching for information of interest as well as performing market and product research via the Internet. Other common tasks include setting up databases and promotion of products and services via a website, email and/or SMS. On the other hand, some of the tasks in which adoption of e-commerce has been slow include payroll management, supplier sourcing and inventory ordering and tracking. A few of the MSEs, perform business banking on the internet and pay their suppliers electronically. The low frequency of performing such tasks through e-commerce could be explained by their advanced and complex nature. Also performing such tasks as online business banking requires an element of trust that some of the MSEs may not be comfortable with at present.

5.3. Conclusions

The research concludes that adoption of e-commerce in MSEs is on the rise for various business transactions. These transactions include payments, research, payroll and financial management, database management and supplier and inventory sourcing and management. The speed of adoption of e-commerce in the MSEs is determined by a number of factors including knowledge of benefits of e-commerce by the owners and the employees, availability of infrastructure and technical skills and know-how and the cost of e-commerce. From the study, the most important factor to influence adoption of e-commerce tools is the owners' and employees' knowledge of benefits derived from e-commerce. This forms the basis on which the business puts in relevant effort to adopt and successfully implement e-commerce.

The objectives of the study were met; the first which was to determine the factors that influence adoption of e-commerce by MSEs in Kenya, found that such factors include knowledge of benefits of e-commerce by the owners and the employees, availability of infrastructure and technical skills and know-how and the cost of e-commerce. On the second objective, which was to determine the frequency of use of e-commerce by MSEs in Kenya, the study found out that the use of e-commerce by most of the MSEs for various tasks is on the rise including searching for information of interest to the business, communicating with stakeholders and financial management in the business.

5.4. Limitations of the Study

Since the respondents were owners and managers of the business, time was a constraint in that they were busy attending to their customers and some were not able to give ample time to answer the questionnaire. Consequently, this resulted to few responses received from the respondents.

Distance was also a limiting factor in that I had to travel to Kisumu get to the respondents and also limited time to engage with my respondents since I had to travel back to Nairobi. This was also coupled with the short period of time I had to administer and collect the questionnaires, to make it back to Nairobi for analysis.

Due to the uniqueness of the population, Kisumu town is largely dominated by one community and therefore not cosmopolitan as would be compared to other towns like Nairobi. Consequently, due to the fact that the responses were heavily from one community, this would have limited the diversity of responses received.

5.5. Recommendations for Further Research

The study makes the following recommendations based on the findings and conclusions; Though there has been arguable adoption of e-commerce by MSEs, there is much to be done to ensure that e-commerce is implemented in higher levels, such as financial management, payroll management and supplier and inventory sourcing and management.

Since the identified core factor of consideration in adoption of e-commerce is the knowledge of benefits derived from e-commerce, the owners and employees at the MSEs must be educated on the importance and benefits of e-commerce in business. The knowledge by the owners and employees on the benefits of IT tools would drive the increased and sustainable adoption of e-commerce in the MSE sector in the country. Accordingly, there is need for further studies to be done to investigate easy and sustainable approaches that can be employed to educate owners and employees of MSEs on the benefits of e-commerce tools in business. This kind of a study would build on the existing body of knowledge and give greater insights on how e-commerce can be adopted faster and easily for greater growth of the MSE sector in Kenya.

5.6. Recommendations for Policy and Practice

From this study on factors that influence adoption and frequency of use of e-commerce by micro and small enterprises (MSEs) the following recommendations for policy and practice are advanced:

Since e-commerce is increasingly becoming an important tool for businesses to gain a competitive advantage and in turn drive economic growth, the government should come up with relevant policies that will support the education of owners and employees of MSEs on importance of adoption of e-commerce and also improve on the current infrastructure available to MSEs. This is based on the finding in this study that the main consideration in adopting e-commerce by MSEs is the knowledge of the benefits accruing from its use. In addition, owners and employees of MSEs should be encouraged to regularly attend workshops and courses to constantly improve on their technical skills and knowledge of e-commerce given the fickle nature of Information Technology.

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APPENDICES

APPENDIX I: INTRODUCTORY LETTER

TO WHOM IT MAY CONCERN

Dear Sir/Madam

RE: PERMISSION TO CARRY OUT A RESEARCH ON FACTORS THAT INFLUENCE ADOPTION AND FREQUENCY OF USE OF E-COMMERCE BY MICRO AND SMALL ENTERPRISES (MSE'S) IN KISUMU, KENYA

I am a student at University of Nairobi taking a Masters Degree in Business Administration (MBA). In partial fulfilment of the degree, I am required to carry out a research as afore-mentioned.

Being one of the MSE's in Kisumu, your business is the main focus for the study. I kindly request your assistance by filling in the questionnaire attached here-in.

The research information obtained will be confidential and will only be used for academic purpose. Thank you in advance.

Yours faithfully,

Matilda Ocha

APPENDIX II: QUESTIONNAIRE

INSTRUCTIONS

This questionnaire seeks to collect information on Factors that Influence Adoption and frequency Of Use of E-commerce by Micro and Small Enterprises (MSE's) in Kisumu, Kenya. Please tick (√) or circle the appropriate boxes and kindly provide information in the spaces provided. Unless indicated as optional, kindly fill in a response. All information received will be treated confidentially and used for academic purposes only.

A. GENERAL INFORMATION

a) Name of Business (Optional): _____

b) Telephone Number (optional): _____

c) E-mail address (optional): _____

Please mark your selection with a (√)

1. Are you the owner, the manager or both the owner and the manager of this business?

a	Owner only (someone else manages the business)	
b	Manager only (some else owns the business)	
c	Both owner & Manager (you own and manage the business)	

2. Please indicate your gender

a	Male	
b	Female	

3. Please indicate your age

a	Below 21 years	
b	Between 22 – 30 years	
c	Between 31 – 40 years	
d	Between 41 – 50 years	
e	Between 51 – 60 years	
f	Above 60 years	

4. Please indicate your highest level of education

a	Primary Level	
b	Secondary Level	
c	College Level	
d	University Level	
e	Post Graduate	

5. Do you have management training certificate?

a	Yes	
b	No	

6. If yes to question 5, please specify

7. What form of enterprise is the business?

a	Sole trader (proprietorship)	
b	Partnership	
c	Private Limited Company	
d	Public Limited Company	

8. How many full time workers do you employ? _____ people
9. How long have you been the owner/manager of this business? _____ years
10. Do you use internet e-commerce applications or IT tools in your business?

Yes

No

B. E-COMMERCE APPLICATION

11. Based on the scale given below, please indicate the frequency of use of E-commerce tools (such as computer, the internet, email, and/or websites)

Scale:

1=Don't use at all 2= Rarely 3=Occasionally 4=Frequently 5=Very Frequently

Task	Scale
<ul style="list-style-type: none"> • To communicate with stakeholders (e.g. customers, suppliers, employees) 	
<ul style="list-style-type: none"> • To perform financial and management accounting 	
<ul style="list-style-type: none"> • To manage payroll and employee benefits 	
<ul style="list-style-type: none"> • To perform market and product research 	
<ul style="list-style-type: none"> • To do business banking 	
<ul style="list-style-type: none"> • To set-up databases (of customers and/or suppliers) 	
<ul style="list-style-type: none"> • To Search for and locate suppliers 	
<ul style="list-style-type: none"> • To place and track orders by email 	
<ul style="list-style-type: none"> • To pay suppliers electronically 	

• To accept orders electronically	
• To receive orders from clients	
• To allow customers to track and enquire about their orders by email	
• To promote our products/services via a website, email and/or SMS	
• To search for information of interest to our business on the Internet	
• For Intra-company communication	

C. FACTORS INFLUENCING ADOPTION OF E-COMMERCE

In the next section, kindly indicate the extent to which you agree or disagree with the statement. Use the five pointer scale below where:

Not at all	Little Extent	Moderate extent	Great extent	Very Great extent
1	2	3	4	5

KNOWLEDGE OF BENEFITS OF E-COMMERCE

If we make use of E-commerce tools in our business:

13	The business would operate more efficiently	1	2	3	4	5
14	Reduced business costs	1	2	3	4	5
15	Increased sales volume	1	2	3	4	5
16	Increased number of new customers	1	2	3	4	5
17	Improved overall customer satisfaction	1	2	3	4	5
18	Customers would encourage other customers to support us	1	2	3	4	5

INFRASTRUCTURE

19	In our business we have access to computer technology	1	2	3	4	5
20	Assured Internet security	1	2	3	4	5
21	A fast and reliable Internet service provider	1	2	3	4	5
22	Computer software (e.g. Microsoft office)	1	2	3	4	5
23	A telephone line for Internet use	1	2	3	4	5

COST OF E-COMMERCE IMPLEMENTATION

24	To use computer technology in our business is affordable	1	2	3	4	5
25	It is affordable for our business to subscribe to the Internet	1	2	3	4	5
26	To buy computer software for our business is affordable	1	2	3	4	5
27	It is costly for our business to have its own website	1	2	3	4	5
28	To pay for computer support for our business is affordable	1	2	3	4	5
29	To operate a fixed telephone line is expensive	1	2	3	4	5
30	Computer maintenance costs are too high	1	2	3	4	5

Approximately how much does the business spend on IT related costs annually Ksh

TECHNICAL SKILLS AND IT KNOWLEDGE OF OWNERS AND STAFF

31	I know how to use the Internet	1	2	3	4	5
32	I have been trained in Information technology tools	1	2	3	4	5
33	I know how to use computer software (Microsoft Office)	1	2	3	4	5
34	I am knowledgeable in website maintenance	1	2	3	4	5
35	I regularly attend workshops to improve my computer skills	1	2	3	4	5
36	My employee/s know how to use the internet	1	2	3	4	5
37	My employee/s know how to use the Internet	1	2	3	4	5
38	My employee/s know how to use computer software and IT tools	1	2	3	4	5
39	My employee/s are knowledgeable in website maintenance	1	2	3	4	5
40	My employee/s regularly attend courses/workshops to improve their computer skills	1	2	3	4	5

41. Kindly rate the following factors in the order of their importance in influencing the use of e-commerce in your business.

1=Very Important
very Important

2=Important

3=Neutral

4=Not

5. Not at all important

1	Knowledge of e-commerce benefits	1	2	3	4
2	Infrastructure	1	2	3	4
3	Cost of e-commerce implementation	1	2	3	4
4	Technical Skills and IT knowledge of owner and staff	1	2	3	4

THANK YOU VERY MUCH FOR TAKING THE TIME TO ASSIST